

DEPARTMENT OF EDUCATION ARTS AND SCIENCE

NATIONAL BUREAU OF EDUCATIONAL
AND SOCIAL RESEARCH

AN INVESTIGATION OF THE MATRICULANTS OF
NOVEMBER-DECEMBER 1961 AND MARCH 1962 CONSIDERED AS
POTENTIAL UNIVERSITY STUDENT MATERIAL, AND OF THE
AVAILABLE TEACHING FACILITIES OF THE SOUTH AFRICAN
RESIDENTIAL UNIVERSITIES.

1963

RESEARCH SERIES No. 10

HIERDIE VERSLAG IS OOK IN AFRIKAANS VERKRYGBAAR.



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PREFACE

According to "A Survey of the Training and Employment of Scientists and Engineers in South Africa" undertaken by the National Bureau of Educational and Social Research, there is a shortage of graduated manpower in South Africa. The question arises whether there is sufficient potential student material for the universities, and whether the universities have sufficient facilities at their disposal to be in a position to cater for this potential material.

This investigation attempts to trace the number of matriculants of November-December 1961 and March 1962 who went to universities and whether there would have been adequate university teaching facilities for the remaining group if they had gone to the universities.

I would like to record my grateful thanks to the Universities and Departments of Education which supplied valuable data.

P.M. ROBBERTSE
Director

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EXPLANATORY NOTE

0.1 INTRODUCTION

0.1.1 As is indicated in the title of this report, an investigation was made of a specific group of potential university students i.e. only those matriculants of November-December 1961 and March 1962. The aim of this investigation was to determine how many of this specific potential university students group were actually enrolled during November 1962 at a South African residential university for courses for which the possession of a matriculation certificate or a school leaving certificate with matriculation exemption was a prerequisite.

0.1.2 An investigation was also made of the teaching facilities at South African residential universities for all students. The information as shown in this report regarding lecture theatres, laboratories, teaching staff and other provisions is as was supplied by the different universities.

0.2 MATRICULANTS AND THOSE WHO PASSED THE STANDARD X EXAMINATION DURING NOVEMBER-DECEMBER 1961 AND MARCH 1962 IN THE VARIOUS EDUCATION DEPARTMENTS

TABLE 0.1

CANDIDATES WHO PASSED STANDARD X WITH OR WITHOUT MATRICULATION EXEMPTION IN THE VARIOUS EDUCATION DEPARTMENTS (NOVEMBER-DECEMBER 1961, MARCH 1962)

Education Department	<u>Matriculants</u>		School leaving without exemption	Total
	N	%		
Transvaal	3610	36.0	4324	7934
Cape Province	3059	30.5	2839	5898
Orange Free State	930	9.2	853	1783
Natal	834	8.3	578	1412
Department of Education Arts and Science and the Joint Matriculation Board	1602	16.0	2,995	4,597
Total	10035[§]	100.0	11589	21624

[§]This total includes a number of matriculants who wrote the examination whilst abroad and were thus not included in the investigation.

TABLE 0.2

FIRST YEAR STUDENTS (FULL-TIME AND PART-TIME) IN THE VARIOUS UNIVERSITIES

University	All first year students		Students enrolled at a university for the first time		Students repeating the first year		Students not taken into account in the survey		First year students taken into account in the survey in Nov. 1962	
	N	%	N	%	N	%	N	%	N	%
Stellenbosch	1427	100.0	1071	75.1	356	24.9	771	54.0	656	46.0
Cape Town	1888 ^{xi}	100.0	1228	65.0	660	35.0	1319	69.9	569	30.1
Rhodes	610	100.0	437	71.6	173	28.4	403	66.1	207	33.9
Pretoria	2516	100.0	1605	63.8	911	36.2	1568	62.3	948	37.7
Witwatersrand	1968	100.0	1211	61.5	757	38.5	1169	59.4	799	40.6
Potchefstroom	532	100.0	418	78.6	114	21.4	310	58.3	222	41.7
Orange Free State	681	100.0	580	85.2	101	14.8	479	70.3	202	29.7
Natal	1072	100.0	690 ^{xii}	64.4	382	35.6	597	55.7	475	44.3
Total	10694	100.0	7240	67.7	3454	32.3	6616	61.9	4078	38.1

^{xi} Percentages are given relative to all first year students. This total includes a large number of young persons enrolled for courses in Music, Drama and Ballet.

^{xii} The requisite figure is not available; this figure is an estimate based on the figures supplied from the Witwatersrand, Cape Town and Rhodes Universities.

0.3 FIRST YEAR STUDENTS OF 1962

- 0.3.1 According to Table 0.2, 6616 first year university students were not included in the survey for one of the following reasons:
- (i) They matriculated before November-December 1961.
 - (ii) They were first year students without matriculation.
 - (iii) They matriculated in November-December 1961 or March 1962 and enrolled for courses for which matriculation is not a prerequisite. A large number of students take such courses at the Universities of Stellenbosch, Pretoria, the Orange Free State, Cape Town and Potchefstroom University of C.H.E.
 - (iv) They obtained a recognised qualification for admission to a South African residential university whilst abroad. This was particularly so at the Universities of Cape Town, Natal, the Witwatersrand and Rhodes University.
 - (v) They had discontinued their courses during the period June 1962 to November 1962 whilst the survey was being undertaken.
- 0.3.2 Of the matriculants of November-December 1961 and March 1962, 4078 were thus enrolled at South African residential universities during 1962 for courses for which matriculation is a requirement.
- 0.3.3 Having regard to the country's needs for graduates in particular, the number who repeated their first year (see table 0.2) must be considered a significant loss of leader potential. About 32.3% (3454) had registered for the second (or more) time in a first year course. This means that they would take at least two years for a first year course. The larger numbers of first year students who repeated their first year were to be found at the city universities such as the Universities of Pretoria (911), the Witwatersrand (757), Cape Town (660) and Natal (estimated 382).

CHAPTER ONE

INTRODUCTION

1.1 THE AIM OF THE INVESTIGATION

By direction of the Minister of Education, Arts and Science, an investigation was undertaken to determine

- (i) The number of candidates who obtained the Matriculation or Matriculation exemption during November-December 1961 and March 1962;
- (ii) The number of this group who went to university;
- (iii) University facilities for additional students who could be absorbed by the universities.

To give effect to these terms of reference, it was decided to undertake the following:

- (i) obtain the examination results of November-December 1961 and March 1962, and from these to ascertain the number of candidates who obtained Matriculation exemption;
- (ii) scrutinise the record cards of the residential universities in order to determine how many of these matriculants went to a university in 1962;
- (iii) obtain information from the universities regarding training facilities in 1962.

1.2 THE METHOD OF THE INVESTIGATION

The Matriculation results of November-December 1961 and March 1962 were obtained from certain education departments and officers were sent to those departments which did not supply examination results in order to fill in the results on schedules. Officers were also sent to the universities to collect information from the record cards of first year students. Questionnaires, in which data regarding training facilities were requested, were sent to heads of university departments.

1.2.1 Details of Schedules

- (i) Schedules on which information regarding matriculants¹⁾ and first year students was to be **obtained: on** these schedules information was to be given in respect of the matriculant's address, name, home language, sex, study course, name of high school be attended, date of passing matriculation, subjects taken for matriculation and symbols obtained.

1) See definition of matriculant on page 3

- (ii) Questionnaires to heads of university departments: in these questionnaires information was obtained regarding the number of students connected with the department and the additional number of students who could be absorbed in the department during each study year for the first time, reasons why additional first year students could not be admitted and reasons why first year students had been refused admission.

1.3 PROBLEMS OF THE INVESTIGATION

The investigation was undertaken at a time when education departments and universities were busy with examinations. As a result, the authorities concerned found difficulty in providing the information required. Full information regarding the addresses of matriculants could not be collected, while some of the record cards of one or two of the universities were incomplete in respect of certain required data. Therefore the school leaving symbols which were not shown on certain record cards had to be traced through the matriculation and school leaving examination results. . Because of the university vacation, heads of departments did not immediately react to the request for information with the result that the information from some departments was not obtained. The University of Cape Town did not furnish any information.¹⁾

It was assumed that heads of university departments who did not indicate how many additional students they could admit, placed no limit on the number of additional students possible.

Because this investigation aimed merely at finding out how many matriculants in the survey group had enrolled for degree courses and courses requiring matriculation exemption, those who enrolled at a university for courses not requiring matriculation exemption were omitted.

1.4 EXPLANATION OF TERMS

- 1.4.1 The Matriculation examination is conducted by the Joint Matriculation Board only; the various education departments conduct their own school leaving examinations, upon the results of which school leaving certificates, with or without matriculation exemption, are issued. For purposes of this report the following definitions are assumed:

1) These data were received later and appear as an annexure to this report.

- (a) a matriculant is a person in possession of a matriculation certificate or a school-leaving certificate with matriculation exemption;
 - (b) matriculation and school-leaving symbols are symbols awarded in the matriculation certificate and the school-leaving certificate with matriculation exemption;
 - (c) matriculation subject is a prescribed subject for the matriculation examination or for the school-leaving certificate which confers matriculation exemption.
- 1.4.2 "First year students" means the group of November-December 1961 and March 1962 matriculants who enrolled for university courses.
- 1.4.3 "University potential" means the matriculants of November-December 1961 and March 1962.
- 1.4.4 Where mention is made of universities, the following eight South African residential universities are referred to: the Universities of Stellenbosch, Cape Town, Natal, Pretoria, the Orange Free State, the Witwatersrand, Rhodes University and the Potchefstroom University for C.H.E.
- 1.4.5 By "university group" is meant those matriculants of November-December 1961 and March 1962 who were first year students at the university during 1962, while the non-university group is the remaining group of these matriculants.
- 1.4.6 Science and related study courses include pure science, engineering, agriculture forestry, veterinary science and the medical sciences.
- 1.4.7 For comparison of matriculation results, the following thirteen subjects or groups of subjects were used:
- (i) Afrikaans (higher and lower grade).
 - (ii) English (higher and lower grade).
 - (iii) A third language (German, Latin, French, other European languages or a Bantu language).
 - (iv) Mathematics (Mathematics or additional Mathematics).
 - (v) Physical Science, Physics or Chemistry.
 - (vi) Biology (Biology, Botany and/or Zoology).
 - (vii) Geology, Mechanics, Physiology and Hygiene.
 - (viii) Bookkeeping (Bookkeeping and Commercial Arithmetic).
 - (ix) Commerce, Economics, Shorthand and Typing (including Shorthand).
 - (x) History (History and other social subjects).
 - (xi) Geography.
 - (xii) Art and Music.

(xiii) Domestic Science (including Needlework), Wood- and Metal Work; Agricultural Subjects and technical subjects (including Machine Construction and Drawing, and Fitting and Turning).

- 1.4.8 The teaching facilities of departments are the lecture theatres and rooms, laboratories or other practical facilities and the teaching staff.
- 1.4.9 The term "additional students" mean the additional number of students who could be admitted by university departments if they wished to register.
- 1.4.10 Corresponding faculties at different universities do not necessarily have the same departments. For purposes of comparison it was therefore decided to divide the courses of study into the following six main categories:
- (i) Arts and Social Sciences (Faculties of Arts, Social Science, Law, Theology, Education, Physical Education and Military Science).
 - (ii) Science (Faculties of Science and Architecture).
 - (iii) Engineering (Faculty of Engineering).
 - (iv) Agriculture, Forestry and Veterinary Science (Faculties of Agriculture, Forestry and Veterinary Science).
 - (v) Medical Sciences (Faculties of Medicine and Dentistry).
 - (vi) Commerce (Faculties of Commerce and Public Administration).

CHAPTER TWO

AN ANALYSIS OF THE NUMBER OF MATRICULANTS OF NOVEMBER-DECEMBER 1961 AND MARCH 1962 AND THE NUMBER WHO ENROLLED FOR UNIVERSITY COURSES FOR WHICH MATRICULATION EXEMPTION IS A REQUIREMENT

2.1 POSSIBLE CANDIDATES FOR UNIVERSITY STUDY

TABLE 2.1
POSSIBLE CANDIDATES FOR UNIVERSITY STUDY

	First Classes	Second Classes	Total
	No and % of total first classes	No and % of total second classes	No and % of total
Matriculants of November-December 1961 and March 1962	3353 100.0%	6500 100.0%	9853 100.0%
Matriculants who enrolled for university courses for which matriculation exemption is required	1870 55.78%	2208 33.97%	4078 41.39%
Matriculants who did not enrol at a university	1483 44.22%	4292 66.03%	5775 58.61%

2.1.1 An analysis of table 2.1 shows that of a total of 9853 matriculants, 4078 (41.39%) enrolled for courses for which matriculation exemption is a requirement, while 5775 (58.61%) did not enrol for a university course.

2.1.2 3353 passed in the first class and 6500 in the second.

2.1.3 1870 (55.78%) of the first class matriculants enrolled at the universities, while 1483 (44.22%) did not enrol.

2.1.4 2208 (33.97%) of the second class matriculants enrolled at universities while 4292 (66.03%) did not.

2.1.5 A larger percentage of first class matriculants (55.78%) than of second class matriculants (33.97%) enrolled at a university.

2.1.6 If all the first classes be considered as university potential par excellence, a disturbingly high number, 1483 (44.22%) did not enrol for such further education directly after leaving school.

As this investigation deals only with matriculants as university-potential for the eight residential universities, no attempt has been made to determine how many matriculants enrolled for example for teacher training without university education, or for post-matriculation training at technical colleges or the University of South Africa: nor was the number ballotted for military training given consideration (about 1000¹) were possibly chosen by ballot for compulsory military service).

To survey the division of the university potential adequately, it must be assumed that only those students who took courses for which matriculation exemption was a requirement, constituted a useful expenditure of university potential as graduated manpower.

2.2 STUDY COURSES

2.2.1 Study courses in Arts and Social Sciences

These courses include pure B.A. degrees and B.A. degrees in Librarianship, Fine Arts, Law, Anthropology, Social Work, Nursing, Public Administration, Speech Therapy, Physical Education, Education, Theology and also the degrees of B.Dram., B.Mus. (including teaching), B.Mil., B.Iur. and courses for the Attorneys' Admission Examination.

2.2.2 Courses in Science

These include pure B.Sc. degrees and B.Sc. degrees in Mining Geology, Physical Education, Teaching, Domestic Science (including teaching) Food Technology, Dietetics, Hygiene, Pharmacy, Nursing, Quantity Surveying, Land Surveying, the degree of B.Arch and the Diplomas in Architecture and Quantity Surveying.

2.2.3 Courses in Engineering

These include B.Sc.(Eng.) or B.Sc. B.Eng. degrees in Civil, Mechanical, Electrical, Mining, Chemical, Agricultural, Industrial and Metallurgical Engineering.

2.2.4 Courses in Agriculture, Forestry and Veterinary Science

These are the B.Sc. degrees in Agriculture and Forestry and the degree of B.V.Sc.

1) 10,230 ballottees underwent military training during 1962. The number of matriculants in this group is however not known, the Department of Defence being unable to give information in regard to this matter. It is accepted that some 10% should be the figure taken, on the grounds of the following:

"A survey of some aspects of White Manpower Reserve in the Republic of South Africa", published in 1962 by the C.S.I.R. National Institute for Personnel Research, mentions that 16.06% of the 17-18 years age group and 27.78% of the 18-19 years age group of 1954 had passed Standard 10. This gives an average of just less than 22%. Of those who passed Standard 10 in 1961, 46.4% obtained matriculation exemption (and were thus matriculants). Thus a little less than half of the above 22% would be matriculants i.e. about 10%."

2.2.5 Courses in Medical Science

These include the degrees of M.B., Ch.B., B.Ch. B.Ch.D., B.D.S. and B.Sc. (Physiotherapy) and diplomas in Physiotherapy, Radiographic Therapy and Occupational Therapy.

2.2.6 Courses in Commercial Courses

These include pure B.Com. degrees and degrees of B.Com. in Law and Teaching subjects as well as the degrees of B.Econ., B.Admin. and the Certificate in the Theory of Accounts.

TABLE 2.2

NUMBER OF STUDENTS IN VARIOUS COURSES

Courses	First Class passes		Second Class passes		Total
	Number (Percentage of total first class passes)	Percentage	Number	Percentage	Percentage of total number (4078)
Arts and Social Sciences	729 (39.0%)	41.7%	1021	58.3%	1750 (42.9%)
Pure Sciences Group ...	477 (25.5%)	55.4%	384	44.6%	861 (21.1%)
Engineering	220 (11.8%)	53.4%	192	46.6%	412 (10.1%)
Agriculture, Forestry and Veterinary Science..	71 (3.8%)	40.1%	106	59.9%	177 (4.3%)
Medical Science	208 (11.1%)	54.3%	177	55.7%	385 (9.4%)
Commercial Courses ...	165 (8.8%)	33.5%	328	66.5%	493 (12.1%)
Total	1870 (100.0%)	45.85%	2208	54.15%	4078 (100.0%)

2.3 COMPARISON OF THE NUMBERS OF STUDENTS IN EACH COURSE

When the various courses are compared along the above lines, it appears that of the group of 4078 students, the largest number, 1750 or 42.9% chose Arts and Social Science. The science group of 861 (21.1%) is also appreciably large. The student groups taking Engineering (412 or 10.1%), Commercial courses (493 or 12.1%) and Medical Science (385 or 9.4%) are roughly the same size while a smaller group (177 or 4.3%) took courses in Agriculture, Forestry or Veterinary Science.

If the Science, Engineering, Medical, Agricultural, Forestry and Veterinary Science groups be combined and compared with the remainder, we find 1835 (44.98%) taking science and related courses as against 2243 (55.02%) taking other courses.

In order to interpret these comparisons more effectively, it is necessary to see how they compare with the numbers of graduates in the various study courses.

In part three of "A Survey of the Training and Employment of Scientists and Engineers in South Africa" published by the National Bureau of Educational and Social Research and dealing with graduation trends in South Africa from 1918 to 1957, the Bachelors degrees conferred are also divided into six groups. This division coincides more or less with that of this investigation. For purposes of this investigation, the courses of B.Sc. (Land Surveying), B.Sc., B.Arch., B.Sc. (Hygiene), B.Sc. (Dietetics) and B.Sc. (Domestic Science) are grouped under the Pure Sciences whereas in the above-mentioned survey they were classified otherwise, namely B.Sc. (Land Surveying), B.Sc. (Q.S.) and B.Arch. under Engineering, B.Sc. (Domestic Science) under Agriculture and B.Sc. (Hygiene) under the Medical group. Thus it should be borne in mind in the following comparison that the Pure Science group of this investigation, if the same divisions be followed as in the survey, should actually be much smaller than 21.2% while the Agricultural, Engineering and Medical groups should be slightly larger than their respective percentages.

If the percentages of this investigation be compared with the percentage of Bachelors degrees awarded in each group during the period 1953-1957, the following becomes apparent:

- (i) Of the Bachelors degrees, 43.9% were in the Arts and Social Sciences which compared well with the 42.9% of students who, according to this investigation, enrolled in Arts and Social Science courses.
- (ii) During this period 13.8% of the Bachelors degrees awarded were in Pure Science as against 21.1% (as explained above, this should be somewhat less) who, according to this investigation, enrolled for Pure Science courses.
- (iii) Of the Bachelors degrees, 12.7% were in Engineering, and this compared well with the 10.1% (which should be slightly more, as explained above) who, according to this investigation, enrolled in Engineering courses.
- (iv) Of the Bachelors degrees, 5.7% were in Agriculture and related subjects as compared with 4.3% (which should be somewhat higher) which were found to be enrolled for courses in Agriculture, Forestry and Veterinary Science in this investigation.
- (v) In Medical Science, 13.6% of all Bachelors degrees were awarded as against 9.4% (which should be slightly higher) who enrolled for similar courses according to this investigation.
- (vi) Of the Bachelors degrees awarded, 10.3% were in the Commerce group compared with 12.1% who enrolled for similar courses according to this investigation.

(vii) In the four science course groups 45.8% of all Bachelors degrees awarded are found to be in good agreement with 44.9% of the students in this investigation who enrolled for like courses.

Of the 1870 first class matriculants, 729 (39.0%) took courses in Arts and Social Science, 477 (25.5%) courses in Pure Science, 220 (11.8%) courses in Engineering, 71 (3.8%) courses in Agriculture, Forestry and Veterinary Science, 293 (15.6%) courses in Medical Science and 165 (8.8%) Commercial courses. This means that 976 (52.3%) of the first class students chose science courses while 894 (47.7%) chose other courses. Amongst the number of candidates in science courses, the number with first class passes is somewhat higher than in the other courses.

By calculating the percentage of first classes in each group, we may obtain a fairly good indication of the choice of courses made. In this way it is found that individual course groups contain the following percentages of first classes among all the students of the respective courses: Arts and Social Sciences 41.7%, Pure Sciences 55.4% (the highest percentage), Engineering 53.4%, Agriculture, Forestry and Veterinary Science 40.1%, Medical Sciences 54.3% and Commercial courses 33.5%.

More than half the first year students taking courses in Pure Science, Engineering or Medical Science, obtained a first class pass in the matriculation examination. The higher percentage of first class passes amongst the science groups may be ascribed to the fact that candidates with good symbols in mathematics and science subjects obtain first class passes more easily and in accordance with their achievements choose a scientific course. This applies equally to students in Medical Sciences and Engineering. This will be understood more easily when the performances in the various subjects are discussed.

The smaller percentage of first classes among the Arts and Social Science students may be ascribed to the fact that most candidates with reasonably good results in the official languages and social subjects choose these courses and, in contrast with the achievements of the science group in mathematics and the sciences, do not obtain such good symbols in these subjects: this results in a lower average performance; although as will be seen later the Agriculture, Forestry and Veterinary Science group obtained reasonably good symbols in the science subjects, their performance was in general not as good as the other groups discussed. The group taking commercial courses had, as a whole, poorer results than the other groups in all subjects with the exception of bookkeeping.

2.4 A COMPARISON OF THE NUMBER OF STUDENTS IN EACH COURSE ACCORDING TO HOME LANGUAGE

Table 2.3 shows the number of students in each course of study according to their home language.

TABLE 2.3
NUMBER OF STUDENTS IN DIFFERENT COURSE GROUPS ACCORDING TO HOME LANGUAGE

Course	English-speaking	Afrikaans-speaking	English & Afrikaans-speaking	German-speaking	Dutch-speaking	Speak other languages	Total
Arts and Social Sciences	770 (44.0%)	914 (52.2%)	27 (1.5%)	28 (1.6%)	4 (0.2%)	7 (0.4%)	1750 (100.0%)
Pure Sciences	443 (51.5%)	380 (44.1%)	12 (1.4%)	13 (1.5%)	5 (0.6%)	8 (0.9%)	861 (100.0%)
Engineering	267 (64.8%)	106 (25.7%)	8 (1.9%)	12 (2.9%)	5 (1.2%)	14 (3.4%)	412 (100.0%)
Agriculture Forestry & Veterinary Science	37 (20.9%)	132 (74.6%)	3 (1.7%)	3 (1.7%)	1 (0.6%)	1 (0.6%)	177 (100.0%)
Medical Sciences	255 (66.2%)	116 (30.1%)	7 (1.8%)	2 (0.5%)	4 (1.0%)	1 (0.3%)	385 (100.0%)
Commercial Courses	286 (58.0%)	187 (37.9%)	8 (1.6%)	2 (0.4%)	6 (1.2%)	4 (0.8%)	493 (100.0%)
Total for each language	2058 (50.5%)	1835 (45.0%)	65 (1.6%)	60 (1.5%)	25 (0.6%)	35 (0.9%)	4078 (100.0%)

From Table 2.3 it will be seen that the English-speaking group¹⁾ of 2058 constitutes more than half of the total i.e. 50.5%. Then follows the Afrikaans-speaking group of 1835 (45.0%) with other groups constituting less than 5% of the total.

Although the Afrikaans-speaking group in Arts and Social Sciences are in the majority with 52.2% against 44.0% among the English-speaking group and also in Agriculture, Forestry and Veterinary Science with 74.6% against 20.9%, they are well in the minority in their choice of courses in Science (44.1% as compared with 51.5% English-speaking), Engineering (25.7% compared with 64.8% English-speaking), Medical Sciences (30.1% compared with 66.2% English-speaking) and Commercial courses (37.9% compared with 58.0% English-speaking).

1) The home language of all students was obtained from all the universities except Cape Town where it was decided to determine the home language of a student from a scrutiny of his name and matriculation symbols.

2.5 THE HOME LANGUAGE OF MATRICULANTS

Of a total of 9853 matriculants who passed or obtained exemption from the matriculation examination in November-December 1961 and March 1962, 4926²⁾ were Afrikaans-speaking, which is just half the total. Of these 1835 (37.2%) went to a university.

As the remainder of this group of matriculants (4927) consisted of English, English and Afrikaans, German, Dutch and other language groups, it may be assumed that of these some 4427 were English-speaking³⁾. We may therefore deduce that 2058 (46.5%) English-speaking candidates went to university.

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- 2) This estimated total was determined according to details of home language of some candidates as supplied by certain education departments and the others in accordance with the official language of the high school, and the number of matriculants taking Afrikaans on the higher grade.
- 3) It was decided that the remaining 500 ($\pm 5\%$) should not be classified as either English or Afrikaans-speaking.

CHAPTER THREE

A COMPARISON OF THE MATRICULATION SYMBOLS OBTAINED IN NOVEMBER-DECEMBER 1961 OR MARCH 1962 BY FIRST YEAR STUDENTS OF 1962.

3.1 In order to make comparisons of the achievement of the groups in each subject, it was decided to calculate the average percentage mark in each subject for each group. Because only symbols were available, an average percentage was decided upon for each symbol, namely A - 85%, B - 75%, C - 65%, D - 55%, E - 45%, F - $36\frac{2}{3}\%$ and the remainder FF, G and H - 30%.

In this way, percentages were calculated for the following subjects or groups of subjects:

- (i) Afrikaans (higher and lower grade combined)
- (ii) English (higher and lower grade combined)
- (iii) A third language (German, Latin, French, Bantu and other languages combined)
- (iv) Mathematics
- (v) Physical Science, Physics or Chemistry
- (vi) Biology, Botany or Zoology
- (vii) Other Sciences (Geology, Mechanics, Physiology and Hygiene)
- (viii) Bookkeeping
- (ix) Other Commercial subjects (Commerce, Economics, Typing, Shorthand and Snelkskrif)
- (x) History and related social subjects
- (xi) Geography
- (xii) Art and Music
- (xiii) Other subjects (Domestic Science and Needlework, Woodwork and Metalwork, Agriculture and Technical subjects).

In the tables discussed below, the following are shown:

- (i) Against each group of study courses the number of candidates obtaining a certain symbol is shown. Just beneath this number, the number expressed as a percentage of the total number for that specific symbol is shown. This is done to give an idea of the spread of the numbers obtaining each symbol in the various fields of study. It also serves to indicate, for each subject, the distribution of the group of matriculants who did not go to university according to the course of study as will be shown in later tables.
- (ii) The penultimate column shows against each study group the number of students in that group who took a specific subject for the matriculation. Under this

TABLE 3.1

THE DISTRIBUTION ACCORDING TO STUDY COURSE OF STUDENTS WHO TOOK AFRIKAANS AS A MATRICULATION SUBJECT

Matriculation symbols of each group									
	A (% A's of total num- ber of A's)	B (% B's of total num- ber of B's)	C (% C's of total num- ber of C's)	D (% D's of total num- ber of D's)	E (% E's of total num- ber of E's)	F (% F's of total num- ber of F's)	FF,G&H (% failures of total failures)	Number in course (% of total in group)	Average %
Arts and Social Science	79 (67.5%)	282 (55.2%)	584 (47.5%)	540 (40.1%)	225 (28.9%)	21 (43.8%)	2 (22.2%)	1733 (99.0%)	61.4
Pure Sciences	23 (19.7%)	107 (20.9%)	269 (21.9%)	265 (19.7%)	178 (22.8%)	12 (25.0%)	1 (11.1%)	855 (99.3%)	59.1
Engineering	5 (4.3%)	39 (7.6%)	106 (8.6%)	123 (9.1%)	119 (15.2%)	8 (16.7%)	2 (22.2%)	402 (97.6%)	56.5
Agriculture, Forestry and Veterinary Science		16 (3.1%)	51 (4.2%)	68 (5.%)	41 (5.3%)	1 (2.1%)		177 (100.0%)	57.3
Medical Sciences	8 (6.8%)	34 (6.7%)	112 (9.%)	156 (11.6%)	71 (9.1%)	2 (4.2%)	1 (11.1%)	384 (99.7%)	58.3
Commercial Courses ..	2 (1.7%)	33 (6.5%)	107 (8.7%)	194 (14.4%)	146 (18.7%)	4 (8.3%)	3 (33.3%)	489 (99.2%)	55.4
Total	117 (100.0%)	511 (100.0%)	1229 (100.0%)	1346 (100.0%)	780 (100.0%)	48 (100.0%)	9 (100.0%)	4040 (99.1%)	

last named figure, it is shown as a percentage of the total in that study course group.

- (iii) The last column indicates the average percentage obtained by each group in that specific subject and calculated according to the method previously discussed.

3.2 SUBJECTS COMPARED

3.2.1 Afrikaans

The numbers of students taking Afrikaans as a matriculation subject are shown in Table 3.1.

Afrikaans was taken by 4040 (99.1%) of first year students. A very high percentage in each group took this subject and with the exception of the group taking Engineering courses (97.6%), the groups vary from 99.0% to 100%.

The Social Sciences group had the best average marks in Afrikaans namely 61.4%, followed by the Pure Science group (59.1%), the Medical group (58.3%), the Agriculture Forestry and Veterinary Science group (58.3%), Engineering groups (56.5%) and the Commercial group (55.4%).

As far as the symbols for A's, B's and C's are concerned, the Arts and Social Science group had the greatest number (945) followed by the Pure Science group (399), the Medical group (154), the Engineers group (150), and the Commerce group (142). The number of students (1733) in the Arts and Social Science group is approximately double the number (855) in the Pure Science group. Even when the number of A's, B's and C's in the Pure Science group is doubled and these figures are compared with the numbers of A's, B's and C's in the Arts and Social Science group it may be seen that the number of the Arts and Social Science group with good symbols in Afrikaans exceeds that in the Pure Science group. (Pure Sciences: A's 46 (2x23), B's 214 (2x107), C's 538 (2x269). Arts and Social Sciences A's 79, B's 282, C's 584.) If a similar comparison is made between the Pure Science and Medical Science groups, we find that the numbers of Medical students with good symbols in Afrikaans are less than the number of Pure Science students with A's, B's and C's respectively.¹⁾

We may thus assume that most of the candidates with good symbols for Afrikaans will choose a course in the Arts and Social Sciences group while the second largest group with good symbols in Afrikaans take Pure Science.

3.2.2 English

The number of students who took English as a matriculation subject is shown according to their university courses in Table 3.2.

The number of first year students who had taken English, was more than those who took Afrikaans. 4076 (99.95%) took English as a subject.

The two students who did not take English were to be found in the Arts and Social Science group.

¹⁾ Numbers, instead of percentages as in the Afrikaans edition, are changed proportionately in this and similar paragraphs in Chapter Three of this report.

TABLE 3.2

DISTRIBUTION, ACCORDING TO STUDY COURSE, OF STUDENTS WHO TOOK ENGLISH AS A MATRICULATION SUBJECT

Matriculation symbols of each group

Course of study	A (% A's of total num- ber of A's)	B (% B's of total num- ber of B's)	C (% C's of total num- ber of C's)	D (% D's of total num- ber of D's)	E (% E's of total num- ber of E's)	F (% F's of total num- ber of F's)	FF,G&H (% failures of total failures)	Number in course (% of total in group)	Average %
Arts and Social Science	77 (61.1%)	299 (57.9%)	581 (46.3%)	601 (40.4%)	183 (27.2%)	7 (46.7%)		1748 (99.9%)	61.9
Pure Sciences	20 (15.9%)	93 (18.0%)	297 (23.6%)	306 (20.6%)	144 (21.4%)	1 (6.7%)		861 (100.0%)	59.6
Engineering	10 (7.9%)	33 (6.3%)	117 (9.3%)	155 (10.4%)	96 (14.2%)	1 (6.7%)		412 (100.0%)	57.8
Agriculture, Forestry and Veterinary Science.	2 (1.6%)	13 (2.5%)	32 (2.5%)	72 (4.8%)	56 (8.3%)	2 (13.3%)		177 (100.0%)	55.2
Medical Sciences	12 (9.5%)	50 (9.7%)	122 (9.7%)	141 (9.5%)	59 (8.8%)	1 (6.7%)		385 (100.0%)	60.1
Commercial Courses ...	5 (3.9%)	28 (5.4%)	107 (8.5%)	214 (14.4%)	136 (20.2%)	3 (20.0%)		493 (100.0%)	55.7
Total	126 (100.0%)	516 (100.0%)	1256 (100.0%)	1489 (100.0%)	674 (100.0%)	15 (100.0%)		4076 (99.95%)	

As was the case with Afrikaans, the Arts and Social Science group obtained a higher average mark than the other groups, namely 61.9%. Then follow the Medical group (60.1%), the Pure Science group (59.6%), the Engineering group (57.8%), the Commerce group (55.7%) and then the Agriculture, Forestry and Veterinary Science group (55.2%).

As was the case with Afrikaans, the Arts and Social Science group obtained most A's, B's and C's in English, namely 957 compared with the Pure Science group (410), the Medical group (184), the Engineers group (160) and the Commerce group (140). If comparisons are made, as was done for Afrikaans, between the Arts and Social Science group and the Pure Science group, we again find that the former group (1748) is about twice the size of the latter (861). By comparison, even after doubling the numbers of A's, B's and C's in the Pure Science group it may be seen that the numbers of A's and B's obtained by the Arts and Social Science group far exceed those obtained by the Pure Science group while the numbers of C's are approximately equal. (Pure Science: A's 40 (2x20); B's 186 (2x93); C's 594 (2x297). Arts and Social Sciences A's 77, B's 299, C's 581.) If the Medical group be treated in the same way it will also be found to have more A's and B's but fewer C's than the Pure Science group.

Most of the better symbols in English are thus found amongst the candidates with courses in the Arts and Social Sciences, followed by the Pure Sciences, the Medical and the Engineers groups.

3.2.3 A third language

The numbers of students who took a third language (German, Latin, French, Bantu language and others) as a matriculation subject, distributed according to university courses, are shown in Table 3.3.

A large percentage of first year students (64.7%) took a third language as a subject for matriculation. If the percentage of students in each study group taking a third language be compared, we find a particularly large percentage (78.5%) in the Arts and Social Science group, about four out of every five. The Medical group (71.7%) and even the Pure Science group (64.6%) had a large percentage of students who took a third language at school.

The average percentages of the six groups are very close to one another, particularly the Pure Science group (59.8%), the Engineers group (59.3%), the Medical group (58.5%) and the Arts and Social Sciences group (57.8%).

The much larger group with courses in the Arts and Social Sciences again had the most A's, B's and C's (564) followed by the Pure Science group (217), the Engineers group (126), the Medical group (118) and, with far fewer, the Commerce group (60) and the Agriculture, Forestry and Veterinary Science group (28). The Engineers group had proportionately the most A's. If we compare the Engineers group (266) with the Medical group (276), it has 14.7% A's compared with 13.0% A's of the larger Medical group and even more A's in comparison with the Pure Science

TABLE 3.3

DISTRIBUTION, ACCORDING TO STUDY COURSE, OF STUDENTS WHO TOOK A THIRD LANGUAGE AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbols of each group							Number in course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	76 (43.0%)	192 (54.7%)	296 (50.6%)	377 (51.3%)	329 (54.6%)	95 (59.7%)	9 (31.0%)	1374 (78.5%)	57.8
Pure Sciences	39 (22.0%)	74 (21.1%)	104 (17.8%)	147 (20.0%)	84 (13.9%)	23 (14.5%)	6 (20.7%)	477 (55.4%)	59.8
Engineering	26 (14.7%)	34 (9.7%)	66 (11.3%)	66 (8.9%)	52 (8.6%)	14 (8.8%)	8 (27.6%)	266 (64.6%)	59.3
Agriculture Forestry and Veterinary Science..	2 (1.1%)	9 (2.6%)	17 (2.9%)	17 (2.3%)	29 (4.8%)	4 (2.5%)		78 (44.1%)	55.6
Medical Sciences	23 (13.0%)	29 (8.3%)	66 (11.3%)	80 (10.9%)	58 (9.6%)	16 (10.1%)	4 (13.8%)	276 (71.7%)	58.5
Commercial Courses	11 (6.2%)	13 (3.7%)	36 (6.2%)	48 (6.5%)	51 (8.5%)	7 (4.4%)	2 (6.9%)	168 (34.1%)	56.6
Total	177 (100.0%)	351 (100.0%)	585 (100.0%)	735 (100.0%)	603 (100.0%)	159 (100.0%)	29 (100.0%)	2639 (64.7%)	

group (477) which is almost twice as large as 47 (1.8x26) compared with 39. The Arts and Social Science group (1374) which is approximately five times as large as the Engineers group (266) has 43.0% A's compared with 14.7% A's in the latter group. Relatively, the Pure Science group has most B's, 74 as compared to 61 (1.8x34) for the Engineers and 64 ($\frac{1}{3} \times 192$) for the Arts and Social Science group. As far as the number of C's is concerned, we shall find that, if they are calculated proportionately, about the same results will be obtained for the first four groups.

Although most candidates with good symbols in a third language choose a course in the Arts and Social Sciences, a larger percentage also incline towards Pure Science, Engineering or Medicine.

3.2.4 Mathematics

The distribution, according to courses taken, of all the candidates taking Mathematics as a matriculation subject is shown in Table 3.4.

As 88.4% of all first year students had taken Mathematics as a matriculation subject, we may say that nine out of every ten students can offer this subject. It is significant that only 74.3% of the Arts and Social Sciences group took this subject. The other five groups vary between 98.1% (Medical group) to almost 100% having taken Mathematics. As Mathematics is a prerequisite for most of the courses in these five groups, the high percentage shown by the subject in these groups is readily understandable.

If the average performances of the group are compared with one another, we find reasonably high percentage marks (68.5%) in the Engineers group followed by the Pure Science group (64.5%), the Medical group (61.8%), the Commerce group (59.0%), the Agriculture, Forestry and Veterinary Science group (58.5%), with the Arts and Social Sciences group last (54.6%).

The Pure Science group has most A's, B's and C's (510) followed by the Arts and Social Sciences group (421), the Engineers group (296), the Commerce group (218), the Medical group (211) and the Agriculture, Forestry and Veterinary Science group (72). The Engineers group has proportionately the most A's and B's. If this group (410) is compared with the Pure Science group (858) by doubling the numbers in the Engineering group it is found that the Engineering group has 188 A's, 210 B's and 194 C's as compared to 157 A's, 158 B's and 195 C's in the Pure Science group. The Medical group has relatively the most C's since, although it is a smaller group (378) than the Engineers (410) the Medicals have 112 C's as compared to 97 C's in the Engineering group.

We may thus assume that most of the candidates with good symbols in Mathematics will choose courses in Pure Science, Engineering or Medicine.

TABLE 3.4

DISTRIBUTION ACCORDING TO STUDY COURSE OF STUDENTS WHO TOOK MATHEMATICS AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbols of each group							Number in course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	57 (15.0%)	122 (22.1%)	242 (30.4%)	340 (37.4%)	358 (50.4%)	149 (67.1%)	32 (80.0%)	1300 (74.3%)	54.6
Pure Sciences	157 (41.3%)	158 (28.6%)	195 (24.5%)	199 (21.9%)	124 (17.5%)	24 (10.8%)	1 (2.5%)	858 (99.7%)	64.5
Engineering	94 (24.7%)	105 (19.0%)	97 (12.2%)	80 (8.8%)	30 (4.2%)	3 (1.4%)	1 (2.5%)	410 (99.5%)	68.5
Agriculture, Forestry and Veterinary Science..	8 (2.1%)	29 (5.2%)	35 (4.4%)	60 (6.6%)	32 (4.5%)	11 (5.0%)	1 (2.5%)	176 (99.4%)	58.5
Medical Sciences	33 (8.7%)	66 (11.9%)	112 (14.1%)	95 (10.5%)	56 (7.9%)	16 (7.2%)		378 (98.1%)	61.8
Commercial Courses	31 (8.2%)	73 (13.2%)	114 (14.3%)	134 (14.7%)	110 (15.5%)	19 (8.6%)	5 (12.5%)	486 (98.6%)	59.0
Total	380 (100.0%)	553 (100.0%)	795 (100.0%)	908 (100.0%)	710 (100.0%)	222 (100.0%)	40 (100.0%)	3608 (88.4%)	

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When we compare the good symbols in Mathematics with those in the official languages, we find that there are more A's in Mathematics (380) than in Afrikaans (117) or English (126) and even more B's in Mathematics (553) than in Afrikaans (511) and English (516).

3.2.5 Physical Science, Physics or Chemistry

The number of students who took Physical Science, Physics or Chemistry as a matriculation subject are shown in Table 3.5, distributed according to the university courses followed. Physical Science, Physics or Chemistry was taken by 71.4% of the first year students studied.

A very high percentage of the Engineers had studied this subject, followed by a percentage of 93.2 of the Agriculture, Forestry and Veterinary Science group. More than 80% of the other groups had taken the subject with the exception of the Arts and Social Science group with 48.7%, i.e. less than half.

Once again, those taking Engineering may pride themselves in having the highest average marks, namely 65.3% with slightly less in the Pure Science group with 64.5%. Then comes the Medical group (62.6%), the Agriculture, Forestry and Veterinary Science group (61.5%) follows with the Commerce and the Arts and Social Science groups each with 56.9%.

The Pure Science group had the most A's, B's and C's, namely 476, followed by the Arts and Social Sciences group with 320, the Engineers group with 269, the Medical group with 199, the Commerce group with 145 and lastly the Agriculture, Forestry and Veterinary Science group with 84. If the percentages obtained in respect of each symbol by the different groups are compared with the numbers which took the subject in each group, we find the largest percentage of A's among the Engineers group. The Engineers group (407) is a little more than half the Pure Science group (749). The latter group has 93 A's, 169 B's and 214 C's compared to the calculated values of 112 A's, 156 B's and 226 C's for the Engineers (1.8 x numbers of A's, B's and C's among 407 Engineers). The Medical group (332) is about four-fifths of the size of the Engineers group (407) and the corresponding figures for the Medical and Engineers groups would be A's 33, B's 79 and C's 138 ($\frac{5}{4}$ x numbers of A's, B's and C's in Medical group) and 61 A's, 85 B's and 123 C's in the Engineering group. The conclusion is that good matriculation symbols in Physical Science, Physics or Chemistry were fewer in the group which enrolled for the Medical Sciences than in the Pure Science or Engineers group.

Most of the candidates with good symbols in Physical Science, Physics or Chemistry thus enrol for courses in Pure Science, Engineering or Medicine.

3.2.6 Biology, Botany or Zoology

The distribution of the students who took Biology, Botany or Zoology as matriculation subjects, according to university course, is shown in Table 3.6. See Table 3.6.

TABLE 3.5

DISTRIBUTION ACCORDING TO STUDY COURSE OF STUDENTS WHO TOOK PHYSICAL SCIENCE, PHYSICS OR CHEMISTRY AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbols of each group							Number in course of total in group	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	31 (12.9%)	100 (20.9%)	189 (24.4%)	258 (32.7%)	221 (42.0%)	52 (55.9%)	2 (16.7%)	853 (48.7%)	56.9
Pure Sciences	93 (38.6%)	169 (35.4%)	214 (27.6%)	164 (20.8%)	96 (18.3%)	11 (11.8%)	2 (16.7%)	749 (87.0%)	64.5
Engineering	61 (25.3%)	85 (17.8%)	123 (15.9%)	85 (10.8%)	51 (9.7%)	1 (1.1%)	1 (8.3%)	407 (98.8%)	65.3
Agriculture, Forestry and Veterinary Science..	15 (6.2%)	25 (5.2%)	44 (5.7%)	55 (7.0%)	20 (3.8%)	5 (5.4%)	1 (8.3%)	165 (93.2%)	61.5
Medical Sciences	26 (10.8%)	63 (13.2%)	110 (14.2%)	78 (9.9%)	47 (8.9%)	7 (7.5%)	1 (8.3%)	332 (86.2%)	62.6
Commercial Courses ...	15 (6.2%)	36 (7.5%)	94 (12.1%)	148 (18.8%)	91 (17.3%)	17 (18.3%)	5 (41.7%)	406 (82.3%)	56.9
Total	241 (100.0%)	478 (100.0%)	774 (100.0%)	788 (100.0%)	526 (100.0%)	93 (100.0%)	12 (100.0%)	2912 (71.4%)	

A percentage of 47.2% of first year students took Biology, Botany or Zoology. Compared with the numbers taking the subject Physical Science, more students in the Arts and Social Science group took the subject Biology or related subjects, namely 63.1% compared with 48.7%. Of the other groups, less than half of each group (in Engineering only 18.9%) had taken Biology or a related subject.

The highest average mark was obtained by those taking Engineering, namely 65.7%, but it should be remembered that only a small group of Engineering students took this subject. The average marks of the Pure Science (64.1%), Medical (63.9%) and Agriculture, Forestry and Veterinary Science groups (63.0%) are very close to one another with a very much lower average percentage obtained by the Commerce group (58.8%) and the Arts and Social Sciences group (58.3%).

The Arts and Social Sciences group had the greatest number of A's, B's and C's, namely 448, followed by the Pure Science group with 237, the Medical group with 110, Commerce group with 62, the Engineers with 54 and the other group with 45. Omitting the Engineering group, we find that the Medical and the Pure Science groups have relatively about the same number of A's, though many more than the Arts and Social Sciences group has. The groups can be compared if we double the Medical group (170) and divide the Arts and Social Sciences group (1104) by three to make them comparable with the Pure Science group (359). The Arts and Social Sciences group will then have about 10 A's, 43 B's and 96 C's; the Pure Science group 28 A's, 82 B's and 127 C's whereas the Medical group will have 26 A's, 78 B's and 116 C's. Thus the Medical and Pure Science groups have about the same proportion of B's but have more than the Arts and Social Sciences group, while the last named has the smallest percentage of C's in relation to the other two groups.

Candidates with good symbols in Biology subjects thus seem to prefer courses in the Arts and Social Sciences, Pure Sciences and Medical Sciences.

3.2.7 Geology, Mechanics, Physiology and Hygiene

The distribution, according to university course taken, of students taking Geology, Mechanics, Physiology and Hygiene as matriculation subjects is shown in Table 3.7. See Table 3.7.

These subjects were taken by a small percentage (2.7%) of the first year students in the matriculation examination, and they also largely chose courses in Arts and Social Sciences (48), Pure Science (22) and Engineering (21). The Engineers group with 69.4% and the Pure Science group with 65.9% had the best average performances.

Although the Arts and Social Science group had the most A's, B's and C's with 22 as against 15 of the Engineering group and 13 of the Pure Science group, the

TABLE 3.6

DISTRIBUTION ACCORDING TO STUDY COURSE OF STUDENTS WHO TOOK BIOLOGY, BOTANY OR ZOOLOGY AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbols of each group							Number of course of total in group	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	29 (31.2%)	130 (42.6%)	289 (51.8%)	402 (66.7%)	229 (72.5%)	23 (51.1%)	2 (33.3%)	1104 (63.1%)	58.3
Pure Sciences	28 (30.1%)	82 (26.9%)	127 (22.8%)	80 (13.3%)	34 (10.8%)	7 (15.6%)	1 (16.7%)	359 (41.7%)	64.1
Engineering	10 (10.8%)	19 (6.2%)	25 (4.5%)	15 (2.5%)	8 (2.5%)	1 (2.2%)		78 (18.9%)	65.7
Agriculture, Forestry and Veterinary Science..	7 (7.5%)	18 (5.9%)	20 (3.6%)	23 (3.8%)	5 (1.6%)	4 (8.9%)	1 (16.7%)	78 (44.1%)	63.0
Medical Sciences	13 (14.0%)	39 (12.8%)	58 (10.4%)	40 (5.6%)	16 (5.1%)	3 (6.7%)	1 (16.7%)	170 (44.2%)	63.9
Commercial Courses	6 (6.5%)	17 (5.6%)	39 (7.0%)	43 (7.1%)	24 (7.6%)	7 (15.6%)	1 (16.7%)	137 (27.8%)	58.8
Total	93 (100.0%)	305 (100.0%)	558 (100.0%)	603 (100.0%)	316 (100.0%)	45 (100.0%)	6 (100.0%)	1926 (47.2%)	

TABLE 3.7

DISTRIBUTION ACCORDING TO STUDY COURSE, OF STUDENTS WHO TOOK GEOLOGY, MECHANICS, PHYSIOLOGY AND HYGIENE AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbols of each group							Number of Course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	4 (21.1%)	4 (25.0%)	14 (58.3%)	15 (57.7%)	7 (36.8%)	2 (50.0%)	2 (100.0%)	48 (2.7%)	58.8
Pure Sciences	5 (26.3%)	6 (37.5%)	2 (8.3%)	4 (15.4%)	5 (26.3%)			22 (2.5%)	65.9
Engineering	9 (47.4%)	2 (12.5%)	4 (16.7%)	2 (7.7%)	3 (15.8%)	1 (25.0%)		21 (5.1%)	69.4
Agriculture, Forestry and Veterinary Science..		1 (6.3%)	1 (4.2%)	1 (3.9%)	2 (10.5%)			5 (2.8%)	57.0
Medical Sciences		2 (12.5%)	2 (8.3%)	3 (11.5%)		1 (25.0%)		8 (2.1%)	60.2
Commercial Courses	1 (5.3%)	1 (6.3%)	1 (4.2%)	1 (3.9%)	2 (10.5%)			6 (1.2%)	61.7
Total	19 (100.0%)	16 (100.0%)	24 (100.0%)	26 (100.0%)	19 (100.0%)	4 (100.0%)	2 (100.0%)	110 (2.7%)	

Engineers group has relatively the most A's and the Pure Science group the most B's.

3.2.8 Bookkeeping

The distribution, according to courses followed, of the students who took Bookkeeping as a matriculation subject are shown in Table 3.8.
See Table 3.8.

Few first year students took Bookkeeping as a subject for the matriculation examination. Of the Commerce group, 50.5% of the students had taken the subject. This was not a great percentage, though in comparison with other groups it was quite a big number. With the exception of the Agriculture, Forestry and Veterinary Science group (26.0%), the percentages of the other groups were all less than 20%.

Although the Engineering group had the highest average mark, 69.3% compared with 66.9% of the Commerce group, it should be remembered that the latter group is much larger, namely 249 compared with 57. Then follow the Pure Science group with an average mark of 66.4% and the Medical group with 64.5%.

The Commerce group has the most A's, B's and C's namely 177 as against 111 of the Pure Science group and 78 of the Arts and Social Sciences group. The Pure Science group (164) and Arts and Social Science group (170) are roughly of the same size, yet the latter group has considerably fewer A's (15.1% against 26.4%), B's (15.2% against 25.4%) and C's (19.0% against 21.0%). If the Commerce group (249) which is about one and a half times as great as the Pure Science group, be compared with the last named, there are seen to be 38 A's, 64 B's and 75 C's as compared to 42 A's, 63 B's and 62 C's ($1\frac{1}{2}$ x numbers of A's, B's and C's in the Pure Science group). The Commerce group has fewer A's (38) in proportion to B's and C's (139) than the Pure Science group (42 A's, 125 B's and C's). The Engineers group (57), although less than a quarter of the size of the Commerce group (247) has even more A's compared to B's and C's if the numbers for the Engineering group are multiplied by four for comparison purposes, namely, 56 A's, 120 B's and C's.

Students taking courses in Commerce, Pure Science and the Social Sciences, and to a less extent Engineering have overwhelmingly the best symbols in Bookkeeping. Of 735 students who took Bookkeeping 106 A's is an appreciable number.

3.2.9 Commerce, Economics, Shorthand and Typing

The distribution of the number of students taking Commerce, Economics, Shorthand and/or Typing for the matriculation examination according to the course followed is shown in Table 3.9.

Only 5.1% of the first year students took Commerce, Economics, Shorthand or Typing as a matriculation subject. Of these, about half (108 out of 209) were in Commerce

TABLE 3.8

DISTRIBUTION ACCORDING TO STUDY COURSE, OF STUDENTS WHO TOOK BOOKKEEPING AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbols of each group							Number in course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	16 (15.1%)	25 (15.2%)	37 (19.0%)	44 (26.7%)	42 (49.4%)	5 (29.4%)	1 (50.0%)	170 (9.7%)	59.8
Pure Sciences	28 (26.4%)	42 (25.4%)	41 (21.0%)	35 (21.2%)	14 (16.5%)	3 (17.6%)	1 (50.0%)	164 (19.0%)	66.4
Engineering	14 (13.2%)	15 (9.1%)	15 (7.7%)	9 (5.5%)	2 (2.4%)	2 (11.8%)		57 (13.8%)	69.3
Agriculture, Forestry and Veterinary Science..	2 (1.9%)	10 (6.1%)	15 (7.7%)	8 (4.8%)	10 (11.8%)	1 (5.9%)		46 (26.0%)	61.3
Medical Sciences	8 (7.5%)	9 (5.5%)	12 (6.2%)	15 (9.1%)	2 (2.4%)	3 (17.6%)		49 (12.7%)	64.5
Commercial Courses	38 (35.9%)	64 (38.8%)	75 (38.5%)	54 (32.7%)	15 (17.6%)	3 (17.6%)		249 (50.5%)	66.9
Total	106 (100.0%)	165 (100.0%)	195 (100.0%)	165 (100.0%)	85 (100.0%)	17 (100.0%)	2 (100.0%)	735 (18.0%)	

TABLE 3.9

DISTRIBUTION, ACCORDING TO STUDY COURSE, OF STUDENTS WHO TOOK COMMERCE, ECONOMICS OR SHORTHAND AND TYPING AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbols of each group							Number in course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	6 (40.0%)	19 (45.2%)	23 (50.0%)	40 (61.5%)	18 (52.9%)	2 (40.0%)		108 (6.2%)	60.3
Pure Sciences	3 (20.0%)	6 (14.3%)	6 (13.0%)	4 (6.2%)	4 (11.8%)		2 (100.0%)	25 (2.9%)	62.2
Engineering	1 (6.7%)	3 (7.1%)	4 (8.7%)	2 (3.1%)	1 (2.9%)	1 (20.0%)		12 (2.9%)	63.5
Agriculture, Forestry and Veterinary Science..	1 (6.7%)							1 (0.6%)	85.0
Medical Sciences.....	2 (13.3%)	1 (2.4%)	5 (10.9%)	4 (6.2%)				12 (3.1%)	65.8
Commercial Courses	2 (13.3%)	13 (31.0%)	8 (17.4%)	15 (23.1%)	11 (32.4%)	2 (40.0%)		51 (10.3%)	60.0
Total	15 (100.0%)	42 (100.0%)	46 (100.0%)	65 (100.0%)	34 (100.0%)	5 (100.0%)	2 (100.0%)	209 (5.1%)	

courses. With 10.3% of the total, the Commerce group took relatively most of these subjects. Then follows the Arts and Social Sciences group with 6.2% of these subjects which is twice as many as any other group with the exception of the Agriculture, Forestry and Veterinary Science group. If this group (of only one candidate) be left out of consideration, the average achievement of the other groups with $\frac{1}{4}$ 60% is about the same. The Arts and Social Sciences group with 48 A's, B's and C's and the Commerce group with 23 attracted the majority of the good candidates.

3.2.10 History and other Social Study subjects

The distribution, according to university course taken, of the students taking History and other Social Study subjects is shown in Table 3.10.
See Table 3.10.

About 60% of the first year students took History and some other Social Study subjects (less than 1% of the total) as a matriculation subject. The Arts and Social Sciences group contains the largest number of students who took History as a matriculation subject, 70.9%. Of the other groups, the Commerce group (particularly high with 57.4% of the group), the Medical group (56.1%) and the Pure Science group (50.1%) all had more than half of the students having taken history.

The Medical group had the highest average performance in History, namely 63.0% followed by the Pure Science group with 62.1% and the Arts and Social Sciences group with 61.4%.

The Arts and Social Sciences group had the most A's, B's and C's (685), followed by the Pure Science group (238), the Commerce group (138), the Medical group (129), the Engineers group (100) and the Agriculture, Forestry and Veterinary Science group. When this position is examined relatively, we find that as the Arts and Social Sciences group (1241) is about three times as big as the Pure Science group (432), the latter group has 111 (3x37) A's as compared with 82 A's in the former group. The Medical group (216) is exactly half as big as the Pure Science group (432) but, even when the two groups are adjusted to be numerically equal, the Medical group will have only 28 (2x14) A's which is a smaller number than the 37 A's of the Pure Science group.

If the numbers in the Table are multiplied in proportion so that the total for each group is that for the Arts and Social Sciences, it will be seen that the Medical group has the most B's whereas the Commerce group has a few more C's than the Arts and Social Science and the Medical groups which have equal numbers of C's (386, 379, 379 respectively).

The conclusion may thus be drawn that most of the first year students with good symbols in History are to be found amongst the Arts and Social Science, Pure Science, Medical and Commerce groups.

TABLE 3.10

DISTRIBUTION, ACCORDING TO STUDY COURSES, OF STUDENTS WHO TOOK HISTORY AND/OR OTHER SOCIAL SUBJECTS AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbols in each group							Number in course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	82 (51.6%)	224 (50.2%)	379 (53.1%)	312 (49.1%)	197 (50.8%)	46 (51.7%)	1 (8.3%)	1241 (70.9%)	61.4
Pure Sciences	37 (23.3%)	88 (19.8%)	113 (15.7%)	114 (18.0%)	64 (16.5%)	14 (15.7%)	2 (16.7%)	432 (50.1%)	62.1
Engineering	11 (6.9%)	36 (8.1%)	53 (7.4%)	45 (7.1%)	34 (8.8%)	11 (12.4%)	4 (33.3%)	194 (47.1%)	59.8
Agriculture, Forestry and Veterinary Science..	3 (1.9%)	10 (2.2%)	15 (2.1%)	26 (4.1%)	19 (4.9%)	3 (3.4%)		76 (43.0%)	57.6
Medical Science	14 (8.8%)	49 (11.0%)	66 (9.2%)	60 (9.5%)	24 (6.2%)	1 (1.1%)	2 (16.7%)	216 (56.1%)	63.0
Commercial Courses	12 (7.5%)	38 (8.5%)	88 (12.3%)	73 (12.2%)	50 (12.9%)	14 (15.7%)	3 (25.0%)	283 (57.4%)	59.1
Total	159 (100.0%)	445 (100.0%)	714 (100.0%)	635 (100.0%)	388 (100.0%)	89 (100.0%)	12 (100.0%)	2442 (59.9%)	

3.2.11 Geography

The distribution of the students, according to their courses at university, taking Geography as a matriculation subject are shown in Table 3.11.

Compared with the number of first year students who had taken History (59.9%) a very much smaller percentage of the 4078 first year students namely 25.6%, had taken Geography as a matriculation subject. The very low percentage (18.1%) of the Agriculture, Forestry and Veterinary Science group with Geography as a matriculation subject is noteworthy.

With the exception of the Commerce group (54.8%) and the Medical group (59.0%), the average performances of the other groups lay between 57.8% (the Engineering group and the Agriculture, Forestry and Veterinary Science group) and 56.2% (the Arts and Social Sciences group).

If the numbers of A's, B's and C's in Geography of the different groups are compared, it is found that the Arts and Social Sciences group has 141, the Pure Science group has 90, the Engineers group 53, the Commerce group 38, the Medical group 31 and the Agriculture, Forestry and Veterinary Science group has 13. If one compares the number of A's, B's and C's in relation to the number taking the subject in each group, we find the following.

The Pure Science group (245) is more than half the size of the Arts and Social Science group (413) and roughly twice the size of the Engineers group (135). By adjusting the totals in these groups to be arithmetically equal the numbers of A's in the three groups are 22 (Pure Sciences), 12 (Arts and Social Sciences) and 9 (Engineering Sciences).

Similarly it is found that the Engineering group has relatively more B's (52) than the Arts and Social Sciences group (40) or the Pure Science group (35). The number of C's in the Engineering group is greater than that in the Arts and Social Science group or the Pure Science group (which have equal numbers), if we leave out the Agriculture, Forestry and Veterinary Science group which has a poor distribution of symbols.

Most of the good symbols for Geography are thus to be found among the students taking courses in Arts and Social Science, Pure Science and Engineering.

3.2.12 Art and Music

The distribution, according to university course taken, of the number of students who took Art or Music as a matriculation subject is reflected in Table 3.12. See Table 3.12. Only 6.5% of all the first year students took Art or Music as a matriculation subject. Of this percentage the greatest number, 199 out of 266, was in the Arts and Social Sciences group. In the Arts and Social Sciences group, 11.4% of the students had taken one of these two subjects as compared with 3.7% of the Pure Science group, 3.4% of the Medical group and 3.2% of the Engineers group - a fairly even percentage distribution throughout the sciences.

TABLE 3.11

DISTRIBUTION, ACCORDING TO STUDY COURSE, OF STUDENTS WHO TOOK GEOGRAPHY AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbol in each group							Number in course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	12 (33.3%)	40 (40.8%)	89 (38.3%)	145 (37.0%)	99 (43.4%)	22 (45.8%)	6 (54.5%)	413 (23.6%)	56.2
Pure Sciences	13 (36.1%)	21 (21.4%)	56 (24.1%)	96 (24.5%)	47 (20.6%)	11 (22.9%)	1 (9.1%)	245 (28.5%)	57.7
Engineering	5 (13.9%)	17 (17.4%)	31 (13.4%)	47 (12.0%)	29 (12.7%)	3 (6.3%)	3 (27.3%)	135 (32.8%)	57.8
Agriculture, Forestry and Veterinary Science..	1 (2.8%)		12 (5.1%)	13 (3.3%)	6 (2.6%)			32 (18.1%)	57.8
Medical Science	2 (5.6%)	9 (9.2%)	20 (8.6%)	33 (8.4%)	8 (3.5%)	3 (6.3%)		75 (19.5%)	59.0
Commercial Courses	3 (8.3%)	11 (11.2%)	24 (10.4%)	58 (14.8%)	39 (17.1%)	9 (18.8%)	1 (9.1%)	145 (29.4%)	54.8
Total	36 (100.0%)	98 (100.0%)	232 (100.0%)	392 (100.0%)	228 (100.0%)	48 (100.0%)	11 (100.0%)	1045 (25.6%)	

TABLE 3.12

DISTRIBUTION, ACCORDING TO STUDY COURSE, OF STUDENTS WHO TOOK ART OR MUSIC AS A MATRICULATION SUBJECT

Course of Study	Matriculation symbol in each group							Number in course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	12 (75.0%)	40 (78.4%)	56 (74.7%)	63 (76.8%)	23 (67.6%)	4 (66.7%)	1 (50.0%)	199 (11.4%)	62.0
Pure Sciences	2 (12.5%)	8 (15.7%)	9 (12.0%)	7 (8.5%)	5 (14.7%)	50.0%	1 (50.0%)	32 (3.7%)	62.3
Engineering		2 (3.9%)	4 (5.3%)	5 (6.1%)	1 (2.9%)	1 (16.7%)		13 (3.2%)	59.0
Agriculture, Forestry and Veterinary Science..									
Medical Sciences	2 (12.5%)	1 (1.9%)	3 (4.0%)	3 (3.7%)	3 (8.8%)	1 (16.7%)		13 (3.4%)	59.8
Commercial Courses			3 (4.0%)	4 (4.9%)	2 (5.9%)			9 (1.8%)	56.1
Total	16 (100.0%)	51 (100.0%)	75 (100.0%)	82 (100.0%)	34 (100.0%)	6 (100.0%)	2 (100.0%)	266 (6.5%)	

The average achievement of these four groups is very much the same throughout the Pure Science group with an average mark of 62.3% and the Arts and Social Science group, with 62%, being the best. The Arts and Social Sciences group with 108 A's, B's and C's had by far the most students with good symbols in Art and Music.

3.2.13 Domestic Science and related subjects, Wood and Metal work, Agricultural and Technical subjects

The distribution, according to university course taken, of the number of students who took Domestic Science and related subjects, Wood and Metal work, Agricultural and Technical subjects, is shown in Table 3.13. See Table 3.13.

Of the first year students, 11.7% took one or another of these subjects and they were fairly well distributed among the different faculty groups. By comparison with other groups, all of which had fewer than 13% of the group taking these subjects, a fairly large percentage of the Agriculture, Forestry and Veterinary Science group, namely 26.6%, had taken one or more of these subjects as a subject for matriculation; these were naturally predominantly Agricultural subjects, Wood and Metal work. In the Arts and Social Sciences group there were a large number of women with Domestic Science and related subjects and in Engineering many with technical subjects.

The highest average marks are once more obtained by the Engineering students with 65.2% followed by the Medical group with 62.9% (few students in this group) Pure Science group (52.5%) and the Agriculture, Forestry and Veterinary Science group with 61.4%.

The Arts and Social Sciences group had most A's, B's and C's (119) followed by the Pure Science group (51) Engineers group (33) and the Agriculture, Forestry and Veterinary Science group with 25. The Engineers had relatively the greatest number of A's and B's. Although very much smaller than the Arts and Social Sciences group (52 compared with 227) and smaller than the Pure Science group (88) the Engineers group has as many of the A's (27.3%) as the Arts and Social Sciences group and more than the Pure Science group with 18.2%.

Most of the first year students with good symbols in Domestic Science and related subjects, Wood and Metal work, Agricultural and Technical subjects thus appear to choose courses in Arts and Social Sciences, Pure Science, Engineering, Agriculture, Forestry and Veterinary Science.

3.3 CONCLUSION

In conclusion it may be said that as far as the official languages are concerned, students in all courses have on the average reasonably good achievements, those in the Arts and Social Sciences and Pure Sciences being the best.

The distribution of performances in the third language is also good, with the Arts and Social Science group making a poorer showing than is to be expected.

TABLE 3.13

DISTRIBUTION, ACCORDING TO STUDY COURSE OF STUDENTS WHO TOOK DOMESTIC SCIENCE, WOOD AND METAL WORK, AGRICULTURAL AND TECHNICAL SUBJECTS AS MATRICULATION SUBJECTS

Course of Study	Matriculation symbols in each subject							Number in course (% of total in group)	Average %
	A (% A's of total number of A's)	B (% B's of total number of B's)	C (% C's of total number of C's)	D (% D's of total number of D's)	E (% E's of total number of E's)	F (% F's of total number of F's)	FF,G&H (% failures of total failures)		
Arts and Social Sciences	6 (27.3%)	26 (34.7%)	87 (53.7%)	88 (53.7%)	17 (34.0%)	3 (60.0%)		227 (13.0%)	60.9
Pure Science	4 (18.2%)	21 (28.0%)	26 (16.0%)	24 (14.6%)	12 (24.0%)	1 (20.0%)		88 (10.2%)	62.5
Engineering	6 (27.3%)	15 (20.0%)	12 (7.4%)	13 (7.9%)	5 (10.0%)	1 (20.0%)		52 (12.6%)	65.2
Agriculture, Forestry and Veterinary Science..	2 (9.1%)	6 (8.0%)	17 (10.5%)	17 (10.4%)	5 (10.0%)			47 (26.6%)	61.4
Medical Science	2 (9.1%)	5 (6.7%)	11 (6.8%)	5 (3.0%)	5 (10.0%)			28 (7.3%)	62.9
Commercial Courses	2 (9.1%)	2 (2.7%)	9 (5.5%)	17 (10.4%)	6 (12.0%)		1 (100.0%)	37 (7.5%)	57.8
Total	22 (100.0%)	75 (100.0%)	162 (100.0%)	164 (100.0%)	50 (100.0%)	5 (100.0%)	1 (100.0%)	479 (11.7%)	

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A good performance in Mathematics, Physical Sciences and the Biological sciences is indicative of a course to be followed in Engineering, Pure Science or Medical Science. Of the Arts and Social Sciences group, 25.7% had taken a third language and had therefore not taken mathematics to obtain matriculation exemption, while this group had in the main taken one of the Biological sciences rather than Physical science.

History was taken by a reasonable percentage of students in each group with a larger number of good performances than one might have expected in the Medical and Pure Science groups. Far fewer students had taken Geography than had taken History and good performances in Geography are fairly evenly distributed amongst all courses.

Fewer first year students than were expected, who had Bookkeeping as a subject for matriculation were found in the Commerce groups, while first year students with courses in the pure sciences had good performances in Bookkeeping. Students with Art and Music as subjects in the matriculation examination tend to take a course in Arts and the Social Sciences.

The remaining subjects are of less importance and students taking them are fairly evenly distributed in respect of both numbers and performance.

CHAPTER FOUR

THE DISTRIBUTION OF MATRICULATION SUBJECTS AND SYMBOLS FOR FIRST YEAR STUDENTS IN THE VARIOUS COURSES

4.1 GENERAL

In the tables which follow, the percentages of students taking each subject are compared for each university course group as also are the average percentage marks obtained by the groups in each subject.

More than 99.0% of each group took Afrikaans and English as a subject for matriculation. In the Arts and Social Sciences group only were there two students (0.1%) who did not take English as a subject for matriculation. Mathematics was taken by 98% of all students in each group with the exception of the Arts and Social Sciences. As these three subjects are compulsory subjects for the matriculation examination or are prerequisite for certain courses, the numbers taking them are not really of great significance.

Physical Science, Physics or Chemistry was taken by more than 80% of each group with the exception of the Arts and Social Sciences group. A study of these groups reveals other popular subjects such as a third language, Biology, History and to a lesser extent Bookkeeping and Geography.

By comparing the various subjects in each group, some idea may be obtained of the popular subjects in them as also of the subjects which are of predictive value in each group. Thus the Arts and Social Science group have better average marks in the languages than the other groups have. Mathematics and Physical Science are taken by a larger percentage of students in Pure Science, Engineering and Medicine while these groups also did well in the subjects mentioned.

TABLE 4.1

DISTRIBUTION OF MATRICULATION SUBJECTS AND SYMBOLS FOR STUDENTS IN ARTS AND SOCIAL SCIENCES

Subjects	A	B	C	D	E	F	FF, G,H	Total in each subject (% of group)	Average %
Afrikaans	79	282	584	540	225	21	2	1733 (99.0%)	61.4
English	77	299	581	601	183	7		1748 (99.9%)	61.9
Third language.	76	192	296	377	329	95	9	1374 (78.5%)	57.8
Mathematics....	57	122	242	340	358	149	32	1300 (74.3%)	54.6
Physical Science, Physics or Chemistry	31	100	189	258	221	52	2	853 (48.7%)	56.9
Biology	29	130	289	402	229	23	2	1104 (63.1%)	58.3
Geology, Mecha- nics, Physiology and Hygiene	4	4	14	15	7	2	2	48 (2.7%)	58.8
Bookkeeping	16	25	37	44	42	5	1	170 (9.7%)	59.8
Commerce, Economics, Short- hand and Typing	6	19	23	40	18	2		108 (6.2%)	60.3
History	82	224	379	312	197	46	1	1241 (70.9%)	61.4
Geography	12	40	89	145	99	22	6	413 (23.6%)	56.2
Art, Music	12	40	56	63	23	4	1	199 (11.4%)	62.0
Domestic Science, Wood and Metal work.....	6	26	87	88	17	3		227 (13.0%)	60.9
Total in group								1750	

4.2 THE SUBJECTS TAKEN FOR MATRICULATION AND PERFORMANCES OF FIRST YEAR STUDENTS IN THE SOCIAL SCIENCES GROUP

The subjects taken by most of the students taking Arts and Social Science courses are in descending order of percentages:

English (99.9%), Afrikaans(99.0%), a third language (78.5%), Mathematics (74.3%), History (70.9%) and Biology (63.1%). Physical Science, Physics or Chemistry (48.7%), Geography (23.6%), Domestic Science, Wood and Metalwork, Agricultural and Technical subjects (13.0%), Arts and Music (11.4%) and Bookkeeping (9.7%) were all less popular.

Of the six subjects taken by more than 60% of the student group, the average performance in English (61.9%) was the best, followed by Afrikaans and History (both 61.4%), Biology (58.3%), a third language (57.8%) and Mathematics (54.6%). If these performances be compared with those in the other course groups, we find that, with the exception of the official languages, and to a limited extent History, the average marks are lower than those in the other groups.

Performances in the remaining subjects are: Art and Music (62.0%), Domestic Science, Wood and Metal work, agricultural and technical subjects (60.9%), Commerce, Economics, Typing and Shorthand (60.3%), Bookkeeping (59.8%), Geology, Mechanics, Physiology and Hygiene (58.8%), Physical Science, Physics and Chemistry (56.9%) and Geography (56.2%).

The performances of those students taking Arts and Social Sciences range from 54.6% to 62.0% which is not extensive. We may conclude therefore that this group showed fairly uniform performances in the subjects of the matriculation examination, with average performances in Mathematics and the physical sciences somewhat lower than in the other groups.

TABLE 4.2

DISTRIBUTION OF MATRICULATION SUBJECTS AND SYMBOLS FOR STUDENTS IN THE PURE SCIENCES

Subjects	A	B	C	D	E	F	FF, G,H	Total in each subject (% of group)	Average %
Afrikaans	23	107	269	265	178	12	1	855 (99.3%)	59.1
English	20	93	297	306	144	1		861 (99.9%)	59.6
Third language.	39	74	104	147	84	23	6	477 (55.4%)	59.8
Mathematics ...	157	158	195	199	124	24	1	858 (99.7%)	64.5
Physical Science, Physics ⁹³ or Chemistry...		169	214	164	96	11	2	749 (87.0%)	64.5
Biology	28	82	127	80	34	7	1	359 (41.7%)	64.1
Geology, Mechanics, Phy- siology and Hy- giene	5	6	2	4	5			22 (2.5%)	65.9
Bookkeeping ..	28	42	41	35	14	3	1	164 (19.0%)	66.4
Commerce, Economics Shorthand and Typing	3	6	6	4	4		2	25 (2.9%)	62.2
History	37	88	113	114	64	14	2	432 (50.1%)	62.1
Geography	13	21	56	96	47	11	1	245 (28.5%)	57.7
Art or Music ..	2	8	9	7	5		1	32 (3.7%)	62.3
Domestic Science Wood and Metal work	4	21	26	24	12	1		88 (10.2%)	62.5
Total in group								861	

4.3 THE SUBJECTS TAKEN FOR MATRICULATION AND PERFORMANCE OF FIRST YEAR STUDENTS IN THE PURE SCIENCE GROUP

English (99.9%), Mathematics (99.7%), Afrikaans (99.3%), Physical Science, Physics or Chemistry (87.0%), a third language (55.4%) and History (50.1%) are the subjects taken for matriculation by more than half of these taking university courses in Pure Science. The other subjects such as Biology (41.7%), Geography (28.5%), Bookkeeping (19.0%), Domestic Science, Wood and Metal work, Agricultural and Technical subjects (10.2%), Art and Music (3.7%), Commerce, Economics (2.9%) and Geology, Mechanics, Physiology and Hygiene (2.5%) were taken by far fewer of the students in the Pure Science group.

The average performances in the six subjects taken by the majority of students were Mathematics (64.5%) and Physical Science, Physics and Chemistry (64.5%) followed by History (62.1%), a third language (59.8%), English (59.6%) and Afrikaans (59.1%). There is thus a marked difference between performances in Mathematics and the Physical Sciences on the one hand and in the Social Science subjects on the other.

Performances in the other subjects are in the following order: Bookkeeping (66.4%), Geology, Mechanics, Physiology and Hygiene (65.9%), Biology (64.1%), Domestic Science, Wood and Metal work, Agricultural and Technical subjects (62.5%), Commerce, Economics, Typing and Shorthand (62.2%), Art and Music (62.1%) and Geography (57.7%). In the less popular subjects performance in the Science and semi-Science subjects and in Commercial subjects is thus higher than 60% with Geography lower.

Average performances in subjects range from 57.7% to 66.4% which is not extensive. This group of first year students thus did quite well in Mathematics, the Physical Sciences and Commercial subjects with fewer good performances in the languages.

TABLE 4.3

DISTRIBUTION OF MATRICULATION SUBJECTS AND SYMBOLS FOR STUDENTS IN ENGINEERING

Subjects	A	B	C	D	E	F	FF, G,H	Total in each subject (% of group)	Average %
Afrikaans	5	39	106	123	119	8	2	402 (97.6%)	56.5
English	10	33	117	155	96	1		412 (100.0%)	57.8
Third language.	26	34	66	66	52	14	8	266 (64.6%)	59.3
Mathematics ...	94	105	97	80	30	3	1	410 (99.5%)	68.5
Physical Science Physics or Che- mistry	61	85	123	85	51	1	1	407 (98.8%)	65.3
Biology	10	19	25	15	8	1		78 (18.9%)	65.7
Geology, Mecha- nics, Physiology & Hygiene	9	2	4	2	3	1		21 (5.1%)	69.4
Bookkeeping ...	14	15	15	9	2	2		57 (13.8%)	69.3
Commerce, Economics, Short- hand and Typing	1	3	4	2	1	1		12 (2.9%)	63.5
History	11	36	53	45	34	11	4	194 (47.1%)	59.8
Geography	5	17	31	47	29	3	3	135 (32.8%)	57.8
Art or Music ...		2	4	5	1	1		13 (3.2%)	59.0
Domestic Science, Wood and Metal work.....	6	15	12	13	5	1		52 (12.6%)	65.2

Total in group 412

4.4 THE SUBJECTS FOR MATRICULATION AND PERFORMANCE OF FIRST YEAR STUDENTS IN ENGINEERING

English (100.0%), Mathematics (99.5%), Physical Science, Physics or Chemistry (98.8%), Afrikaans (97.6%) and a third language (64.6%) were subjects taken by more than 60% of those following engineering courses. The following subjects were taken by less than half of the students: History (47.1%), Geography (32.8%), Biology (18.9%), Bookkeeping (13.8%), Wood and Metal work, Agricultural and Technical subjects (12.6%), Geology, Mechanics, Physiology and Hygiene (5.1%), Art and Music (3.2%) and Commerce and Economics (2.9%).

The average performances for the subjects taken by more than 60% of the first year students were Mathematics (68.5%), Physical Science, Physics and Chemistry (65.3%), the third language (59.3%), English (57.8%) and Afrikaans (56.5%). As was the case with the Pure Science group, there is a clear cut difference between the performance in the Physical Science subjects and Mathematics on the one hand and languages on the other.

The average performance in all the other subjects was particularly good with Geology, Mechanics, Physiology and Hygiene (69.4%) and Bookkeeping (69.3%) the highest, followed by Biology (65.7%), Wood and Metal work, Agricultural and technical subjects (65.2%), Commerce and Economics (63.5%), Art and Music (59.0%) and Geography (57.8%). Once more the performances in the Physical Sciences and semi-Science subjects as well as Commercial subjects were considerably better than in Art, Music and Social Studies.

Average performances in the subjects for those taking courses in Engineering range from 56.5% for Afrikaans to 69.4% for Geology, Mechanics and Physiology, a fairly big range by comparison with the two previous groups. This group of first year students did particularly well in Mathematics, the Physical Sciences and in Commercial subjects. Their performances in these subjects were slightly better than those of the Pure Science group but poorer in the Social Studies subjects. Otherwise there is reasonable uniformity between the performances in two groups.

TABLE 4.4

DISTRIBUTION OF MATRICULATION SUBJECTS AND SYMBOLS FOR STUDENTS IN AGRICULTURE, FORESTRY AND VETERINARY SCIENCE

Subjects	A	B	C	D	E	F	FF, G,H	Total in each subject (% of group)	Average %
Afrikaans		16	51	68	41	1		177 (100.0%)	57.3
English	2	13	32	72	56	2		177 (100.0%)	55.2
Third language.	2	9	17	17	29	4		78 (44.1%)	55.6
Mathematics ...	8	29	35	60	32	11	1	176 (99.4%)	58.5
Physical Science Physics or Chemistry	15	25	44	55	20	5	1	165 (93.2%)	61.5
Biology	7	18	20	23	5	4	1	78 (44.1%)	63.0
Geology, Mecha- nics, Physiology and Hygiene		1	1	1	2			5 (2.8%)	57.0
Bookkeeping	2	10	15	8	10	1		46 (26.0%)	61.3
Commerce, Economics, Short- hand and Typing	1							1 (0.6%)	85.0
History	3	10	15	26	19	3		76 (43.0%)	57.6
Geography	1		12	13	6			32 (18.1%)	57.8
Art or Music ...									
Domestic Science Wood and Metal work	2	6	17	17	5			47 (26.6%)	61.4

Total in group 177

4.5 FIRST YEAR STUDENTS IN AGRICULTURE, FORESTRY AND VETERINARY SCIENCE, ANALYSED ACCORDING TO THEIR PERFORMANCES IN MATRICULATION SUBJECTS

Afrikaans (100%), English (100%), Mathematics (99.4%), Physical Science, Physics or Chemistry (93.2%) and to a lesser extent Biology (44.1%), a third language (44.1%) and History (43.0%) were taken by most students with courses in Agriculture, Forestry or Veterinary Science. Domestic Science, Wood and Metalwork, Agricultural and Technical subjects (26.6%), Bookkeeping (26.0%), Geography (18.1%), Geology, Mechanics, Physiology and Hygiene (2.8%) and Commerce, Economics, Shorthand and Typing (0.6%) were taken by far fewer first year students.

The average performances in the subjects Biology (63.0%) and Physical Science, Physics and Chemistry (61.5%) were by far the best for this group, followed by the averages of 58.5% for Mathematics, 57.6% for History, 57.3% for Afrikaans, 55.6% for a third language and 55.2% for English in the more popular subjects.

The other average performances were in Domestic Science, Wood and Metal Work, Agricultural and Technical subjects (61.4%), Bookkeeping (61.3%), Geography (57.8%) and Geology, Mechanics, Physiology and Hygiene (57.0%) in that order. Commerce, Economics, Typing and Shorthand, (taken by only one candidate) and Art and Music (not taken by any candidates) may be left out of consideration.

Average performance in the subjects range from 55.2% for English to 63.0% for Biology, not a very wide range. The best performances of this group in the matriculation examination were thus in Biology, Physical Sciences, Agricultural and Technical subjects and Bookkeeping, in that order. Performances in the Social Study subjects and languages were much poorer.

TABLE 4.5

DISTRIBUTION OF MATRICULATION SUBJECTS AND SYMBOLS FOR STUDENTS IN MEDICAL SCIENCES

Subjects	A	B	C	D	E	F	FF, G,H	Total in each subject (% of group)	Average %
Afrikaans	8	34	112	156	71	2	1	384 (99.7%)	58.3
English	12	50	122	141	59	1		385 (100.0%)	60.1
Third language ..	23	29	66	80	58	16	4	276 (71.7%)	58.5
Mathematics	33	66	112	95	56	16		378 (98.1%)	61.8
Physical Science, Physics or Chemistry	26	63	110	78	47	7	1	332 (86.2%)	62.6
Biology	13	39	58	40	16	3	1	170 (44.2%)	63.9
Geology, Mechanics Physiology and Hygiene		2	2	3		1		8 (2.1%)	60.2
Bookkeeping	8	9	12	15	2	3		49	64.5
Commerce, Econo- mics Shorthand and Typing	2	1	5	4				12 (3.1%)	65.8
History	14	49	66	60	24	1	2	216 (56.1%)	63.0
Geography	2	9	20	33	8	3		75 (19.5%)	59.0
Art or Music	2	1	3	3	3	1		13 (3.4%)	59.8
Domestic Science, Wood and Metal work	2	5	11	5	5			28 (7.3%)	62.9

Total in group 385

33/.....

4.6 THE SUBJECTS FOR MATRICULATION AND PERFORMANCE OF FIRST YEAR STUDENTS IN THE MEDICAL SCIENCES

The subjects taken by most of the first year students of the Medical group for matriculation were English (100%), Afrikaans (99.7%), Mathematics (98.1%), Physical Science, Physics or Chemistry (86.2%), a third language (71.7%) and History (56.1%). Less popular were Biology (44.2%), Geography (19.5%), Bookkeeping (15.7%), Domestic Science, Wood and Metalwork, Agricultural and Technical subjects (7.3%), Art and Music (3.4%), Commerce, Economics, Shorthand and Typing (3.1%) and Geology, Mechanics, Physiology and Hygiene (2.1%).

A feature of the achievements of all those with courses in the Medical sciences is their average performance of about 60% in all subjects. Of those subjects taken by more than half the group, the best average is for History (63.0%), Physical Science, Physics or Chemistry (62.6%) and Mathematics (61.8%), with lower percentages in the languages, namely English (60.1%), a third language (58.5%) and Afrikaans (58.3%).

As far as the other subjects are concerned, high averages were also obtained in Commerce, Economics, Shorthand and Typing (65.8%), Bookkeeping (64.5%) and Biology (63.9%). Then follow Domestic Science, Wood and Metalwork, Agricultural and Technical subjects (62.9%), Geology, Mechanics, Physiology and Hygiene (60.2%), Art and Music (59.8%) and Geography (59.0%).

Good performances were thus achieved by this group in Biology, the Physical Sciences and Mathematics, although these were not quite as good as the performances of Pure Science and Engineering students. As was the case with the previous three groups discussed, the performances in the Commercial subjects were very good. The averages for the languages were a little poorer than was the case with the Social Sciences and Pure Science groups, though better than those of the Engineering group. Characteristic of the Medical group is the large number of students who took History and achieved better results in this than all the other groups.

TABLE 4.6

DISTRIBUTION OF MATRICULATION SUBJECTS AND SYMBOLS FOR STUDENTS IN COMMERCIAL COURSES

Subjects	A	B	C	D	E	F	FF, G,H	Total in each subject (% of group)	Average %
Afrikaans	2	33	107	194	146	4	3	489 (99.2%)	55.4
English	5	28	107	214	136	3		493 (100.0%)	55.7
Third language .	11	13	36	48	51	7	2	168 (34.1%)	56.6
Mathematics	31	73	114	134	110	19	5	486 (98.6%)	59.0
Physical Science, Physics or Chemistry	15	36	94	148	91	17	5	406 (82.3%)	56.9
Biology	6	17	39	43	24	7	1	137 (27.8%)	58.8
Geology, Mecha- nics, Physiology and Hygiene	1	1	1	1	2			6 (1.2%)	61.7
Bookkeeping ...	38	64	75	54	15	3		249 (50.5%)	66.9
Commerce, Economics, Short- hand and Typing.	2	13	8	15	11	2		51 (10.3%)	60.0
History	12	38	88	78	50	14	3	283 (57.4%)	59.1
Geography	3	11	24	58	39	9	1	145 (29.4%)	54.8
Art or Music ...			3	4	2			9 (1.8%)	56.1
Domestic Science Wood and Metal work	2	2	9	17	6		1	37 (7.5%)	57.8

Total in group 493

4.7 THE SUBJECTS FOR MATRICULATION AND PERFORMANCES OF FIRST YEAR STUDENTS IN COMMERCIAL COURSES

English (100%), Afrikaans (99.2%), Physical Science, Physics or Chemistry (82.3%), History (57.4%) and Bookkeeping (50.5%) were the subjects taken by more than half the first year students in this group when writing the matriculation examination. Less than half of the group took a third language (34.1%), Geography (29.4%), Biology (27.8%), Commerce, Economics, Shorthand and Typing (10.3%), Domestic Science, Wood and Metal work, Agricultural and Technical subjects (7.5%), Geology, Mechanics, Physiology and Hygiene (1.2%) and Art and Music (1.8%).

The achievements of this group in the various subjects was on the whole poorer than in the other groups, although the average performance in Bookkeeping (66.9%) was particularly good when compared with the best averages of the other groups. Amongst the other more popular subjects, the average performance were as follows: History (59.1%), Mathematics (59.0%), Physical Science, Physics or Chemistry (56.9%), English (55.7%) and Afrikaans (55.4%).

For the remaining subjects, the order of achievements was: Geology, Mechanics, Physiology and Hygiene (61.7%), Commerce, Economics, Shorthand and Typing (60.0%), Biology (58.8%), Domestic Science, Wood and Metal work, Agricultural and Technical subjects (57.8%), a third language (56.6%), Art or Music (56.1%) and Geography (54.8%).

This group thus did best in the matriculation examination in the commercial subjects, with reasonably good performances in History, Mathematics and the Physical Sciences, but had poorer performances in languages and other subjects.

CHAPTER FIVE

COMPARISON OF THE MATRICULATION SYMBOLS OBTAINED IN NOVEMBER-DECEMBER 1961 OR MARCH 1962 BY THOSE WHO DID NOT GO TO A UNIVERSITY AND THOSE WHO DID

5.1 GENERAL SURVEY

As has been mentioned, 5775 (58.61%) of the 9853 candidates who passed the matriculation examination with full exemption in November-December 1961 or March 1962 did not go to a university during 1962. Of the 3353 first class pass candidates, 1483 (44.22%) did not go to a university during 1962.

In what follows, a comparison is made between the number of candidates who did not go to a university in 1962 with those who did, and who took courses for which full matriculation was a prerequisite. This comparison is made in respect of the groups obtaining each symbol.

When a comparison is made between the two groups for each symbol, it appears that those who obtained A-Symbols by and large went to a university (almost twice as many as those who did not). The group obtaining A-Symbols who did not go to a university is nevertheless disturbingly big. As far as B-Symbols are concerned, the group going to a university is still in the majority while for those with C-Symbols the group who did not go to a university is larger in most subjects. For all groups with lower symbols, the numbers of those who did not go to a university are in the majority for most subjects.

If the group who did not go to a university be examined, it is difficult to determine for each subject just what symbol is the minimum prerequisite for a potential university student. Actually of course the whole group fulfil the requirements to go to a university but candidates with a C (or even a D) and higher must be looked upon as reasonably talented.

5.2 SUBJECTS COMPARED

5.2.1 Afrikaans

The numbers of students and non-students taking Afrikaans as a matriculation subject are shown in table 5.1.

TABLE 5.1

NO OF STUDENTS AND NON-STUDENTS WHO TOOK AFRIKAANS AS A MATRICULATION SUBJECT

Group	Matriculation Symbols								Total	A+B+C
	A	B	C	D	E	F	FF, G,H			
Not at university in 1962	53 31.2%	430 45.7%	1453 54.2%	2263 62.7%	1435 64.8%	77 61.6%	17 65.4%	5728 58.6%	1936 51.04%	
First year students at university in 1962	117 68.8%	511 54.3%	1229 45.8%	1346 37.3%	780 35.2%	48 38.4%	9 34.6%	4040 41.4%	1857 48.96%	
Total	170 100.0%	941 100.0%	2682 100.0%	3609 100.0%	2215 100.0%	125 100.0%	26 100.0%	9768 100.0%	3793 100.0%	

Of the matriculants who took Afrikaans, 5728 (58.6%) did not go to a university compared with 4040 (41.4%) who did; thus nearly three out of every five matriculants did not enrol for a university course requiring matriculation exemption.

The university group with A symbols (68.8%) is about twice as large as the non-university group (31.2%). Amongst the B's in Afrikaans the university group are in the majority while the position is reversed among those obtaining a C symbol. Of all those with A's, B's and C's, the non-university students were in the majority (1936 or 51.04%). When we look at the total of those with A's, B's, C's and D's we find a still larger percentage among the non-university group. It is a matter of concern that such a large group of talented matriculants, (i.e. matriculants with symbols better than the average performance of first year students in all courses with the exception of the Social Sciences where the average percentage is 61.4%) do not go on to the university.

5.2.2 English

The numbers of university students and non-university students who took English as a matriculation subject are shown in table 5.2.

TABLE 5.2

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK ENGLISH AS A MATRICULATION SUBJECT

Group	Matriculation Symbols								Total	A+B+C
	A	B	C	D	E	F	FF, G,H			
Not at university in 1962	72 36.4%	356 40.8%	1351 51.8%	2325 61.0%	1654 71.0%	15 50.0%	2 100.0%	5775 58.6%	1779 48.4%	
First year students at university in 1962	126 63.6%	516 59.2%	1256 48.2%	1489 39.0%	674 29.0%	15 50.0%		4076 41.4%	1898 51.6%	
Total	198 100.0%	872 100.0%	2607 100.0%	3814 100.0%	2328 100.0%	30 100.0%	2 100.0%	9851 100.0%	3677 100.0%	

The percentage of the total number of matriculants who did not go to the university was, as was the case of Afrikaans, 58.6%, in other words three out of every five matriculants.

Somewhat more matriculants with A-symbols in English (36.4% of the total number of A's) did not go to university in 1962 than was the case with matriculants with A-symbols in Afrikaans (31.2%). Compared with the rest, there were almost twice as many matriculants with an A-symbol in English who went to university. The proportion of matriculants with a B-symbol in English who went to university to those who did not go on was about three to two (59.2% to 40.8%) which is considerably better than is the case with Afrikaans. More of the matriculants with a C-symbol in English did not go to university than did, namely 51.8% of the total number with a C-symbol.

If the total number of matriculants with A's B's and C's be compared, it appears that those who went to a university are in the majority with 1898 (53.1%) as compared with 1679 (46.9%) who did not. When the total with A's, B's, C's and D's are added, it appears that the majority of these did not go to university. Therefore about half of those with good performances in English did not go to a university in 1962.

5.2.3 A third language

The numbers of university students and non-university students taking a third language as a matriculation subject are shown in Table 5.3.

TABLE 5.3

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK A THIRD LANGUAGE AS A MATRICULATION SUBJECT

Group	Matriculation Symbols								
	A	B	C	D	E	F	FF G,H	Total	A+B+C
Not at university in 1962	90 33.7%	153 30.4%	519 47.0%	806 52.6%	854 58.6%	246 60.7%	112 79.4%	2780 51.3%	762 40.6%
First year students at university in 1962	177 66.3%	351 69.6%	585 53.0%	735 47.7%	603 41.4%	159 39.3%	29 20.6%	2639 48.7%	1113 59.4%
Total	267 100.0%	504 100.0%	1104 100.0%	1541 100.0%	1457 100.0%	405 100.0%	141 100.0%	5419 100.0%	1875 100.0%

More than half (2780 or 51.3%) of the students who took a third language in the matriculation did not go to university while 2668 or 50.6% of those who passed in a third language in the matriculation did not go to a university.

A little over a third of the matriculants with an A-symbol in a third language did not go to a university in 1962. The percentage of those with a B-symbol who did not go to a university is a little less, namely 30.5%, but almost half of the matriculants with a C-symbol (47%) did not go to a university. If the total numbers with A's, B's C's and D's be calculated, there are 1568 (45.9%) who did not go to university compared with 1848 (54.1%) who did. Although 2780 (51.3%), more than half of the matriculants with a third language, did not go to a university, the group with good performances in the third language is not as large as that in the official languages. The fact that two out of every five matriculants with a C-symbol or higher did not enrol for a course requiring matriculation exemption, is significant.

5.2.4 Mathematics

The numbers of university students and non-university students taking mathematics as a matriculation subject are shown in Table 5.4.

TABLE 5.4

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK MATHEMATICS AS A MATRICULATION SUBJECT

Group	Matriculation Symbols							Total	A+B+C
	A	B	C	D	E	F	FF, G,H		
Not at university in 1962	268 41.4%	474 46.2%	869 52.2%	1353 59.8%	1585 69.1%	488 68.7%	129 76.3%	5166 58.9%	1611 48.2%
First year students at university in 1962	380 58.6%	553 53.8%	795 47.8%	908 40.2%	710 30.9%	222 31.3%	40 23.7%	3608 41.1%	1728 51.8%
Total	648 100.0%	1027 100.0%	1664 100.0%	2261 100.0%	2295 100.0%	710 100.0%	169 100.0%	8774 100.0%	3339 100.0%

As many as 5166 (58.9%) out of a total of 8774 matriculants with mathematics did not enrol for a university course during 1962. Even if we take away all the failures (129) we find that 58.4% of those who were successful in mathematics in the matriculation were not to be found in the university group. The fact that almost three out of every five candidates who passed mathematics in the matriculation examination in 1962 did not enrol for a course for which matriculation exemption is required must be looked upon as constituting a large loss of student potential.

If we consider the great number of candidates with A's in the languages who did not go to university as disturbing, we should look upon the greater number of candidates with A's in mathematics (namely 268 or 41.4% of all the A's in mathematics) who failed to go to a university as even more so. The number of A's B's and C's, namely 1611 (48.2%) who did not go to university must be considered important in the light of the limitations which some universities impose for example by accepting only candidates with a C-symbol or higher for mathematics for courses in engineering.

5.2.5 Physical Science, Physics or Chemistry

The numbers of university and non-university students taking Physical Science, Physics or Chemistry as a subject for matriculation are shown in table 5.5.

TABLE 5.5

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK PHYSICAL SCIENCE, PHYSICS OR CHEMISTRY AS A MATRICULATION SUBJECT

Group	Matriculation Symbols								Total	A+B+C
	A	B	C	D	E	F	FF, G,H			
Not at university in 1962	114 32.1%	374 43.9%	816 51.3%	1226 60.9%	1085 67.3%	225 70.8%	53 81.5%	3893 57.2%	1304 46.6%	
First year students at university in 1962	241 67.9%	478 56.1%	774 48.7%	788 39.1%	526 32.7%	93 29.2%	12 18.5%	2912 42.8%	1493 53.4%	
Total	355 100.0%	852 100.0%	1590 100.0%	2014 100.0%	1611 100.0%	318 100.0%	65 100.0%	6805 100.0%	2797 100.0%	

In comparison with Mathematics, slightly fewer, i.e. 3893 (57.2%) of those who took Physical Science, Physics or Chemistry went to a university as compared with 58.9% in the case of the former subject. Of those who were successful in the Physical Sciences at school, 3840 (57.0%) did not go to university. The extent of student potential which was thus lost to the university, is one more a matter of concern.

If we compare those with good performances in Physics, Chemistry or Physical Science who did not go to university with the remainder, we find 32.1% of A's compared with 67.9% of A's (about 1:2) and 1304 (46.6%) of A's, B's and C's compared with 1493 (53.4%) in the university group. In respect of A's, B's C's and D's, we find 2530 who did not go to university compared with 2281 who did. As the average performance in Physics, Chemistry and Physical Science of students with courses in the Arts and Social Sciences and Commercial subjects was a D, the 2530 matriculants who obtained a D symbol and higher and did not go to a university in 1962 may be looked upon as wasted talent.

5.2.6 Biology, Botany or Zoology

The number of university students and non-university students taking Biology, Botany or Zoology as a matriculation subject are shown in Table 5.6.

TABLE 5.6

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK BIOLOGY, BOTANY OR ZOOLOGY AS A MATRICULATION SUBJECT

Group	Matriculation Symbols							Total	A+B+C
	A	B	C	D	E	F	FF, G, H		
Not at university in 1962	46 33.1%	240 44.0%	644 53.6%	1085 64.3%	710 69.2%	65 59.1%	21 77.8%	2811 59.3%	930 49.3%
First year students at university in 1962	93 66.9%	305 56.0%	558 46.4%	603 35.7%	316 30.8%	45 40.9%	6 22.2%	1926 40.7%	956 50.7%
Total	139 100.0%	545 100.0%	1202 100.0%	1688 100.0%	1026 100.0%	110 100.0%	27 100.0%	4737 100.0%	1886 100.0%

Of the matriculation candidates with Biology, Botany or Zoology as a subject, 2811 or 59.3% did not go to a university. The number who were successful in the subject and did not go to a university was 2790 (59.2%). As was the case with other subjects, three out of every five candidates did not enrol for university courses requiring matriculation exemption during 1962.

Although there were not as many A's in the Biological Sciences as in Mathematics and the Physical Sciences, there were nevertheless 46 (or 33.1%) of these with an A in Biological Science who did not go to a university. Of the group of A's, B's and C's, 930 (49.3%), or about half, did not go to a university. When the number of matriculants with D-symbols are added, 2015 candidates are among those who did not go to university as compared with 1559 who did. Thus more than half the candidates in the matriculation with a D-symbol or higher in the Biological Sciences did not go to a university during 1962.

5.2.7 Geology, Mechanics, Physiology and Hygiene

The numbers of university students and non-university students taking Geology, Mechanics, Physiology and Hygiene as a matriculation subject are shown in Table 5.7.

TABLE 5.7

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK GEOLOGY, MECHANICS, PHYSIOLOGY AND HYGIENE AS A MATRICULATION SUBJECT

Group	Matriculation Symbols								Total	A+B+C
	A	B	C	D	E	F	FF G,H			
Not at university in 1962		26 61.9%	30 55.6%	46 63.9%	41 68.3%	10 71.4%	5 71.4%	158 58.9%	56 48.7%	
First year students at university in 1962	19 100.0%	16 38.1%	24 44.4%	26 36.1%	19 31.7%	4 28.6%	2 28.6%	110 41.1%	59 51.3%	
Total	19 100.0%	42 100.0%	54 100.0%	72 100.0%	60 100.0%	14 100.0%	7 100.0%	268 100.0%	115 100.0%	

This group of subjects is more akin to Mathematics, Physical Science and Biology and shows the same kind of distribution in its symbols. Of the matriculants in these subjects, 158 or 58.9% did not go to a university and 153 or 58.6% of those who were successful did not enrol.

Although no candidates with A's are to be found among the non-university student group, many more of those with B's (61.9%) and C's (55.6%) did not go to the university than did.

5.2.8 Bookkeeping

The numbers of university students and non-university students taking Bookkeeping as a matriculation subject are shown in Table 5.8.

TABLE 5.8

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK BOOKKEEPING AS A MATRICULATION SUBJECT

Group	Matriculation Symbols								Total	A+B+C
	A	B	C	D	E	F	FF G,H			
Not at university in 1962	84 44.2%	219 57.0%	416 68.1%	547 76.8%	296 77.7%	71 80.7%	25 92.6%	1658 69.3%	719 60.7%	
First year students at university in 1962	106 55.8%	165 43.0%	195 31.9%	165 23.2%	85 22.3%	17 19.3%	2 7.4%	735 30.7%	466 39.3%	
Total	190 100.0%	384 100.0%	611 100.0%	712 100.0%	381 100.0%	88 100.0%	27 100.0%	2393 100.0%	1185 100.0%	

More than two thirds of the matriculants who took Book-keeping, namely 1658 (69.3%) did not go to a university in 1962, while 1633 (69.0%) of those who were successful did not enrol as university students. By comparison with the numbers in the previously discussed subjects, these figures are more disturbing.

Of these matriculants, 84 (44.2%) of those with an A-symbol, 219 (57.0%) of those with a B-symbol and 416 (68.1%) of those with a C-symbol failed to enrol at a university, that is 719 (60.7%) of the A's, B's and C's. In other words, three out of every five of those with a good performance in Bookkeeping did not enrol for a course for which matriculation exemption was necessary. This should be viewed in the light of the achievements of at least a C-symbol in all subjects. We may say that more matriculants with symbols better than the average for all subjects did not go to a university than did go.

5.2.9 Commerce, Economics, Shorthand and Typing

The numbers of students and non-students taking Commerce, Economics, Shorthand and Typing are shown in Table 5.9.

TABLE 5.9

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK COMMERCE, ECONOMICS, SHORTHAND AND/OR TYPING AS A MATRICULATION SUBJECT

Group	Matriculation Symbols								Total	A+B+C
	A	B	C	D	E	F	FF G,H			
Not at university in 1962	23 60.5%	51 54.8%	95 67.4%	64 49.6%	70 67.3%	29 85.3%	10 83.3%	342 62.1%	169 62.1%	
First year students at university in 1962	15 39.5%	42 45.2%	46 32.6%	65 50.4%	34 32.7%	5 14.7%	2 16.7%	209 37.9%	103 37.9%	
Total	38 100.0%	93 100.0%	141 100.0%	129 100.0%	104 100.0%	34 100.0%	12 100.0%	551 100.0%	272 100.0%	

A large amount of agreement is found with the figures for Bookkeeping in the distribution of the symbols for this group of Commercial subjects studied. Of the matriculants with one of these Commercial subjects, 342 (62.1%) did not go to a university.

The number of pupils obtaining a C-symbol or higher and not going to a university is appreciable, namely 169 (62.1%) or three out of every five.

5.2.10 History and other Social Study subjects

The numbers of students and non-students taking History and other Social Study subjects for matriculation are shown in Table 5.10.

TABLE 5.10

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK HISTORY OR OTHER SOCIAL STUDY SUBJECTS AS MATRICULATION SUBJECTS

Groups	Matriculation Symbols								Total	A+B+C
	A	B	C	D	E	F	FF G,H			
Not at university in 1962	116 42.2%	331 42.7%	745 51.0%	974 60.5%	802 67.4%	116 56.5%	99 89.2%	3183 56.6%	1192 47.5%	
First year students at university in 1962	159 57.8%	445 57.3%	714 49.0%	635 39.5%	388 32.6%	89 43.4%	12 10.8%	2442 43.4%	1318 52.5%	
Total	275 100.0%	776 100.0%	1459 100.0%	1609 100.0%	1190 100.0%	205 100.0%	111 100.0%	5625 100.0%	2510 100.0%	

Of the 5625 matriculants taking History as a subject, 3183 (56.6%) did not go to a university while 3084 (55.9%) of those passing in this subject did not enrol for courses for which matriculation exemption was a requirement.

If the numbers of matriculants with good symbols of C or higher are studied, it appears that 1192 (47.5%) did not go to a university compared with 1318 (52.5%) who did, that is to say nearly half of the good student potential did not attend a university. Of these, 116 were matriculants with an A-symbol which is 42.2% of all those with an A in History.

Of the matriculants who did not go to a university, 1192 (47.5%) had the same symbols as or better symbols than the average for all courses, since only those first year students taking courses in Arts and Social Science, Medicine and Pure Science had an average performance of a C-symbol in History.

(The other social study subjects included with History constituted less than 1% of the total)

5.2.11 Geography

The numbers of students and non-students taking Geography as a matriculation subject are shown in Table 5.11.

TABLE 5.11

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK GEOGRAPHY AS A MATRICULATION SUBJECT

Group	Matriculation Symbols								Total	A+B+C
	A	B	C	D	E	F	FF G,H			
Not at university in 1962	7 16.3%	59 37.6%	291 55.6%	617 61.1%	590 72.1%	135 73.8%	24 68.6%	1723 62.2%	357 49.4%	
First year students at university in 1962	36 83.7%	98 62.4%	232 44.4%	392 38.9%	228 27.9%	48 26.2%	11 31.4%	1045 37.8%	366 50.6%	
Total	43 100.0%	157 100.0%	523 100.0%	1009 100.0%	818 100.0%	183 100.0%	35 100.0%	2768 100.0%	723 100.0%	

The percentage of matriculants taking Geography who did not go to a university was greater than the figure for History, and, after Bookkeeping and the group of Domestic Science, Wood and Metal work, is probably the highest for all subjects. Of those taking the subject for matriculation 1723 (62.2%) did not go to a university while 1699 (62.2%) of those who passed, or three out of every five, failed to enrol at a university.

Although only 7 (16.3%) of the matriculants with an A-symbol did not go to a university, the percentage with B, C and D-symbols is very much higher. As compared with 366 (50.6%) of those with A, B and C-symbols who went to a university 357 (49.4%) did not go. 974 with A B C or D symbols did not go on compared with 758 who did. The average performance of the matriculants going to the university was fairly low and for all courses was a D-symbol; for this reason the number of 974 with a symbol D or higher represents an appreciable quantity of lost potential university material.

5.2.12 Art or Music

The numbers of students and non-students who took Art or Music as a matriculation subject are shown in Table 5.12.

TABLE 5.12

NUMBERS OF STUDENTS AND NON-STUDENTS WHO TOOK ART OR MUSIC AS A MATRICULATION SUBJECT

Group	Matriculation Symbols							Total	A+B+C
	A	B	C	D	E	F	FF, G,H		
Not at university in 1962	11 40.7%	37 42.0%	97 56.4%	109 57.1%	57 62.6%	10 62.5%	-	321 54.7%	145 50.5%
First year students at university in 1962	16 59.3%	51 58.0%	75 43.6%	82 42.9%	34 37.4%	6 37.5%	2 100.0%	266 45.3%	142 49.5%
Total	27 100.0%	88 100.0%	172 100.0%	191 100.0%	91 100.0%	16 100.0%	2 100.0%	587 100.0%	287 100.0%

321 (54.7%) matriculants with Art or Music as a subject did not enrol for a course requiring matriculation exemption at a university. Of those, with a symbol of C or higher, 145 (50.5%) did not go to a university as compared with 142 (49.5%) who did, in other word about half of those with good symbols in Art or Music.

5.2.13 Domestic Science and kindred subjects, Wood and Metal work, Agricultural and Technical subjects

The numbers of students and non-students taking Domestic Science and kindred subjects, Wood and Metal work, Agricultural and Technical subjects as matriculation subjects are shown in Table 5.13.

TABLE 5.13

NUMBER OF STUDENTS AND NON-STUDENTS WHO TOOK DOMESTIC SCIENCE AND RELATED SUBJECTS, WOOD AND METAL WORK, AGRICULTURAL AND TECHNICAL SUBJECTS AS MATRICULATION SUBJECTS

Group	Matriculation Symbols							Total	A+B+C
	A	B	C	D	E	F	FF, G,H		
Not at university in 1962	20 47.6%	131 63.6%	385 70.4%	396 70.7%	131 72.4%	17 77.3%	3 75.0%	1083 69.3%	536 67.5%
First year students at university in 1962	22 52.4%	75 36.4%	162 29.6%	164 29.3%	50 27.6%	5 22.7%	1 25.0%	479 30.7%	259 32.6%
Total	42 100.0%	206 100.0%	547 100.0%	560 100.0%	181 100.0%	22 100.0%	4 100.0%	1562 100.0%	795 100.0%

In this group, together with the Bookkeeping group, the matriculants who did not go to a university in 1962 make up the largest section namely 1083 or 69.3% of the 1562. Of these 1080 passed in one of these subjects or another.

Matriculants with good performances in Domestic Science, Wood and Metal work, Agricultural and Technical subjects who did not go to a university constitute a large percentage of this group, namely 20 or 47.6% of those with an A-symbol, 131 or 63.6% of those with a B-symbol and 385 or 70.4% of those with a C-symbol or if all these be counted together, 536 (67.4%) as compared with 259 (32.6%). Thus about two thirds of the group did not go to a university while one third did.

5.3 SUMMARY

From the above may be concluded that for practically every subject, more than half the university student potential did not go to a university. By this is meant that they did not enrol for courses for which matriculation exemption is a requirement. The small group of matriculants who enrolled for other courses must be considered as lost university student potential. If the distribution of the students with good symbols be studied, it may be said that about half the student potential in each subject did not go on to a university.

Although this non-university group is fairly large for the languages and Social Study subjects, the size of the group in Mathematics and the Physical Sciences is disturbing. The same may be said of the Commercial subjects, although a large number of persons taking Commercial subjects for matriculation apparently go into business.

CHAPTER SIX

A TENTATIVE DISTRIBUTION INTO STUDY COURSES OF THE GROUP OF MATRICULANTS NOT GOING TO UNIVERSITY

6.1 GENERAL

The 5775 matriculants who did not go to a university are divided into six groups of study courses as if they had gone to a university. This division is made on the basis of the distribution of those who actually did go to a university in accordance with tables drawn up previously.

Forecasts are made on the basis of the total numbers in the different courses and also according to the distribution in each subject.

The percentage which each group of study courses attracted from matriculants with a specific symbol in each subject, was used as a basis upon which to allocate to various courses those matriculants who did not go to a university, and who obtained a corresponding symbol in that subject.

Upon analysis of a particular subject, it is found that the courses which attracted the greatest number of good matriculants should also attract the greatest number of those with good performances amongst the matriculants who did not go to a university; in consequence the other courses are left with a larger group of weaker students.

In the next table the non-university group is divided according to the percentage of students in each group of courses in the same way as those attending university. The distribution of those with first class passes in this group is also shown.

TABLE 6.1

DISTRIBUTION OF THE NON-UNIVERSITY GROUP AMONGST SIX COURSES OF STUDY

Courses	First Class	Second Class	Total
Arts and Social Sciences	578	1900	2478
Pure Science	378	841	1219
Engineering	175	409	584
Agriculture Forestry and Veterinary Science	56	193	249
Medical Sciences	165	380	545
Commercial Courses	131	569	700
Total	1483	4292	5775

From this distribution it may be anticipated that if the non-university group had gone to a university, the Arts and Social Science courses would again have attracted the majority, namely 2478, of whom 578 had obtained a first class passses. The Pure Science group would have attracted about half the number of the Arts and Social Sciences group namely 1219 of whom 378 were in the first class. The Commerce group with 700 would attract the third largest number, followed by the Engineers group with 584, the Medical group with 545 and the others with 249.

6.2 DISTRIBUTION OF THE NON-UNIVERSITY GROUP ACCORDING TO SUBJECTS

6.2.1 Afrikaans

The number of non-university students who took Afrikaans as a matriculation subject distributed according to course taken is shown in Table 6.2

TABLE 6.2
NUMBER OF NON-UNIVERSITY STUDENTS WHO TOOK AFRIKAANS AS A MATRICULATION SUBJECT, ACCORDING TO COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Science	36	237	690	907	414	34	4	2322
Pure Science	10	90	318	446	327	19	2	1212
Engineering	2	33	125	206	218	13	4	601
Agriculture, Forestry and Veterinary Science..		13	61	115	76	2		267
Medical Sciences	4	29	132	263	131	3	2	564
Commercial Courses	1	28	127	326	269	6	5	762
Total	53	430	1453	2263	1435	77	17	5728
Total in non-university group								5775

According to table 6.2, the total of 2322 who fall into the Social Sciences group is very much smaller than the 2478 of the previous table, even though the majority of the 47 who did not take Afrikaans, be excluded. The reason for this is that the non-university group had a poorer performance in Afrikaans than the university group so that the Arts and Social Sciences group with the best average performance in Afrikaans draws a smaller proportion of the weaker group. The reverse is true of courses in Engineering, Medical and Commercial courses and Agriculture, Forestry and Veterinary Science.

In several courses many matriculants with good symbols in Afrikaans should go to a university (c.f. 963 A's, B's and C's in the Social Sciences).

6.2.2 English

The numbers of non-university students who took English as a matriculation subject are shown in Table 6.3 according to the distribution of courses.

TABLE 6.3
NUMBER OF NON-UNIVERSITY STUDENTS WHO TOOK ENGLISH AS A MATRICULATION SUBJECT, ACCORDING TO DISTRIBUTION OF COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Science	44	206	627	939	450	7	1	2274
Pure Science	11	64	320	479	354	1		1229
Engineering	6	23	125	241	234	1		630
Agriculture, Forestry and Veterinary Science	1	9	33	111	137	2		293
Medical Sciences	7	35	131	221	145	1		540
Commercial Courses	3	19	115	334	334	3	1	809
Total	72	356	1351	2325	1654	15	2	5775
	Total in the non-university group							<u>5775</u>

When the above distribution is made it appears that there are fewer potential students for the Arts and Social Sciences and medical sciences (2274 and 540 compared with 2478 and 545 as shown in Table 6.1). This should be for the same reason as applied in the case of Afrikaans.

Courses in Arts and Social Sciences, Pure Science, Engineering and Medical Science should draw large numbers of the good candidates in English from the non-university student group. Numbers such as 877 with symbols of C and higher in English, who should have been taking Arts and Social Science courses in 1962 must be looked upon as a great loss.

6.2.3 A third language

The numbers of non-university students who took a third language as a matriculation subject are shown in Table 6.4, distributed according to courses followed.

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TABLE 6.4
NUMBER OF NON-UNIVERSITY STUDENTS WHO TOOK A THIRD LANGUAGE AS A MATRICULATION SUBJECT, ACCORDING TO DISTRIBUTION OF COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF G,H	
Arts and Social Sciences ..	39	84	262	414	466	147	35	1447
Pure Sciences	20	32	92	161	119	35	23	482
Engineering	13	15	59	72	73	22	31	285
Agriculture, Forestry and Veterinary Science	1	4	15	19	41	6		86
Medical Sciences	12	12	59	88	82	25	15	293
Commercial Courses	5	6	32	52	73	11	8	187
Total	90	153	519	806	854	246	112	2780
Total of the non-university group								<u>5775</u>

The number of good candidates in a third language amongst the non-university student group is not quite as large as in the language groups, but there are nevertheless 385 matriculants with a symbol of C or higher who should have been taking an Arts or Social Science course in 1962.

6.2.4 Mathematics

The numbers of non-university students who took mathematics as a matriculation subject, distributed according to courses taken, are shown in Table 6.5.

TABLE 6.5
NUMBER OF NON-UNIVERSITY STUDENTS WHO TOOK MATHEMATICS AS A MATRICULATION SUBJECT, ACCORDING TO DISTRIBUTION OF COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, C,H	
Arts and Social Sciences..	40	105	264	506	799	327	103	2144
Pure Sciences.....	110	135	213	297	277	53	4	1089
Engineering	66	90	106	119	67	7	3	458
Agriculture, Forestry and Veterinary Science	7	25	38	90	71	24	3	258
Medical Sciences	23	56	123	142	125	35		504
Commercial Courses	22	63	125	199	240	42	16	713
Total	268	474	869	1353	1585	488	129	5166
Total of the non-university group								<u>5775</u>

From the distribution of the non-university student group in mathematics, we may conclude that 458 with a symbol of C or higher would have followed a course in Pure Science. This number must be looked upon as good university material in the light of the fact that it exceeds the number of 378 first class matriculants of the non-university student group who should possibly have gone to the university during 1962. For Engineering the number was 262 and the Medical Sciences 102. This is important as certain Engineering and Medical faculties of universities require at least a C symbol in mathematics for entrance to these faculties.

6.2.5 Physical Science, Physics or Chemistry

The distribution according to courses followed of the numbers of non-university students taking Physical Science, Physics or Chemistry as a matriculation subject is shown in Table 6.6.

TABLE 6.6

THE NUMBERS OF NON-UNIVERSITY STUDENTS WHO TOOK PHYSICAL SCIENCE, PHYSICS OR CHEMISTRY AS A MATRICULATION SUBJECT, ACCORDING TO DISTRIBUTION OF COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Sciences ..	15	79	199	401	456	126	9	1285
Pure Sciences	44	132	225	255	198	27	9	890
Engineering	29	67	130	132	105	2	4	469
Agriculture, Forestry and Veterinary Science	7	19	47	86	41	12	5	217
Medical Sciences	12	49	116	121	97	17	4	416
Commercial Courses	7	28	99	231	188	41	22	616
Total	114	374	816	1226	1085	225	53	3893
Total in the non-university group								5775

In accordance with the distribution of the symbols in Physical Science, Physics or Chemistry, the Arts and Social Sciences would attract 1285 of whom the greatest number have poor symbols in this subject. Only 293 out of 1285 had a C symbol or higher. Courses in Pure Science (401), Engineering (226) and Medical Sciences (177) should attract a large number of the matriculants with symbols of C or higher from the non-university student group.

6.2.6 Biology, Botany or Zoology

The distribution according to courses followed of the non-university students who took Biology, Botany or Zoology as a matriculation subject is shown in Table 6.7.

TABLE 6.7

THE NUMBERS OF NON-UNIVERSITY STUDENTS WHO TOOK BIOLOGY, BOTANY OR ZOOLOGY AS A MATRICULATION SUBJECT ACCORDING TO COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Sciences..	14	102	333	723	515	33	7	1727
Pure Sciences.....	14	65	147	145	76	10	4	461
Engineering	5	15	29	27	18	2		96
Agriculture, Forestry and Veterinary Science	4	14	23	41	11	6	3	102
Medical Sciences	6	31	67	72	36	4	4	220
Commercial Courses	3	13	45	77	54	10	3	205
Total	46	240	644	1085	710	65	21	2811
Total in the non-university group								<u>5755</u>

On the grounds of the fact that Biology was a fairly popular subject amongst those taking courses in Arts and Social Science during 1962, we may accept that these courses are likely to attract the majority of the non-university student group, namely 1727 of the total of 2811. Of these 449 would have a symbol of C or higher.

In other courses, the numbers with Biology as a matriculation subject are not as large as the numbers for the physical sciences.

6.2.7 Geology, Mechanics, Physiology and Hygiene

The distribution, according to course followed, of the non-university students who took Geology, Mechanics, or Physiology and Hygiene as a matriculation subject is shown in table 6.8.

TABLE 6.8

NUMBERS OF NON-UNIVERSITY STUDENTS WHO TOOK GEOLOGY, MECHANICS, PHYSIOLOGY AND HYGIENE AS A MATRICULATION SUBJECT, ACCORDING TO COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Sciences...		6	18	27	16	5	5	77
Pure Sciences		10	3	7	11			31
Engineering		3	5	3	6	3		20
Agriculture, Forestry and Veterinary Science		2	1	2	4			9
Medical Sciences		3	2	5		2		12
Commercial Courses		2	1	2	4			9
Total		26	30	46	41	10	5	158
Total in the non-university group								<u>5775</u>

Of the 158 in the non-university student group with one of these subjects, 77 would choose an Arts or Social Science course. The numbers in other courses are much smaller.

6.2.8 Bookkeeping

The distribution, according to course followed, of the non-university students who took Bookkeeping as a matriculation subject, is shown in Table 6.9.

TABLE 6.9

THE NUMBERS OF NON-UNIVERSITY STUDENTS WHO TOOK BOOKKEEPING AS A MATRICULATION SUBJECT, ACCORDING TO COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Science ...	13	33	79	146	146	21	13	451
Pure Science	22	56	87	116	49	13	12	355
Engineering	11	20	32	30	7	8		108
Agriculture, Forestry and Veterinary Science	2	13	32	26	35	4		112
Medical Sciences	6	12	26	50	7	13		114
Commercial Courses	30	85	160	179	52	12		518
Total	84	219	416	547	296	71	25	1658
Total in the non-university group								<u>5775</u>

Of all those in the non-university student group with Bookkeeping as a matriculation subject, namely 518, the largest group should have followed a Commerce course. The loss of good potential is even larger when analysed according to the above table, since it is found that 275 with a symbol of C or higher in Bookkeeping should have followed a course in Commerce. Fairly large numbers with good performances in Bookkeeping (C symbol or higher) are also lost to pure science and engineering courses, viz. 165 and 63 respectively.

6.2.9 Commerce, Economics, Shorthand and Typing

The distribution, according to course followed, of the non-university students, who took Commerce, Economics, Shorthand and Typing as a matriculation subject is shown in Table 6.10.

TABLE 6.10

THE NUMBERS OF NON-UNIVERSITY STUDENTS WHO TOOK COMMERCE, ECONOMICS, SHORTHAND AND TYPING AS A MATRICULATION SUBJECT, ACCORDING TO COURSES

Course	Matriculation symbol of each group							Total	
	A	B	C	D	E	F	FF G,H		
Arts and Social Sciences....	9	23	48	39	37	12		168	
Pure Sciences	5	7	12	4	8		10	56	
Engineering	2	4	8	2	2	5		23	
Agriculture, Forestry and Veterinary Science	1							1	
Medical Sciences	3	1	10	4				18	
Commercial Courses	3	16	17	15	23	12		86	
Total	23	51	95	64	70	29	10	352	
								Total in university group	5775

With 168 cases, the Arts and Social Sciences derive the most matriculants of the non-university student group from these commercial subjects. Then follow the Commercial group of courses with 86 and the Pure Sciences with 56. Almost half of the 168 in the Arts and Social Science courses, i.e. 80, had a symbol of C or higher in the Commerce subjects.

6.2.10 History and other social study subjects

The distribution, according to course followed, of the non-university students, who took History or other social study subjects for matriculation is shown in table 6.11.

TABLE 6.11

NUMBERS OF NON-UNIVERSITY STUDENTS TO TOOK HISTORY OR OTHER SOCIAL STUDY SUBJECTS AS A MATRICULATION SUBJECT, ACCORDING TO COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Sciences ..	60	167	396	478	407	60	8	1576
Pure Sciences	27	66	117	175	132	18	17	552
Engineering	8	27	55	69	71	15	33	278
Agriculture, Forestry and Veterinary Science	2	7	16	40	39	4		108
Medical Sciences	10	36	69	92	50	1	16	274
Commercial Courses	9	28	92	120	103	18	25	395
Total	116	331	745	974	802	116	99	3183
Total in the non-university group								<u>5775</u>

When the distribution of these matriculants in History or related subjects is considered, we find that of the 3183 matriculants in the non-university group, 1576 should have followed a course in Arts or Social Science, 552 in Pure Science, and 278 in engineering.

The loss of potential university material seems to be large when we find that 623 matriculants with a symbol of C or higher in History should have been at a university taking a course in Arts or Social Science.

6.2.11 Geography

The distribution, according to course followed, of the non-university students who took Geography for matriculation is shown in Table 6.12.

TABLE 6.12
DISTRIBUTION OF NON-UNIVERSITY STUDENTS WHO TOOK GEOGRAPHY AS A
MATRICULATION SUBJECT, ACCORDING TO COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Science ..	2	24	111	228	256	62	13	696
Pure Science	2	13	71	151	122	31	2	392
Engineering	1	10	39	74	75	9	7	215
Agriculture, Forestry and Veterinary Science			14	20	15			49
Medical Sciences	1	5	25	53	21	8		113
Commercial Courses	1	7	30	91	101	25	2	257
Total	7	59	290	617	590	135	24	1722
Total in the non-university group								<u>5775</u>

The Arts and Social Sciences would draw 696 and Pure Science 392 of the 1722 potential students with Geography as a matriculation subject. Even the Commercial courses could draw considerable potential namely 257 from this group with Geography as a matriculation subject. Matriculants with good symbols in Geography are however not very plentiful in the various groups of courses shown above.

6.2.12 Art or Music

The distribution, according to course followed, of non-university students taking Art or Music for matriculation is shown in Table 6.13.

TABLE 6.13
DISTRIBUTION OF NON-UNIVERSITY STUDENTS WHO TOOK ART OR MUSIC FOR
MATRICULATION, ACCORDING TO COURSES

Course	Matriculation symbol of each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Sciences...	8	29	72	84	39	6		238
Pure Sciences	2	6	12	9	8			37
Engineering		1	5	7	2	2		17
Agriculture, Forestry and Veterinary Science								
Medical Sciences	1	1	4	4	5	2		17
Commercial Courses			4	5	3			12
Total	11	37	97	109	57	10		320
Total in the non-university group								<u>5775</u>

The Arts and Social Sciences could draw some 238 (about 75%) of the non-university students with Art or Music as a subject. The other groups would draw fewer numbers.

6.2.13 Domestic Science and related subjects, Wood and Metal work, Agricultural and Technical subjects

The distribution, according to course followed, of the non-university students who took Domestic Science and related subjects, Wood and Metalwork, Agricultural and Technical subjects for matriculation is shown in Table 6.14.

TABLE 6.14

NUMBERS OF NON-UNIVERSITY STUDENTS WHO TOOK DOMESTIC SCIENCE AND RELATED SUBJECTS, WOOD AND METAL WORK, AGRICULTURAL AND TECHNICAL SUBJECTS FOR MATRICULATION, ACCORDING TO COURSES

Course	Matriculation symbol in each group							Total
	A	B	C	D	E	F	FF, G,H	
Arts and Social Sciences ..	5	45	207	213	45	10		525
Pure Sciences	4	37	62	58	31	4		196
Engineering	5	26	28	31	13	3		106
Agriculture, Forestry and Veterinary Science	2	10	41	41	13			107
Medical Sciences	2	9	26	12	13			62
Commercial Courses	2	4	21	41	16		3	87
Total	20	131	385	396	131	17	3	1083
Total in the non-university group								<u>5775</u>

Once again the Arts and Social Science courses, with a possible 525 out of 1083 matriculants (almost half) would offer possible courses for the greatest part of the student potential. The Pure Science group with 196, Engineers with 106 and Agriculture, Forestry and Veterinary Science group with 107 would also draw fairly large numbers from this section of matriculants.

6.3 SUMMARY

In conclusion, it may be said that in each of the six university course groups there was in 1962 considerable potential among the 5775 matriculants who did not enrol for university courses for which matriculation exemption is required. In the following table the distribution of

these is shown with an indication of the good material which was lost. This indication is based upon the good performances of matriculants in those subjects which are good prognosticators for specific university courses.

TABLE 6.15
DISTRIBUTION OF THE NON-UNIVERSITY STUDENT
GROUP INTO COURSES

Course	Total in each group	Good potential (first subject)	Good potential (second subject)	First Class passes
Arts and Social Sciences	2000-2500	950+ (languages)	600+ (History)	578
Pure Sciences.....	1200+	450+ (Mathematics)	400+ (Physical Sciences)	378
Engineering	500+	250+ (Mathematics)	225+ (Physical Sciences)	175
Agriculture, Forestry and Veterinary Science	<u>±</u> 250	70+ (Mathematics)	70+ (Physical Sciences)	56
Medical Sciences	500+	200+ (Mathematics)	170+ (Physical Sciences)	165
Commercial Courses	<u>±</u> 700	275+ (Bookkeeping)	200+ (Mathematics)	131
Total	5775	2195+	1665+	1483

It thus becomes necessary to determine how much room there is for this non-university group in the universities.

CHAPTER SEVEN

AN ANALYSIS OF THE AVAILABLE TRAINING FACILITIES IN THE DIFFERENT DEPARTMENTS OF SOUTH AFRICAN RESIDENTIAL UNIVERSITIES AND LIMITATIONS IN RESPECT OF THE ADMISSION OF STUDENTS

7.1 GENERAL

Questionnaires regarding (i) the number of students in departments (ii) the additional numbers which could be absorbed in departments and (iii) the reasons why additional first year students could not be enrolled or why admission was refused, were sent to heads of departments. Most of the departmental heads complied with these requests and information was received from eight of the nine universities.¹⁾

A fairly accurate picture of the numbers of students in the various departments and of the limitations upon the admission of additional students could thus be obtained. A considerable number of departments (particularly in the University of Pretoria) could absorb a further unlimited number of students. In such cases it was decided to assess the additional students who could be admitted as fifty per cent of the number already registered.

It was decided to divide the analysis of the departments into six divisions along the same lines as the grouping of the courses in the previous chapter. Accordingly a general analysis of the departments is given in the first table of each of these six sections. Then follow tables giving details of each department in each university. In these tables, two numbers are shown under each year of study for each department and university. The upper number indicates the number of students in the relevant year while the lower number reflects the additional number of students who could be admitted in that particular year of study.

7.2 AN ANALYSIS OF THE NUMBER OF STUDENTS REGISTERED, THE POSSIBLE ADDITIONAL NUMBER AND THE LIMITING FACTORS IN THE ARTS AND SOCIAL SCIENCE DEPARTMENTS DURING 1962.

The departments in the faculties of Arts and Social Science are fairly large and thus require considerable lecture room accommodation and teaching staff. The following departments with more than 1000 registered first year students may be considered to be the largest:

History, Psychology, Sociology and Social Work, Afrikaans-Nederlands, English and African studies (including Bantu languages, Anthropology and Native Administration).

A shortage of lecture room accommodation is found in the following departments: Philosophy (University of the Orange Free State), Music (Rhodes University), and Fine Arts (Rhodes University).

1) Information was not sought from the ninth university, the University of South Africa which is a non-residential university.

A shortage of laboratories (Practical facilities) was indicated by the following departments: Psychology (University of the Witwatersrand, Music (Potchefstroom University for C.H.E.) and Physical Education (Rhodes University).

A shortage of teaching staff appears to be the factor which is of the greatest limiting effect on the absorption of additional students (especially first year students) in most of the departments. The following departments were unable to enrol additional students because of a shortage of teaching staff: History (University of Stellenbosch, University of the Orange Free State and Rhodes University), Philosophy (University of Stellenbosch, Psychology (University of Stellenbosch and the Witwatersrand, Sociology and Social Work (University of the Orange Free State), Physical Education (Universities of Stellenbosch and Rhodes University), Afrikaans-Nederlands (University of Stellenbosch) English (Universities of Stellenbosch and of Natal (Durban) and French (Rhodes University).

If Table 7.1 be studied, it will be observed that a reasonable number of additional students can still be admitted by all departments. The departments of History can admit relatively the smallest numbers of additional students, namely 133 first year students compared with 1076 registered students (somewhat less than 13 per cent) 62 second year students compared with 497 registered (also less than 13 per cent) 61 third year students compared with 347 registered, 13 fourth year students compared with 36 registered and no additional advanced students. It should be remembered that History is a fairly popular subject so that a limitation on additional first year History students implies a limitation on the admission of more students in the Arts and Social sciences.

It appears that the following departments could absorb considerable numbers of additional first year students: Psychology (665), Sociology and Social Work (656), Afrikaans-Nederlands (783), English (508), Classics (551) and African Studies (863). From this may be deduced that if we can limit the choice of subjects of first year students the Arts and Social Sciences could absorb somewhat more than 500 additional first year students. The fact that only ten departments refused admission to additional first year students (the chief reason being on account of inadequate admission qualifications) shows that departmental heads are not unduly severe in their selection of students for these departments.

TABLE 7.1

NUMBER OF STUDENTS IN THE DEPARTMENTS OF ARTS AND SOCIAL SCIENCES

Departments	Number of universities with the following departments	Number of departments supplying information	(a) Number of first year students in departments in 1962 (b) Additional numbers which could be enrolled	Number of departments which could not admit additional first year students	Reasons why the departments concerned were unable to admit additional first year students				Number of departmental heads refusing admission to first year students	Reasons why departmental heads refused first year students admission into their departments.				(a) Number of students who were not in their first year during 1962				
					Shortage of lecture room space	Shortage of laboratories	Shortage of teaching staff	Policy of limiting numbers of students		Because of Physical or mental disability	Because of inadequate admission on qualifications	Because of poor performance in the matriculation exemption examination	No first year students refused	(b) Additional numbers which could be admitted				
														Second year	Third year	Fourth year	Fifth year	Sixth year
Geography	9	8	(a) 849 (b) 365	0	-	-	-	-	0	-	-	-	8	(a) 271 (b) 168	187 115	42 35	15 45	10 11
History	9	7	(a) 1076 (b) 133	3	-	-	3	-	0	-	-	-	7	(a) 497 (b) 62	347 61	36 13	10 0	6 0
Philosophy	9	7	(a) 518 (b) 182	2	1	-	1	-	0	-	-	-	7	(a) 146 (b) 89	95 74	13 6	8 10	6 5
Psychology	9	8	(a) 1853 (b) 665	2	-	1	2	1	1	-	-	1	7	(a) 936 (b) 253	457 111	43 43	26 29	9 8
Sociology and Social Work	8	7	(a) 1592 (b) 650	1 [*]	-	-	1 [*]	-	1	1	1	-	6	(a) 636 (b) 298	420 238	47 37	27 27	17 21
Librarianship	5	4	(a) 115 (b) 97	0	-	-	-	-	1	-	1	-	3	(a) 65 (b) 33	21 11	20 15		
Journalism	1	1	(a) 54 (b) 36	0	-	-	-	-	0	-	-	-	1	(a) 17 (b) 13	9 15			
Music	7	6	(a) 300 (b) 79	2	1	1	-	-	2	-	2	1	4	(a) 151 (b) 47	149 23	38 11	3 3	6 5
Drama	4	1	(a) 57 (b) 43	0	-	-	-	-	0	-	-	-	1	(a) 15 (b) 15	15 10			
Criminology	2	2	(a) 441 (b) 227	0	-	-	-	-	0	-	-	-	2	(a) 155 (b) 100	68 51	0 6	1 5	0 0
Fine Arts	5	3	(a) 181 (b) 56	1	1	-	-	-	1	-	1	1	2	(a) 49 (b) 14	49 17	6 0		
Physical Education	5	5	(a) 211 (b) 91	2	-	1	2	-	2	2	1	-	3	(a) 137 (b) 57	89 75	38 37	13 18	8 15
Theology	5	4	(a) 25 (b) 29	0	-	-	-	-	0	-	-	-	4	(a) 62 (b) 33	31 48	37 31	27 16	18 9

Law	9	6	(a) 541 (b) 344	0	-	-	-	-	0	-	-	-	6	(a) 401 (b) 286	272 216	77 45	68 37	42 18
Logopedics and Speech therapy	2	2	(a) 80 (b) 38	0	-	-	-	-	0	-	-	-	2	(a) 28 (b) 18	8 14			
Public Administra- tion and local Government	2	1	(a) 9 (b) 30	0	-	-	-	-	0	-	-	-	1	(a) 6 (b) 20	14 16	1 5	1 2	
Politics	3	3	(a) 279 (b) 122	0	-	-	-	-	0	-	-	-	3	(a) 93 (b) 53	50 30	4 2	2 1	
Education	9	6	(a) 213 (b) 90	0	-	-	-	-	1	-	1	-	5	(a) 112 (b) 69	232 94	321 100	69 52	4 22
Afrikaans- Nederlands	9	7	(a) 2069 (b) 783	1	-	-	1	-	0	-	-	-	7	(a) 620 (b) 356	361 205	67 55	19 36	9 20
English	9	7	(a) 2096 (b) 508	2	-	-	2	-	0	-	-	-	7	(a) 382 (b) 84	290 52	43 21	7 10	1 0
Classics	9	7	(a) 851 (b) 551	0	-	-	-	-	1	-	1	1	6	(a) 225 (b) 196	113 174	18 81	12 10	5 11
African studies	8	7	(a) 1407 (b) 863	0	-	-	-	-	0	-	-	-	7	(a) 503 (b) 477	241 247	36 28	18 36	10 30
Semitic languages	6	3	(a) 191 (b) 75	0	-	-	-	-	0	-	-	-	3	(a) 134 (b) 55	41 21	1 4	2 3	1 1
German	9	7	(a) 709 (b) 251	1	-	-	-	-	0	-	-	-	7	(a) 215 (b) 159	123 112	1 28	1 5	4 15
French	8	4	(a) 424 (b) 106	1	-	-	1	-	0	-	-	-	4	(a) 70 (b) 36	38 33	5 6	2 5	0 5

^H Additional students could not be admitted after the first year.

TABLE 7.27

NUMBER OF STUDENTS IN THE DEPARTMENTS OF THE PURE SCIENCE GROUP

Departments	Number of Universities with the following departments	Number of departments supplying information	(a) Number of first year students in departments in 1962 (b) Additional numbers which could be enrolled	Number of departments which could not admit additional first year students	Reasons why the departments concerned were unable to admit additional first year students				Number of departmental heads refusing admission to first year students	Reasons why departmental heads refused first year students admission into their departments				(a) Number of students who were not in their first year in 1962 (b) Additional numbers which could be admitted				
					Shortage of lecture room space	Shortage of laboratories	Shortage of teaching staff	Policy to limit numbers of students admitted		Because of physical or mental disabilities	Because of inadequate admission qualifications	Because of poor performance in the Matriculation exemption examination	No first year students refused	Second year	Third year	Fourth year	Fifth year	Sixth & Seventh year
Chemistry	9	7	(a) 2215 (b) 1193	0	-	-	-	-	0	-	-	-	7	(a) 668 (b) 280	420 191	42 52	18 46	13 51
Physics	9	8	(a) 2944 (b) 2288	0	-	-	-	-	0	-	-	-	8	(a) 767 (b) 612	326 320	47 79	39 57	20 49
Physiology	5	3	(a) 214 (b) 128	0	-	-	-	-	1	1	1	-	2	(a) 457 (b) 223	34 60	11 3		8 7
Geology	9	8	(a) 382	0	-	-	-	-	0	-	-	-	8	(a) 160 (b) 79	111 67	22 18	9 11	6 18
Hygiene	1	1	(a) 90 (b) 30	0	-	-	-	-	0	-	-	-	1	(a) 36 (b) 14	15 10			
Botany	8	7	(a) 1535 (b) 513	0	-	-	-	-	1	-	-	1	6	(a) 222 (b) 118	119 101	21 20	11 10	9 5
Zoology	8	7	(a) 1429 (b) 590	0	-	-	-	-	0	-	-	-	7	(a) 210 (b) 94	130 63	15 5	10 7	12 13
Mathematics and Applied Mathematics	9	8	(a) 2897 (b) 1922	1	-	-	1	-	0	-	-	-	8	(a) 1495 (b) 1023	796 833	47 206	18 59	1 26
Pharmacy	2	2	- -	-	-	-	-	-	-	-	-	-	-	(a) 123 (b) 87	115 45	6 10	6 6	1 2
Domestic Science	3	3	(a) 135 (b) 52	0	-	-	-	-	1	-	1	-	2	(a) 103 (b) 58	96 55	45 63	2 8	
Architecture	4	2	(a) 51	0	-	-	-	-	0	-	-	-	2	(a) 63 (b) 31	45 33	39 37	63 27	0 25
Astronomy	1	0	-	-	-	-	-	-	0	-	-	-	0	-	-	-	-	-
Oceanography	1	0	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-

TABLE 7.2.
NUMBER OF STUDENTS IN THE DEPARTMENTS OF GEOGRAPHY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	340 [‡]	85	48	7	7	1	6
	25 [‡]	10	10	5	5	3	0
Rhodes (Grahamstown)	100	46	29	1	0		
	68	10	27	9	10		
Rhodes (Port Elizabeth)	5	5					
	55	55					
Orange Free State	60	23	20	23	5		
Pretoria	123	24	16				
	62	12	8				
Witwatersrand	80	40	35	4	3		
	100	50	40		10		
Potchefstroom	52	9	13	3	0	2	
	48	21	17	17	20	8	
Natal (Durban)	41	12	9	1		1	
	7	10	13	4			
Natal (Pietermaritz- burg)	48	27	17	3			
Total	849	271	187	42	15	4	6
Additional number	365	168	115	35	45	11	0

‡ One or two rows of figures appear opposite each department which supplied information. One row of figures indicates the number of students actually in the department, in the relevant year of study. Where two rows of figures appear, the upper one is the actual number of students in the department in that year of study while the lower row of figures represents the additional number of students which could be absorbed by the department in each study year.

7.2.1 Limitations of the numbers which could be admitted by the Departments of Geography.

Six departments indicated the number of additional students who could be absorbed. With a possible 25 additional first year students compared with 340 registered students, and 10 additional second year students compared with 85 registered in the department of Geography at the University of Stellenbosch it appears that this university department could not absorb many more students. The same applies in the case of the first year students in Natal University (Durban). The other departments could absorb ample numbers of additional students. No limiting factors on the admission of first year students were mentioned and no first year student was refused admission.

TABLE 7.3
NUMBER OF STUDENTS IN THE DEPARTMENT OF HISTORY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	238 0	137 0	91 0	2 0	3 0		
Rhodes (Grahamstown)	88 0	58 0	48 0	2 0	0 0	0 0	0 0
Rhodes (Port Elizabeth)	11 0						
Orange Free State	306 0	77 0	40 0	21 0	7 0	6 0	
Pretoria	166 83	72 36	62 31				
Witwatersrand							
Potchefstroom	89 20	34 6	30 10	7 7			
Natal (Durban)	99	36	16	2			
Natal (Pietermaritz- burg)	79 30	83 20	60 20	2 6			
Total	1076	497	347	36	10	6	0
Additional number	133	62	61	13	0	0	0

7.2.2 Limitations in respect of the number of students who could be admitted by the Departments of History

The Departments of History of the University of Stellenbosch, of the Orange Free State and Rhodes University all indicate that in consequence of a shortage of teaching staff they were unable to absorb any more students.

The Potchefstroom University for C.N.E. and the University of Natal could only admit a limited number of additional students, particularly in the first and second years. No head of a department ever refused a student admission.

TABLE 7.4
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PHILOSOPHY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	79	21	15	5	2	1	
Rhodes (Grahamstown)	42 30	13 10	1 9	0			
Orange Free State	100 0	15 8	10 5	2 1	4 2		
Pretoria	217 109	53 27	40 20				
Witwatersrand	50 20	20 20	15 10				
Potchefstroom	17 23	16 24	10 30	5 5	2 8	5 5	
Natal (Durban)							
Natal (Pietermaritz- burg)	13	8	4	1			
Total	518	146	95	13	8	6	
Additional number	182	89	74	6	10	5	

7.2.3 Limitations in respect of the number of students who could be admitted by the Departments of Philosophy

In consequence of a shortage of teaching staff, the University of Stellenbosch was unable to admit more students. The University of the Orange Free State could not take in more students because of a shortage of lecture room accommodation. The other departments were able to admit appreciable numbers of additional students.

No head of a department had refused to admit a first year student.

TABLE 7.5
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PSYCHOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	412 0	315 0	135 0	10 0	4 0	3 0	1 0
Rhodes	95 55	30 10	29 11	0 4			
Orange Free State	89 31	61 7	22 1	2 3	2 3	0 2	
Pretoria	640 320	305 153	144 72				
Witwatersrand	250 0	90 0	60 0	7 8			
Potchefstroom	116 134	42 38	33 27	22 18	20 20	2 3	3 3
Natal (Durban)	183 100	46 30		2 10			
Natal (Pietermaritzburg)	68 25	47 15	34 0	0	0 6		
Total	1853	936	457	43	26	5	4
Additional number	665	253	111	43	29	5	3

7.2.4 Limitations in respect of the number of students who could be admitted by the Departments of Psychology

The Department of Psychology of the University of Stellenbosch could not admit more students as a result of a shortage of laboratories. The University of the Witwatersrand could not admit more students in the first three years in consequence of a shortage of laboratories, a shortage of teaching staff and a policy of admitting only a limited number. The University of Natal could not admit any more students in Pietermaritzburg while the University of the Orange Free State could only admit a few extra students in the second and third year of study. The University of the Witwatersrand had refused admission to certain first year students.

TABLE 7.6

NUMBERS OF STUDENTS IN THE DEPARTMENTS OF SOCIOLOGY AND SOCIAL WORK

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	190 110	124 21	76 35	12 14	4 8	3 8	
Rhodes (Grahamstown)	123	37	19	3 15	1 5		
Rhodes (Port Elizabeth)	16						
Orange Free State	153	97	42	4 0	6 0	5 0	
Pretoria	598 299	217 109	185 93				
Witwatersrand	358 77	120 55	57 8	12 0	8 2	1 4	
Potchefstroom	82 90	22 43	17 47	16 8	8 12	5 6	3 3
Natal (Durban)	70 80	19 70	24 55				
Total	1590	636	420	47	27	14	3
Additional number	656	298	238	37	27	18	3

7.2.5 Limitations in respect of the number of students who could be admitted by the Departments of Sociology and Social Work

The University of the Orange Free State could not enrol any more post graduate students in consequence of a shortage of teaching staff. The Universities of Natal and the Witwatersrand and Rhodes University also indicated that they experienced a shortage of staff. In spite of this, the Departments of Sociology and Social Work of these Universities indicated that they were in a position to take considerable numbers of additional students. The other three departments still had plenty of room with the exception of the second year at Stellenbosch where only 21 students, additional to the 124 already registered could be admitted. The University of the Orange Free State had refused certain first year students on the grounds of physical or mental disabilities and inadequate requirements for admission.

TABLE 7.7

NUMBER OF STUDENTS IN THE DEPARTMENT OF LIBRARIANSHIP

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	14 46						
Pretoria	72 36	45 23	17 9				
Witwatersrand				20 15			
Potchefstroom	29 15	20 10	4 2				
Total	115	65	21	20			
Additional number	97	33	11	15			

7.2.6 Limitations in respect of the number of students who could be admitted by the Departments of Librarianship

The four Departments of Librarianship which supplied information all indicate that practically unlimited numbers of students could be admitted. The Potchefstroom University for C.H.E. indicated that first year students had been refused admission on the grounds of inadequate fulfillment of entrance requirements.

TABLE 7.8

NUMBER OF STUDENTS IN THE DEPARTMENT OF MUSIC

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	31 15	29 15	21 12	4 10	2 3	2 3	1 2
Cape Town							
Rhodes	13 3	17 2	5 1				
Orange Free State	7 8	7 6	10 3	7 1			
Pretoria	56 28	26 13	0				
Witwatersrand	102 25	9 11	13 7	2 0	1 0		1 0
Potchefstroom	91 0	63 0	100 0	25 0		2 0	
Total	300	151	149	38	3	4	2
Additional number	79	47	23	11	3	3	2

7.2.7 Limitations in respect of the number of students who could be admitted by the Department of Music

The Department of Music of the University of the Witwatersrand could not take any additional post graduate students but gave no reason for this. In consequence of a shortage of lecture room accommodation, Rhodes University could take only a few more students while the Potchefstroom University for C.H.E. experienced a shortage of practical facilities and the improvement of these would allow an unlimited number to be admitted. The University of the Orange Free State indicated that not many more students could be admitted to the third and fourth years of study (namely three and one respectively). The University of the Witwatersrand and the Potchefstroom University for C.H.E. had both previously refused to admit some first year students on the grounds of inadequate fulfilment of entrance requirements and the former also in consequence of the poor performance of students in the matriculation exemption examination.

TABLE 7.9
NUMBER OF STUDENTS IN THE DEPARTMENTS OF DRAMA

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	57	15	15				
	43	15	10				
Natal (Durban)							
Natal (Pietermaritzburg)							
Total	57	15	15				
Additional number	43	15	10				

7.2.8 Limitations in respect of the numbers of students who could be admitted to the Departments of Drama

The Department of Drama in the University of Stellenbosch was the only one to supply information and indicated that 43, 15 and 10 additional students could be absorbed in the first, second and third years of study respectively. This is considerably more than half the students registered. The Department also indicated that no limits were placed on additional first year students, and that no first year students had been refused admission.

TABLE 7.10
NUMBER OF STUDENTS IN THE DEPARTMENTS OF FINE ARTS AND HISTORY OF ART

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch							
Rhodes	66 0	17 0	12 0	4 0			
Pretoria	112 56	28 14	33 17				
Witwatersrand							
Natal (Pietermaritz- burg)	3	4	4	2			
Total	181	49	49	6			
Additional number	56	14	17	0			

7.2.9 Limitations in respect of the number of students who could be admitted to the Departments of Fine Arts and the History of Art.

In consequence of a shortage of lecture room accommodation, the Department of Fine Arts of Rhodes University could admit no additional students. The only other department giving information regarding additional students, namely that of the University of Pretoria, could admit unlimited numbers. Rhodes University also indicated that the head of the department had refused admission to certain students on the grounds of inadequate fulfilment of entrance requirements or poor performance in the matriculation exemption examination.

TABLE 7.11
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PHYSICAL EDUCATION

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	68 0	68 0	42 0	10 0	1 0	1 0	2 0
Rhodes	23 7	10 10	9 10	25 0			
Orange Free State	28 12	28 12	11 29				
Pretoria	43 22	17 9	15 8				
Potchefstroom	49 50	14 26	12 28	3 37	12 18	3 7	2 8
Total	211	137	87	38	13	4	4
Additional number	91	57	75	37	18	7	8

7.2.10 Limitations in respect of the number of students who could be admitted to the Departments of Physical Education

All departments supplied information. In the main there were more facilities for considerable numbers of additional students in each student year. Only two departments were unable to admit additional students as a result of a shortage of teaching staff and one also in consequence of a shortage of apparatus. The heads of these two departments had also both previously refused admission to first year students in consequence of physical or mental disabilities while one head had refused admission in consequence of inadequate admission qualifications.

TÁBLE 7.12
NUMBER OF STUDENTS IN THE DEPARTMENTS OF THEOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch							
Rhodes	20 7	15 12	7 7	5 5	1 3		
Pretoria				20 10	26 13	18 9	
Potchefstroom	5 22	7 21	18 41	7 16			
Natal (Pietermaritzburg)		40	6	5			
Total	25	62	31	37	27	18	
Additional number	29	33	48	31	16	9	

7.2.11 Limitations in respect of the number of students who could be admitted to the Departments of Theology

Data were supplied by four departments. One department (Natal) did not indicate how many additional students could be enrolled. It appears that for the other departments no limitations are indicated in any student year and that the departments could jointly absorb more than half of the existing number of students over and above the present numbers. Departmental heads had not yet found it necessary to refuse admission to first-year students.

TABLE 7.13
NUMBER OF STUDENTS IN THE DEPARTMENTS OF LAW

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	102	62	43	31	18		
	51	31	22	16	9		
Rhodes (Grahamstown)	16	19	16	9	7		
	10	10	10	10	10		
Rhodes (Port Elizabeth)	24	29	5				
	15	15	0				
Orange Free State	52	24	35				
	100	100	100				
Pretoria	322	245	162	31	32	35	
	161	123	81	16	16	18	
Witwatersrand							
Potchefstroom	14	14	6	5	4		
	7	7	3	3	2		
Natal (Durban)							
Natal (Pietermaritz- burg)	11	8	5	1	7	7	
Total	541	401	272	77	68	42	
Additional number	344	386	216	45	37	18	

7.2.12 Limitations in respect of the Number of Students who could be admitted to the Departments of Law

According to information supplied by the Departments of Law of six universities there were, with the exception of the third study year at Rhodes University (Port Elizabeth), adequate facilities for the admission of considerable numbers of students in each study year. No limitations in respect of the admission of first year students had been made while no departmental head had ever refused admission to first year students.

TABLE 7.14
NUMBER OF STUDENTS IN THE DEPARTMENT OF JOURNALISM

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Potchefstroom	54	17	9				
	36	13	15				
Total	54	17	9				
Additional number	36	13	15				

7.2.13 Limitations in respect of the number of students who could be admitted to the Department of Journalism

The Department of Journalism at the Potche stroom University for C.H.E. could admit more than half of those students who were already registered. The Department had placed no limitations on the admission of first year students nor had any first year students been refused admission.

TABLE 7.15

NUMBER OF STUDENTS IN THE DEPARTMENTS OF LOGOPAEDICS AND SPEECH THERAPY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria	32	14	8				
	16	7	4				
Witwatersrand	48	14	0				
	22	11	10				
Total	80	28	8				
Additional number	38	18	14				

7.2.14 Limitations in respect of the number of students who could be admitted to the Departments of Logopaedics and Speech Therapy

Both departments of Logopaedics and Speech Therapy could admit considerable numbers in the first three study years. Information regarding other study years was not supplied. Departmental heads had not had occasion to refuse admission to first year students.

TABLE 7.16

NUMBER OF STUDENTS IN THE DEPARTMENTS OF PUBLIC ADMINISTRATION AND LOCAL GOVERNMENT

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Orange Free State	9	6	14	1	1		
	30	20	16	5	2		
Total	9	6	14	1	1		
Additional number	30	20	16	5	2		

7.2.15 Limitations in respect of the number of students who could be admitted into the Departments of Public Administration and Local Government

The Departments of Public Administration and Local Government of the University of the Orange Free State could have admitted many more additional students in each study year in relation to the number already registered. No first year students had been refused admission.

TABLE 7.17
NUMBER OF STUDENTS IN THE DEPARTMENTS OF CRIMINOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Orange Free State	87 50	16 30	7 20	0 6	1 5	0 0	0 0
Pretoria	354 177	139 70	61 31				
Total	441	155	68	0	1	0	0
Additional number	227	100	51	6	5	0	0

7.2.16 Limitations in respect of the number of students who could be admitted to the Department of Criminology

Both universities could admit considerably more students into their departments, especially in the first three years (more than half of the number who were registered in each study year in the department). Departmental heads had not refused admission to any first year students who wish to enter their respective departments.

TABLE 7.18
NUMBER OF STUDENTS IN THE DEPARTMENTS OF POLITICAL SCIENCE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Orange Free State	60	1		1			
Pretoria	194 97	83 42	43 22				
Potchefstroom	25 25	9 11	7 8	3 2	2 1		
Total	279	93	50	4	2		
Additional number	122	53	30	2	1		

7.2.17 Limitations in respect of the number of students who could be admitted to the Department of Political Science

According to information supplied by the Departments of Political Science of the University of Pretoria and the Potchefstroom University for C.H.E. it would appear that these departments could have admitted considerable additional numbers of first year students. There was no limitation placed on the admission of first year students to the departments while no first year students had ever been refused admission.

TABLE 7.19
NUMBER OF STUDENTS IN THE DEPARTMENTS OF EDUCATION

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch			144 50	186 25	46 14	2 12	2 10
Rhodes	55 10	12 18	15 10	6 0			
Orange Free State				56 60	22 35		
Pretoria	97 49	45 23	58 29				
Witwatersrand							
Potchefstroom	61 31	55 28	10 5	14 7			
Natal (Durban)							
Natal (Pietermaritzburg)			5 0	59 8	1 3		
Total	213	112	232	321	69	2	2
Additional number	90	69	94	100	52	12	10

7.2.18 Limitations in respect of the number of students who could be admitted to the Departments of Education

According to information supplied by the various Departments of Education of the different universities it would appear that the University of Natal was not in a position to absorb more students in the third, fourth and fifth study years. This applies also in the fourth study year of the University of Stellenbosch (25 additional students as compared with 186 registered) and the first study year of Rhodes University (10 additional students as compared with 55 registered). The Department of Empirical Education of the Potchefstroom University for C.H.E. is the only department which had refused admission to first year students for reasons of inadequate admission requirements. The same department could admit more students if more lecture room accommodation and teaching staff were available.

TABLE 7.20
NUMBER OF STUDENTS IN THE DEPARTMENTS OF AFRIKAANS-NEDERLANDS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	480 0	122 0	77 0	5 0	6 3	5 3	
Rhodes (Grahamstown)	34 56	14 31	7 18	0 5	2 3	1 1	
Rhodes (Port Elizabeth)	9 66	3 22					
Orange Free State	427 100	105 50	56 50	3 20	6 20	1 6	
Pretoria	721 361	294 147	165 83				
Witwatersrand							
Potchefstroom	281 200	59 106	37 54	58 30	5 10	2 10	
Natal (Durban)	66	14	13	1			
Natal (Pietermaritz- burg)	51	9	6				
Total	2069	620	361	67	19	9	
Additional number	783	356	205	55	36	20	

7.2.19 Limitations in respect of the number of students who could be admitted to the Departments of Afrikaans-Nederlands

The six Departments of Afrikaans-Nederlands which indicated the number of additional students they could absorb in 1962, all had more lecture room space for considerable numbers of additional students with the exception of the University of Stellenbosch. The Department of Afrikaans-Nederlands at the University of Stellenbosch could not, because of a shortage of teaching staff admit additional students in the first four study years. No department had refused admission of first year students.

TABLE 7.21
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ENGLISH

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	346 0	43 7	21 9	4 6			
Cape Town							
Rhodes (Grahamstown)	242	62	62	4	3	1	
Rhodes (Port Elizabeth)	30	3					
Orange Free State							
Pretoria	598 299	58 29	36 18				
Witwatersrand	318 159	36 18	20 10				
Potchefstroom	215 50	29 30	28 15	15 15	4 10		
Natal (Durban)	236 0	77 0	68 0	6 0			
Natal (Pietermaritz- burg)	111	74	55	14			
Total	2096	382	290	43	7	1	
Additional number	508	84	52	21	10		

7.2.20 Limitations in respect of the number of students who could be admitted to the Departments of English

Five Departments of English indicated the number of additional students they could have absorbed in 1962. Of these the University of Natal (Durban) and the University of Stellenbosch (in the first study year only) could not admit any additional students, in consequence of a shortage of teaching staff. The other three departments could have admitted a number of additional students. No departmental head indicated that he had ever been compelled to refuse admission to first year students.

TABLE 7.22

NUMBER OF STUDENTS IN THE DEPARTMENTS OF CLASSICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	202	58	13	2	3	0	
	262	52	48	10	5	3	
Rhodes	54	11	9	5			
	50	25	20	20			
Orange Free State	50	12	7	1	1	3	
	7	5	4	4	1	7	
Pretoria	223	55	25				
	112	28	13				
Witwatersrand	241	67	40	2			
	49	0	0	0			
Potchefstroom	47	14	14	8	8	2	
	28	42	41	47	4	1	
Natal (Durban)							
Natal (Pietermaritzburg)	34	8	5	0			
	43	44	48	0			
Total	851	225	113	18	12	5	
Additional number	551	196	174	81	10	11	

7.2.21 Limitations in respect of the number of students who could be admitted to the Departments of Classics

The Department of Classics of the University of the Orange Free State could only enroll seven additional students compared with 50 already registered in the first year, but the Department did not mention a limiting factor. The University of the Witwatersrand could have admitted 49 additional students in the first year as compared with 241 already registered, thus here also a limited number only could be absorbed while considerable additional numbers could be admitted to the other departments in classics. Natal University indicated a shortage of personnel as a limiting factor. The departmental head at Rhodes University only indicated that he had refused admission to first year students as a result of inadequate admission requirements or poor performance in the matriculation exemption examination.

TABLE 7.23
NUMBER OF STUDENTS IN THE DEPARTMENT OF BANTU STUDIES

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	263	92	32	11	6	0	1
	153	78	48	15	16	15	4
Rhodes (Grahamstown)	109	24					
	90	40					
Orange Free State	90	49	45	4	2		
Pretoria	704	281	125	16	5		
	352	141	63	8	3		
Witwatersrand	60	19	2				
	30	10	1				
Potchefstroom	102	29	37	5	5	6	3
	128	123	110	5	17	4	7
Natal (Durban)	79	9	0				
	110	85	25				
Total	1407	503	241	36	18	6	4
Additional number	863	477	247	28	36	19	11

7.2.22 Limitations in respect of the number of students who could be admitted to the Departments of Bantu Studies

All Departments of Bantu Studies which indicated the number of additional students they could admit in 1962, had additional facilities for more than half of those numbers already registered in each study year. There were no limiting factors on the admission of additional first year students and no departmental head had ever refused admission to first year students.

TABLE 7.24
NUMBER OF STUDENTS IN THE DEPARTMENTS OF SEMITIC LANGUAGES

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	82	55	20	1	2		
	20	15	10	4	3		
Orange Free State							
Pretoria	96	66	15				
	48	33	8				
Witwatersrand							
Potchefstroom	13	13	6			1	
	7	7	3			1	
Total	191	134	41	1	2	1	
Additional number	75	55	21	4	3	1	

7.2.23 Limitations in respect of the number of students in the Departments of Semitic Languages

Only three departments supplied information. The University of Stellenbosch could by comparison not admit many additional students in the first and second study years, namely 20 as compared with 82 already registered in the first year and 15 compared with 55 already registered in the second year. The other two departments indicated that unlimited numbers could be admitted. None of the three departments indicated that they had ever refused admission to first year students.

TABLE 7.25
NUMBER OF STUDENTS IN THE DEPARTMENTS OF GERMAN

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	141 30	43 45	24 24			2 10	
Rhodes	69	4	4				
Orange Free State							
Pretoria	261 131	137 69	76 38				
Witwatersrand	87 70	7 25	7 25	1 8	1 5	2 5	
Potchefstroom	85 0	20 10	10 15				
Natal (Durban)	26 20	3 10	1 10	0 20			
Natal (Pietermaritzburg)	40	1	1				
Total	709	215	123	1	1	4	
Additional number	251	159	112	28	5	15	

7.2.24 Limitations in respect of the number of students who could be admitted to the Departments of German

In all the Departments of German which supplied information in connection with additional students who could be admitted it would appear that only the Department of German in the University of Stellenbosch (only 30 first year students additional to 141 already registered) and the Potchefstroom University for C.H.E. (no additional first year students) could not admit an additional number of students at least equal to half the number already registered in all student years. Departmental heads had not refused admission to any first year students.

TABLE 7.26
NUMBER OF STUDENTS IN THE DEPARTMENTS OF FRENCH

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	115	27	12	4	2	0	
	15	23	25	6	5	5	
Rhodes (Grahamstown)	75	10	8	1			
	0	0	0	0			
Rhodes (Port Elizabeth)	14						
Orange Free State							
Pretoria	182	26	15				
	91	13	8				
Witwatersrand							
Natal (Durban)							
Natal (Pietermaritz- burg)	38	7	3				
Total	424	70	38	5	2	0	
Additional number	106	36	33	6	5	5	

7.2.25 Limitations in respect of the number of students who could be admitted to the Departments of French

Although only the Departments of French of the Universities of Stellenbosch and Pretoria and Rhodes University indicated how many additional students they could admit, Rhodes University indicated that they could not admit additional students in consequence of a shortage of teaching staff. The University of Stellenbosch was only able to admit 15 additional first year students compared with 115 already registered but gave no reason for such a limited number. No departmental head had had occasion to refuse admission to first year students.

7.3 AN ANALYSIS OF THE NUMBER OF STUDENTS REGISTERED, THE POSSIBLE ADDITIONAL NUMBERS AND THE LIMITING FACTORS IN THE PURE SCIENCE DEPARTMENTS IN 1962

In comparison with other Faculties the Departments in the Faculties of Pure Science are particularly large. Measured in terms of the number of first year students registered (in practically all departments with the exception of that of the University of Cape Town) the following departments were the largest (See Table 7.27); Chemistry (2215), Physics (2944), Botany (1535), Zoology (1429), Mathematics and Applied Mathematics (2897).

In spite of the size of these Departments there was still a fair amount of room for many more students in all student years. The main departments in the Pure Science group were still able to admit additional first year students, namely Chemistry (1193), Physics (2288), Botany (519), Zoology (590) and Mathematics and Applied Mathematics (1922). Only one department, namely the Mathematics and Applied Mathematics department of the University of the Witwatersrand, could not admit additional students on account of a shortage of teaching staff.

Only three departmental heads indicated that they had refused admission to first year students as a result of inadequate entrance requirements. It thus appears that first year students are not very strictly chosen, although certain departmental heads were inclined to demand a certain minimum performance, (60% in Mathematics in the Matriculation examination was required as a minimum by the departmental head of Mathematics in the University of the Witwatersrand).

As Chemistry is a compulsory subject for practically all first year students in Pure Science courses, it may be expected that many more than 1,000 additional first year students could be provided for (the Departments of Chemistry could admit 1193 more). It must, however, be remembered that a large percentage of these additional numbers (about half) would not pursue Pure Science courses from their second year onwards, that is to say if sufficient of them were absorbed by other courses (Engineering, Medicine, Agriculture and the like).

TABLE 7.28
NUMBER OF STUDENTS IN THE DEPARTMENTS OF CHEMISTRY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	354 135	154 10	71 7	9 1	3 4	2 3	4 1
Rhodes	143 63	91 0	82 8	4 3	4 2	1 1	
Orange Free State	120 300	50 100	20 50	8 20	4 10	3 10	3 10
Pretoria	1015 508	190 95	119 60				
Witwatersrand							
Potchefstroom	223 112	89 45	71 36	6 18	5 20	0 12	
Natal (Durban)	199 75	39 30	23 30	3 10	2 10	0 7	0 7
Natal Pietermaritzburg)	161 0	55 0	34 0	12 0			
Total	2215	668	420	42	18	6	7
Additional number	1193	280	191	52	46	33	18

7.3.1 Limitations in respect of the number of students who could be admitted to the Departments of Chemistry

From Table 7.28 it may be seen that the Departments of Chemistry are fairly large, more particularly in respect of the numbers in the first year. Although during 1962 the Departments had together considerable room for more than 1,000 additional first year students, which is more than half of those already registered, it must be remembered that students taking courses in Engineering, Medicine, Agriculture and the like are required to take first year courses in Chemistry. The University of Stellenbosch and Rhodes University could not take very many more additional students in Chemistry after the first year, while the University of Natal (Pietermaritzburg) did not indicate additional numbers. No Departments placed any limitation on first year students nor had first year students been refused admission.

TABLE 7.29
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PHYSICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	386 214	126 60	50 30	7 13	14 10	2 5	5 5
Rhodes	121 179	21 69	21 69	4 16	4 10		
Orange Free State	90 30	40 10	18 6	4 2	4 2	1 1	
Pretoria	1127 564	224 112	113 57				
Witwatersrand	655 1000	176 250	77 100	18 28	7 6	5 6	
Potchefstroom	202 101	41 21	16 8	7 4	5 20	4 10	1 10
Natal (Durban)	228 100	119 70	19 30	7 10	2 6	2 6	0 6
Natal (Pietermaritzburg)	135 100	20 20	12 20	0 6	3 3		
Total	2944	767	326	47	39	14	6
Additional number	2288	612	320	79	57	28	21

7.3.2 Limitations in respect of the number of students who could be admitted to the Departments of Physics

According to the numbers in Table 7.29 it appears that all Departments of Physics could admit reasonably large numbers of additional students in each study year. The University of the Orange Free State could admit only a limited number (a third or less of those already registered in the first three

study years) on account of a shortage of lecture room space, laboratories and teaching personnel. All the departments giving information indicated that they had not refused admission to any first year students.

TABLE 7.30
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PHYSIOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	148 8	100 0	25 7	8 3		1 2	7 5
Pretoria	345 173	5 3					
Witwatersrand							
Potchefstroom	66 120	12 50	4 50	3 0			
Total	214	457	34	11		1	7
Additional number	128	223	60	3		2	5

7.3.3 Limitations in respect of the number of students who could be admitted to the Departments of Physiology

According to the information given by three departments of Physiology it would appear that the University of Stellenbosch could admit limited numbers of additional students in the first four student years, while the Potchefstroom University for C.H.E. could not admit students in the fourth student year. No limiting factors were named and only the Potchefstroom University for C.H.E. in its department of Physiology had been obliged to refuse admission to first year students as a result of physical or mental disabilities and inadequate entrance requirements.

TABLE 7.31
NUMBER OF STUDENTS IN THE DEPARTMENTS OF GEOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	54 50	20 10	24 6	2 3	5 5	3 5	3 5
Rhodes	24 70	21 9	22 8				
Orange Free State	32 18	11 14	11 7	1 4	2 0		
Pretoria	128 64	33 17	18 9				
Witwatersrand	84 50	44 20	22 20	12 6			
Potchefstroom	3 20	5 5	3 7	2 2	2 2	0	0
Natal (Durban)	30 50	26 4	11 10	5 3	0 4	0 4	0 4
Natal (Pietermaritzburg)	27						
Total	382	160	111	22	9	3	3
Additional number	322	79	67	18	11	9	9

7.3.4. Limitations in respect of the number of students who could be admitted to the Departments of Geology

If Table 7.31 be studied it would appear that with the exception of the second study year in the University of Natal (where only 4 students could be admitted additional to the 26 already registered), the third student year at the University of Stellenbosch (only 6 students additional to the 24 already registered) and the fifth student year at the University of the Orange Free State (no additional students could be admitted), the Departments in all student years could have admitted about half as many again as were already registered. None of the Departments mentioned limiting factors for admission nor had any first year students been refused admission.

TABLE 7.32

NUMBER OF STUDENTS IN THE DEPARTMENTS OF PHARMACY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Rhodes		48 2	39 1	4 0			
Potchefstroom		75 85	76 44	2 10	6 6	1 2	
Total		123	115	6	6	1	
Additional number		87	45	10	6	2	

7.3.5 Limitations in respect of the number of students who could be admitted to the Departments of Pharmacy

As the Departments of Pharmacy at Rhodes University and the Potchefstroom University for C.H.E. only offered courses from the second student year onwards, they had no first year students. Rhodes University could only admit a limited number in the second and third student years, namely 2 and 1 respectively and no additional students in the fourth year. The Department of Pharmacy at the Potchefstroom University for C.H.E. could absorb many more students.

TABLE 7.33

NUMBER OF STUDENTS IN THE DEPARTMENTS OF HYGIENE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Potchefstroom	90 30	36 14	15 10				
Total	90	36	15				
Additional number	30	14	10				

7.3.6 Limitations in respect of the number of students who could be admitted in the Department of Hygiene

It was not necessary for the Department of Hygiene in the Potchefstroom University for C.H.E. to refuse any first year students as a result of limitations in the Department. This Department could have admitted another 30 first year students in 1962, that is a third of the number who were already registered. In the second and third years of study the Department could also have admitted appreciable numbers.

TABLE 7.34
NUMBER OF STUDENTS IN THE DEPARTMENTS OF BOTANY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	207 29	37 8	22 23	6 0	5 0	3 0	2 0
Rhodes	106 50	(4)	(11)	(2)	(0)	(0)	(0)
Orange Free State	47 13	8 10	3 15	1 2	1 1	1 1	0 0
Pretoria	609 305	89 45	30 15				
Witwatersrand	260 70	26 25	25 15	7 4			
Potchefstroom	136 14	33 17	19 21	5 10	2 8	0 4	
Natal (Pietermaritzburg)	170 38	29 13	20 12	2 4	3 1	1 0	2 0
Total	1535	222	119	21	11	5	4
Additional number	519	118	101	20	10	5	0

7.3.7 Limitations in respect of the number of students who could be admitted to the Departments of Botany

Most of the Departments (University of Natal, Potchefstroom University for C.H.E., the University of the Witwatersrand, the Orange Free State and Stellenbosch) indicated that especially in the first year a limited number of additional students could be admitted. The University of Stellenbosch indicated that as a result of a shortage of teaching staff no additional post-graduate students could be admitted in Botany. The University of the Witwatersrand gave as a limiting factor the shortage of laboratories and was also the only department which refused first year students in consequence of poor performance of the students during the Matriculation exemption examination.

TABLE 7.35

NUMBER OF STUDENTS IN THE DEPARTMENTS OF ZOOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	170	39	25	2	3	7	
	100	21	5	4	1	5	
Rhodes	114	1	0	0			
	72	20	26	1			
Orange Free State	44	9	6	0	0	0	
	46	11	9		3	2	
Pretoria	580	74	35				
	290	37	18				
Witwatersrand	280	31	21	9			
	40	5	5	0			
Potchefstroom	116	27	23	4	7	4	1
	44	0	0	0	3	3	3
Natal (Pietermaritzburg)	125	29	20				
Total	1429	210	130	15	10	11	1
Additional number	590	94	63	5	7	10	3

7.3.8 Limitations in respect of the number of students who could be admitted to the Departments of Zoology

The Department of Zoology in the Potchefstroom University for C.H.E. indicated that no additional students could be admitted in the second, third or fourth years. The University of the Witwatersrand could only admit additional numbers (40 first year students as against 280 already registered, 5 second year students compared with 31 already registered, 5 third year students compared with 21 already registered and no fourth year students in a group of 9 already registered) in consequence of a shortage of laboratories and teaching staff. The University of Natal did not indicate whether the Department of Zoology could admit additional students. No department had refused admission to first year students.

TABLE 7.36

NUMBER OF STUDENTS IN THE DEPARTMENTS OF MATHEMATICS AND APPLIED MATHEMATICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	425	216	164	26	13	1	
	195	60	96	25	6	1	
Rhodes	151	35	16	2			
(Grahamstown)	348	55	54	38			
Rhodes	41						
(Port Elizabeth)	99						
Orange Free State	92	47	25	3	3	0	
	40	40	30	8	3		
Pretoria	1059	675	345				
	530	338	173				
Witwatersrand	466	238	120	7			
	0	0	0	0			
Potchefstroom	137	69	32	3	2	0	
	600	400	400	100	50	25	
Natal	408	179	80	6			
(Durban)	110	130	80	35			
Natal							
(Pietermaritzburg)	118	36	14				
Total	2897	1495	796	47	18	1	
Additional number	1922	1023	833	206	59	26	

7.3.9 Limitations in respect of the numbers of students who could be admitted to the Departments of Mathematics and Applied Mathematics

All Departments with the exception of that of the University of the Witwatersrand indicated that considerable numbers of students could be admitted in all student years (the University of Natal did not indicate what additional numbers could be admitted in Pietermaritzburg).

The University of the Witwatersrand could not admit additional students on account of a shortage of teaching staff while the Department would refuse admission to students with less than 60% in Mathematics in the Matriculation Examination. The University of the Orange Free State also had a shortage of teaching staff.

TABLE 7.37
NUMBER OF STUDENTS IN THE DEPARTMENTS OF DOMESTIC SCIENCE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	85	62	53	17	1		
	11	16	13	7	1		
Pretoria	27	22	23	16			
	14	11	12	8			
Potchefstroom	23	19	20	12	1		
	27	31	30	48	7		
Total	135	103	96	45	2		
Additional number	52	58	55	63	8		

7.3.10 Limitations in respect of the numbers of students who could be admitted to the Departments of Domestic Science

Few additional students could be admitted by the Department of Domestic Science of the University of Stellenbosch in 1962. The other two universities indicated that they had virtually unlimited accommodation for additional students in all student years. Only the Department of Domestic Science of the Potchefstroom University for C.H.E. indicated that first year students had been refused admission to the Department on account of inadequate admission requirements.

TABLE 7.38
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ARCHITECTURE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Orange Free State							
Pretoria	41	46	35	34	43		
	21	23	18	17	22		
Witwatersrand							
Natal (Durban)	10	17	10	5	20	0	
	15	8	15	20	5	25	
Total	51	63	45	39	63	0	
Additional number	36	31	33	37	27	25	

7.3.11 Limitations in respect of the numbers of students who could be admitted to the Departments of Architecture

Information was obtained from only two departments which both indicated that they had virtually unlimited accommodation for all student years. The Departments had imposed no

TABLE 7.39

NUMBER OF STUDENTS IN THE DEPARTMENTS OF ENGINEERING

Departments	Number of Universities with the following departments	Number of departments supplying information	(a) Number of first year students in departments in 1962 (b) Additional numbers which could be enrolled	Number of departments which could not admit additional first year students	Reasons why the departments concerned were unable to admit additional first year students				Number of departmental heads refusing admission to first year students	Reasons why departmental heads refused first year students admission into their departments				(a) Number of students who were not in their first year in 1962 (b) Additional numbers which could be admitted				
					Shortage of lecture room space	Shortage of laboratories	Shortage of teaching staff	Policy to limit numbers of students admitted		Because of physical or mental disabilities	Because of inadequate admission qualifications	Because of poor performance in the Matriculation exemption examination	No first year students refused	Second year	Third year	Fourth year	Fifth year	Sixth & Seventh year
Civil Engineering	5	3	(a) 30 (b) 15	0	-	-	-	-	0	-	-	-	3	(a) 164 (b) 58	111 30	97 39	21 9	4 3
Mechanical Engineering	5	4	(a) 459 (b) 66	1	1	-	1	-	1	-	1	1	3	(a) 329 (b) 76	131 72	61 43	12 1	1 4
Electrical Engineering	5	4	(a) 42 (b) 21	0	-	-	-	-	0	-	-	-	4	(a) 278 (b) 110	273 93	70 54	13 14	4
Chemical Engineering	3	2	(a) 64 (b) 14	1	1	1	1	-	1	-	-	1	1	(a) 38 (b) 8	33 4	29 4		
Metallurgy	2	2	(a) 43 (b) 32	0	-	-	-	-	0	-	-	-	2	(a) 16 (b) 24	15 13	7 14		
Mining Engineering	2	2	(a) 8 (b) 4	0	-	-	-	-	1*	1	1	1	1	(a) 1 (b) 1	10 30	8 32		
Industrial Engineering	1	1	(a) 10 (b) 5	0	-	-	-	-	0	-	-	-	1	(a) 12 (b) 6	18 9			
Surveying	4	3	(a) 9 (b) 19	0	-	-	-	-	0	-	-	-	3	(a) 122 (b) 156	78 87	71 67	19 24	1 0

*Admission to first year refused.

limitations on the admission of first year students and had never had occasion to refuse admission to first year students.

7.4 AN ANALYSIS OF THE NUMBER OF STUDENTS REGISTERED, THE POSSIBLE ADDITIONAL NUMBERS AND THE LIMITING FACTORS IN THE DEPARTMENTS OF ENGINEERING

First year students in Engineering as a rule take introductory subjects such as Physics, Chemistry, Mathematics and Applied Mathematics, so that an accurate picture could not be obtained of the additional number of first year students who could be admitted in the various departments. Thus the University of Stellenbosch and the University of the Witwatersrand classified their first year students under the Department of Mechanical Engineering, the University of Pretoria classified theirs under the various departments and the University of Natal indicated no first year students (they are thus shown under the various Science Departments) - that is to say in the three main divisions in Engineering.

The University of the Witwatersrand with the biggest number of first year students in Engineering (348 in the three main groups as against 183 in the University of Pretoria and Stellenbosch put together) could absorb no additional first year students in consequence of a shortage of accommodation and teaching staff. These factors as well as a shortage of laboratories also apply in the Department of Chemical Engineering of the same university. The other universities could have absorbed reasonable numbers of first year students and are therefore largely responsible for the 116 additional first year students who could be admitted in the first four departments as indicated in Table 7.39. From this it may be deduced that in consequence of the limiting factors at the University of the Witwatersrand as indicated in paragraph 7.4.2, there was not very much accommodation for additional students in Engineering, especially for English-speaking students.

The Heads of Departments (representing the three main branches), Mining and Chemical Engineering of the University of the Witwatersrand had had occasion to refuse first year students in consequence of inadequate admission requirements and poor performances in the matriculation exemption examination so that it may be maintained that selection also limited the admission of students to this University.

There appeared to be accommodation for more than 100 additional first year students in Engineering of which the greater number should be Afrikaans-speaking in consequence of the little interest shown by the Afrikaans-speaking group in this direction.

TABLE 7.40

NUMBER OF STUDENTS IN THE DEPARTMENTS OF CIVIL ENGINEERING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		55 15	50 10	18 12	21 9	4 3	
Pretoria	30 15	48 24	27 14	44 22			
Witwatersrand							
Natal (Durban)		61 19	34 6	35 5			
Total	30	164	111	97	21	4	
Additional number	15	58	30	39	9	3	

7.4.1 Limitations in respect of the numbers of students who could be admitted to the Departments of Civil Engineering

Only three Departments of Civil Engineering supplied information. The University of Stellenbosch could only admit limited numbers of students in the second and third year, namely 15 additional students in the second year as compared with 55 registered and 10 additional students in the third year as compared with 50 registered. The University of Natal also indicated that with only 19 additional students in the second year compared with 61 registered, 6 additional students in the third year compared with 34 registered and 5 additional students in the fourth year compared with 35 registered, the Department of Civil Engineering could not admit very many more students in 1962. No limiting factors on the admission of first year students were mentioned, while no departments had refused admission to first year students.

The University of the Witwatersrand gave no information but included this in respect of first year students under the heading of Mechanical Engineering.

TABLE 7.41
NUMBER OF STUDENTS IN THE DEPARTMENTS OF MECHANICAL
ENGINEERING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	59 40	51 15	50 9	13 10	12 1	1 4	
Pretoria	52 26	25 13	20 10	14 7			
Witwatersrand	348 0	192 8	17 23	22 8			
Natal (Durban)		61 40	44 30	12 18			
Total	459	329	131	61	12	1	
Additional number	66	76	72	43	1	4	

7.4.2 Limitations in respect of the numbers of students who could be admitted to the Departments of Mechanical Engineering

The University of the Witwatersrand with 348 first year students in Engineering was unable to admit additional first year students in consequence of a shortage of lecture room space and teaching staff. The Department of Mechanical Engineering could admit only 8 additional students in the second year compared with 192 already registered. The same department at the University of Stellenbosch could admit only 50 additional students compared with 51 already registered in the second year, 9 additional students in the third year compared with 50 already registered and in the fifth year only 1 additional student compared with 12 registered. The other departments giving information could admit additional students in all student years.

The University of the Witwatersrand was the only one to refuse admission to first year students in consequence of inadequate admission requirements or poor performance in the matriculation exemption examination.

TABLE 7.42
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ELECTRICAL
ENGINEERING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		65 15	50 9	13 7	10 2	4	
Pretoria	42 21	32 16	31 16	20 10			
Witwatersrand (see Mechanical Engi- neering)		110 50	140 20	20 29	3 12		
Natal (Durban)		71 29	52 48	17 8			
Total	42	278	273	70	13	4	
Additional number	21	110	93	54	14		

7.4.3 Limitations in respect of the numbers of students who could be admitted to the Departments of Electrical Engineering

The University of Stellenbosch had limited accommodation for additional students in the Department of Electrical Engineering in the second, third and fifth study years namely 15, 9 and 2 additional students respectively. With room for only 20 additional third year students compared with 140 already registered in the third year the University of the Witwatersrand could not admit many more students. Not a single department of Electrical Engineering indicated that first year students had been refused admission. As indicated above, the department of Mechanical Engineering at the University of the Witwatersrand appears to have full control over the first year students in Engineering at that University.

TABLE 7.43
NUMBER OF STUDENTS IN THE DEPARTMENTS OF MINING ENGINEERING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Witwatersrand			10 30	8 32			
Pretoria	8 4	1 1					
Total	8	1	10	8			
Additional number	4	1	30	32			

7.4.4 Limitations in respect of the numbers of students who could be admitted to the Department of Mining Engineering

Both Departments indicated that they could have had admitted unlimited numbers of additional students in 1962. The University of the Witwatersrand had refused admission to students to the Department of Mining Engineering in consequence of physical and mental abnormalities, inadequate admission requirements and poor performance of students during the matriculation exemption examination.

TABLE 7.44
NUMBER OF STUDENTS IN THE DEPARTMENTS OF METALLURGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria	10 5	10 5	2 1	3 2			
Witwatersrand	33 27	6 19	13 12	4 12			
Total	43	16	15	7			
Additional number	32	24	13	14			

7.4.5 Limitations in respect of the numbers of students who could be admitted to the Departments of Metallurgy

Reasonably few students were registered in these Departments in 1962. Both Departments could admit many additional students in all four student years with no limitations on the admission of first year students. Departmental heads had not refused admission to any first year students.

TABLE 7.45
NUMBER OF STUDENTS IN THE DEPARTMENTS OF CHEMICAL ENGINEERING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria	27 14	16 8	8 4	7 4			
Witwatersrand	37 0	22 0	25 0	22 0			
Total	64	38	33	29			
Additional number	14	8	4	4			

TABLE 7.42

NUMBER OF STUDENTS IN THE DEPARTMENTS OF AGRICULTURE, FORESTRY AND VETERINARY SCIENCE

Departments	Number of Universities with the following departments	Number of departments supplying information	(a) Number of first year students in departments in 1962 (b) Additional numbers which could be enrolled	Number of departments which could not admit additional first year students	Reasons why the departments concerned were unable to admit additional first year students				Number of departmental heads refusing admission to first year students	Reasons why departmental heads refused first year students admission into their departments				(a) Number of students who were not in their first year in 1962. (b) Additional numbers which could be admitted.				
					Shortage of lecture room space	Shortage of laboratories	Shortage of teaching staff	Policy to limit numbers of students admitted		Because of physical or mental disabilities	Because of inadequate admission qualifications	Because of poor performance in the Matriculation exemption examination	No first year students refused	Second year	Third year	Fourth year	Fifth year	Sixth & Seventh year
Agronomy	4	4	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 147 (b) 97	103 72	43 59	2 21	9 15
Genetics	4	3	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 162 (b) 81	91 41	22 8	5 0	7 1
Soil Science	4	4	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 120 (b) 111	81 90	18 14	9 13	10 14
Entomology	4	3	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 99 (b) 155	53 34	25 25		
Agricultural Biochemistry	4	4	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 184 (b) 132	137 98	23 35	1 5	12 0
Agricultural Economics	4	4	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 78 (b) 97	40 73	69 68	11 53	0 5
Agricultural Engineering	4	4	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 8 (b) 13	52 19	84 93	12 39	
Agricultural Education	1	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) (b)			27 14	43 22
Microbiology	4	4	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 180 (b) 106	57 54	17 27	2 6	3 6
Plant Pathology	4	3	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 64 (b) 164	22 100	15 33	4 27	3 16
Sheep and Wool Technology	2	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 37 (b) 19	27 14	9 5		
Dairying	4	4	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 50 (b) 55	10 28	6 30	4 22	1 2
Horticulture	2	2	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 24 (b) 7	14 6	20 4		

Animal husbandry and Poultry Husbandry	4	4	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 150 (b) 49	108 60	101 88	5 5	5 5
Food Technology	1	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 0 (b) 10	4 10	2 8	2 4	
Pomology	1	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 10 (b) 20	11 19	8 10	2 3	
Viticulture	1	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 15 (b) 25	10 15	3 12	0 10	4 48
Pasture Science	2	2	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 59 (b) 43	66 19	66 30		
Biometry	3	2	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 25 (b) 0	69 0	5 1		
Agricultural Meteorology	1	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 0 (b) 10	1 10	0 10	3 5	1 10
Forestry	1	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 12 (b) 18	6 9	1 14		9 7
Wood Technology	1	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	-	(a) 13 (b) 17	3 12	1 14	2 8	1 5
Veterinary Science	1	1	(a) - (b) -	1 [⊠]	1 [⊠]	-	-	-	-	-	-	-	-	(a) 41 (b) 0	30 0	35 0	26 0	

[⊠] Additional students other than first year students could not be admitted.

7.4.6 Limitations in respect of the numbers of students who could be admitted to the Departments of Chemical Engineering

The Department of Chemical Engineering of the University of the Witwatersrand was the only Department which could not admit additional students in consequence of a shortage of lecture room accommodation, laboratories and teaching staff. The Department had had occasion to refuse first year students and gave as its reasons the poor performance of students during the matriculation exemption examination.

TABLE 7.46
NUMBER OF STUDENTS IN THE DEPARTMENT OF INDUSTRIAL ENGINEERING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria	10 5	12 6	18 9				
Total	10	12	18				
Additional number	5	6	9				

7.4.7 Limitations in respect of the numbers of students who could be admitted to the Department of Industrial Engineering

The University of Pretoria indicated that in this Department there were no limitations on the admission of first year students and that an unlimited number of students could be admitted in all student years.

TABLE 7.47
NUMBER OF STUDENTS IN THE DEPARTMENTS OF SURVEYING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria	5 3	2 1	3 2	5 3			
Witwatersrand		56 104	36 34	20 20	8 17		
Natal (Durban)	4 16	64 51	39 51	46 44	11 7	1 0	
Total	9	122	78	71	19	1	
Additional number	19	156	87	67	24	0	

7.4.8 Limitations in respect of the numbers of students who could be admitted to the Departments of Surveying

In the Departments which provided information there was undoubtedly sufficient accommodation for many additional students. No limitations were imposed upon the admission of first year students and no first year students had been refused admission.

7.5 AN ANALYSIS OF THE NUMBER OF STUDENTS REGISTERED, THE POSSIBLE ADDITIONAL NUMBERS AND THE LIMITING FACTORS IN THE DEPARTMENTS OF THE AGRICULTURAL, FORESTRY AND VETERINARY SCIENCE GROUP IN 1962

Students at all four universities with Agricultural Faculties are admitted from the second year only so that the Departments have control over the students from that year only. The same applies in the Departments of Forestry of the University of Stellenbosch and the Department of Veterinary Science at the University of Pretoria. There was therefore no Department in these faculties which had refused admission to first year students, nor was there any department which gave reasons why additional first year students had been refused admission.

The Department of Biometrics of the University of the Orange Free State did indicate that a shortage of sufficient accommodation, laboratories and teaching staff would make the admission of additional students in the second and third student years impossible and that the Department would consider refusing students admission on the grounds of inadequate admission qualifications and poor performance during the Matriculation exemption examination.

The Faculty of Veterinary Science at the University of Pretoria could not admit additional students on account of limitations imposed by the Research Station at Onderstepoort.

If Table 7.48 is studied, it appears that for all other Departments of Agriculture and Forestry appreciable numbers of students could be admitted in all student years. These additional numbers vary from about 50% to almost 100% of the students already registered in the various departments.

The conclusion may thus be reached that, according to the information given by the Departments of Agriculture and Forestry, about the same numbers could be admitted by most departments as were already registered. This implies that to obtain these additional numbers more than the numbers mentioned would have to be admitted in the first student year.

Where information is given in regard to the additional number of students in the second year, we find that in the bigger Departments (with 100 or more students in the second year), such as Agronomy (147), Genetics (162), Soil Science (120), Entomology (99), Agricultural Biochemistry (184), Microbiology (180) and Animal Husbandry (150) additional students could be admitted in numbers ranging from about 50 (Animal Husbandry 49) to 150 (Entomology 155). In short we may say that there was room for some 100 additional students in the second year while in the Departments of Agriculture about 100 plus the additional first year students could be admitted in accordance with the amount of lecture room space available.

In the Departments of Forestry at least 17 additional second year students could be admitted in the second year, that is to say about 20 first year students.

TABLE 7.49

NUMBER OF STUDENTS IN THE DEPARTMENTS OF AGRONOMY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		35	50	24	1	7	2
		15	10	16	11	5	2
Orange Free State		27	5	1	1	0	0
		30	40	30	10	5	3
Pretoria		53	19	9			
		27	10	5			
Natal (Pietermaritzburg)		32	29	9			
		25	12	8			
Total		147	103	43	2	7	2
Additional number		97	72	59	21	10	5

7.5.1 Limitations in respect of the numbers of students who could be admitted to the Departments of Agronomy

The Departments of Agronomy of the four Universities offer courses from the second year onwards only. All four Departments had indicated that they could admit additional students in practically all student years. The Departments had imposed no limitations in respect of the admission of first year students.

TABLE 7.50

NUMBER OF STUDENTS IN THE DEPARTMENTS OF GENETICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		39	53	7	5	4	3
		40	27	3	0	1	0
Orange Free State							
Pretoria		81	28	9			
		41	14	5			
Natal (Pietermaritzburg)		42	10	6			
Total		162	91	22	5	4	3
Additional number		81	41	8	0	1	0

7.5.2 Limitations in respect of the numbers of students who could be admitted to the Departments of Genetics

Although only the Universities of Pretoria and Stellenbosch indicated how many additional students could be admitted in their Departments of Genetics, it could nevertheless be deduced that in the undergraduate student years there was adequate room for an extension of some 50% in the numbers of registered students.

TABLE 7.51
NUMBER OF STUDENTS IN THE DEPARTMENTS OF BIOMETRY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Orange Free State		25 0	12 0	2 1			
Stellenbosch							
Natal (Pietermaritzburg)			57	3			
Total		25	69	5			
Additional number		0	0	1			

7.5.3 Limitations in respect of the numbers of students who could be admitted to the Departments of Biometry

Information was received from the Departments of Biometry from the Universities of the Orange Free State and Natal only. The first named was unable to admit additional students in the second and third years and was forced to limit the number of students on account of a shortage of teaching staff.

TABLE 7.52
NUMBER OF STUDENTS IN THE DEPARTMENTS OF SOIL SCIENCE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		37 13	22 18	7 8	3 2	2 2	1 2
Orange Free State		7 43	7 43		1 10	1 5	
Pretoria		47 24	27 14	7 4			
Natal (Pietermaritzburg)		29 31	25 15	4 2	5 1	2 3	4 2
Total		120	81	18	9	5	5
Additional number		111	90	14	13	10	4

7.5.4 Limitations in respect of the numbers of students who could be admitted to the Departments of Soil Science

The Departments indicated that there was adequate provision in each student year for fair numbers of students to be admitted. With the exception of an additional number limited to one-third of the student numbers in the Department of Soil Science of the University of Stellenbosch in the second year there appeared to be unlimited accommodation for additional students in the undergraduate years. No Departments imposed any restrictions on the admission of first years students.

TABLE 7.53
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ENTOMOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		8 92	10 10	10 10			
Orange Free State							
Pretoria		86 43	28 14	13 7			
Natal (Pietermaritzburg)		5 20	15 10	2 8			
Total		99	53	25			
Additional number		155	34	25			

7.5.5 Limitations in respect of the numbers of students who could be admitted to the Departments of Entomology

The three Departments which gave information, indicated that considerably larger numbers could be admitted in each student year. Especially in the second year there was considerable accommodation for additional students over and above those who were registered, namely 155 as against 99. No Departments had imposed any limit on the admission of first year students.

TABLE 7.54
NUMBER OF STUDENTS IN THE DEPARTMENTS OF AGRICULTURAL BIOCHEMISTRY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		43 29	52 20	7 3	1 5	7 0	5 0
Orange Free State		16 40	10 30	0 20			
Pretoria		65 33	42 21	12 6			
Natal (Pietermaritzburg)		60 30	33 27	4 6			
Total		184	137	23	1	7	5
Additional number		132	98	35	5	0	0

7.5.6 Limitations in respect of the numbers of students who could be admitted to the Departments of Agricultural Biochemistry

Although the Departments of Agricultural Biochemistry accommodate considerable numbers of students, there is still plenty of room for about half as many again of undergraduate students in all student years. These departments had imposed no limitations on the admission of first year students.

TABLE 7.55
NUMBER OF STUDENTS IN THE DEPARTMENTS OF AGRICULTURAL ECONOMICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		26 25	8 12	7 13	2 3	0 5	
Orange Free State		3 50	6 50	3 50	9 50	0 0	0 0
Pretoria		44 22	21 11	9 5			
Natal (Pietermaritzburg)		5	5	50			
Total		78	40	69	11	0	0
Additional number		97	73	68	53	5	0

7.5.7 Limitations in respect of the numbers of students who could be admitted to the Departments of Agricultural Economics

Only one Department (Natal) failed to indicate how many additional students could be admitted. In the Departments of Agricultural Economics in the other Universities there was adequate provision for additional students and no limitations were placed on the admission of first year students. In the main there was still room for considerably more students than were already registered in 1962 in each student year.

TABLE 7.56

NUMBER OF STUDENTS IN THE DEPARTMENTS OF AGRICULTURAL ENGINEERING.

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch				67 80	5 25		
Orange Free State			1 0	9 0			
Pretoria		7 4	13 7	7 4	7 4		
Natal (Pietermaritzburg)		1 9	38 12	1 9	0 10		
Total		8	52	84	12		
Additional number		13	19	93	39		

7.5.8 Limitations in respect of the numbers of students who could be admitted to the Departments of Agricultural Engineering

With the exception of the Department of Agricultural Engineering in the University of the Orange Free State which could not admit additional students, the other Universities had adequate room for considerable numbers in this Department. Once again no limitations were placed by any of these Departments on the admission of first year students.

TABLE 7.57
NUMBER OF STUDENTS IN THE DEPARTMENTS OF MICROBIOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		54	4	4	2	2	1
		22	12	12	6	4	2
Orange Free State		6	6	1			
		50	30	10			
Pretoria		67	23	9			
		34	12	5			
Natal (Pietermaritzburg)		53	24	3			
Total		180	57	17	2	2	1
Additional number		106	54	27	6	4	2

7.5.9 Limitations in respect of the numbers of students who could be admitted to the Departments of Microbiology

With the exception of the University of Natal which did not indicate how many additional students could be admitted to the Department of Microbiology, the other Departments had adequate facilities for admitting students in all undergraduate student years. Only the University of Stellenbosch gave information regarding post-graduate students. The Departments had not imposed any limitation on the admission of additional first year students.

TABLE 7.58
NUMBER OF STUDENTS IN THE DEPARTMENT OF POMOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		10	11	8	2		
		20	19	10	3		
Total		10	11	8	2		
Additional number		20	19	10	3		

7.5.10 Limitations in respect of the numbers of students who could be admitted to the Department of Pomology

According to information submitted by this Department of the University of Stellenbosch more students than were already registered could have been admitted in each student year. The Department had placed no limit on the admission of first year students.

TABLE 7.59
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PLANT PATHOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		27 53	1 39	2 8	3 7		
Orange Free State		16 100	19 60	4 20	1 20	1 8	2 8
Pretoria		21 11	2 1	9 5			
Total		64	22	15	4	1	2
Additional number		164	100	33	27	8	8

7.5.11 Limitations in respect of the numbers of students who could be admitted to the Departments of Plant Pathology

Departments of Plant Pathology could admit considerably more students in each student year than were already accommodated. This is particularly significant if one considers that compared with students already registered, an additional 164 could be admitted in the second student year. No Department had imposed any limits on the admission of first year students.

TABLE 7.60
NUMBER OF STUDENTS IN THE DEPARTMENT OF VITICULTURE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		15 25	10 15	3 12	0 10	2 8	2 40
Total		15	10	3	0	2	2
Additional number		25	15	12	10	8	40

7.5.12 Limitations in respect of the numbers of students who could be admitted to the Department of Viticulture

This Department, in the University of Stellenbosch only, could admit more students than were already enrolled in the Department. The Department placed no limitations on the admission of first year students.

TABLE 7.61
NUMBER OF STUDENTS IN THE DEPARTMENTS OF HORTICULTURE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria		14 7	11 6	7 4			
Natal (Pietermaritz- burg)		10	3	13			
Total		24	14	20			
Additional number		7	6	4			

7.5.13 Limitations in respect of the numbers of students who could be admitted to the Departments of Horticulture

Of the two Departments, one (Natal) did not indicate whether the Department could admit more students. The other Department placed no limits on the admission of additional students.

TABLE 7.62
NUMBER OF STUDENTS IN THE DEPARTMENT OF AGRICULTURAL EDUCATION

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria					27 14	16 8	27 14
Total					27	16	27
Additional number					14	8	14

7.5.14 Limitations in respect of the numbers of students who could be admitted to the Department of Agricultural Education

The University of Pretoria was the only university with such a department which catered for post-graduate students only. The Department placed no limit on additional students.

TABLE 7.63
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PASTURE MANAGEMENT

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria		29 15	3 2	54 27			
Natal (Pietermaritz- burg)		30 28	63 17	12 3			
Total		59	66	66			
Additional number		43	19	30			

7.5.15 Limitations in respect of the numbers of students who could be admitted to the Departments of Pasture Management

The two Departments of Pasture Management both indicated that for undergraduate students particularly in the second year there was adequate accommodation for additional students with no limit to the admission of first year students.

TABLE 7.64
NUMBER OF STUDENTS IN THE DEPARTMENT OF AGRICULTURAL METEOROLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Orange Free State		0 10	1 10	0 10	3 5	0 5	1 5
Total		0	1	0	3	0	1
Additional number		10	10	10	5	5	5

7.5.16 Limitations in respect of the numbers of students who could be admitted to the Department of Agricultural Meteorology

With only a few students of the University of the Orange Free State registered in each year of study in this Department there was adequate room for many additional students, namely 10 in each undergraduate year and 5 in each post-graduate year. No limitations were imposed by the Department on the admission of first year students.

TABLE 7.65
NUMBER OF STUDENTS IN THE DEPARTMENTS OF DAIRYING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		23	0	2	1	1	
		20	4	2	2	2	
Orange Free State		7	7	0	3		
		20	20	20	20		
Pretoria		10		3			
		5		2			
Natal (Pietermaritzburg)		10	3	1			
		10	4	6			
Total		50	10	6	4	1	
Additional number		55	28	30	22	2	

7.5.17 Limitations in respect of the numbers of students who could be admitted to the Departments of Dairying

All the Departments of Dairying indicated that no limitations were imposed on the admission of new students and that in all departments practically as many more could be admitted as were already registered in the various student years. None of the Departments imposed any restrictions on the admission of first year students.

TABLE 7.66
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ANIMAL HUSBANDRY AND POULTRY HUSBANDRY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		49	45	47	5	5	
		24	26	48	5	5	
Orange Free State			11	6			
			19	24			
Pretoria		50	30	31			
		25	15	16			
Natal (Pietermaritzburg)		51	22	17			
Total		150	108	101	5	5	
Additional number		49	60	88	5	5	

7.5.18 Limitations in respect of the numbers of students who could be admitted to the Departments of Animal Husbandry and Poultry Husbandry

As some of the universities include Animal Husbandry and Poultry Husbandry in the same department they are grouped together as one department in all universities. Only one University (Natal) failed to indicate whether the Department could admit additional students. The other three departments had practically unlimited accommodation for additional students in each student year.

TABLE 7.67
NUMBER OF STUDENTS IN THE DEPARTMENTS OF SHEEP AND WOOL TECHNOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria		37 19	27 14	9 5			
Orange Free State							
Total		37	27	9			
Additional number		19	14	5			

7.5.19 Limitations in respect of the numbers of students who could be admitted to the Departments of Sheep Husbandry and Wool Technology

Only one Department supplied information and indicated that there were no limitations on the admission of additional students.

TABLE 7.68
NUMBER OF STUDENTS IN THE DEPARTMENTS OF FOOD TECHNOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		0 10	4 10	2 8	2 4		
Total		0	4	2	2		
Additional number		10	10	8	4		

7.5.20 Limitations in respect of the numbers of students who could be admitted to the Departments of Food Technology

In the Department of Food Technology (Stellenbosch) more than twice as many students as were already registered could be admitted in each student year in 1962. This Department does not offer courses to first year students and had no limitations therefore of the number of students admitted to the first year.

TABLE 7.69
NUMBER OF STUDENTS IN THE DEPARTMENT OF FORESTRY SCIENCE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		12 18	6 9	1 14		7 3	2 4
Total		12	6	1		7	2
Additional number		18	9	14		3	4

TABLE 7.70
NUMBER OF STUDENTS IN THE DEPARTMENT OF WOOD TECHNOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		13 17	3 12	1 14	2 8	1 5	
Total		13	3	1	2	1	
Additional number		17	12	14	8	5	

7.5.21 Limitations in respect of the numbers of students who could be admitted to the Department of Wood Technology and Forestry

Both these departments, which are to be found in the University of Stellenbosch only, could have admitted considerably more students in 1962 in all the study years in which courses are offered. The Departments had no first year students and thus did not refuse to admit any nor had any limitations been placed upon the admission of first year students.

TABLE 7.71
NUMBER OF STUDENTS IN THE DEPARTMENT OF VETERINARY SCIENCE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria		41 0	30 0	35 0	26 0		
Total		41	30	35	26		
Additional number		0	0	0	0		

7.5.22 Limitations in respect of the number of students who could be admitted to the Department of Veterinary Science

The University of Pretoria is the only university with a Veterinary Science Faculty. The admission of additional students is however subject to limitations imposed by the Veterinary Science Research Institute at Onderstepoort so that the University of Pretoria could not admit any additional students

7.6 AN ANALYSIS OF THE NUMBER OF STUDENTS REGISTERED, THE POSSIBLE ADDITIONAL NUMBERS AND THE LIMITING FACTORS IN THE MEDICAL DEPARTMENT IN 1962

As was the case in the Departments of Agriculture, the Departments in the Medical Sciences had the greatest say in respect of additional numbers of students who could be admitted from the beginning of the second student year only.

The Department of Dentistry at the University of the Witwatersrand could not admit additional first year students in consequence of a shortage of accommodation, laboratories, teaching staff and because the policy of the University was to limit the number of first year students.

As study of Table 7.72 indicates that most of the Departments of Medicine (practically all the Departments) could not admit additional students in any student year. The University of Stellenbosch was the only one of these Universities which gave information indicating that some 70 additional first year students could be admitted. The main limiting factors at all the Universities which provided information, were hospital facilities, (a limiting factor at the University of Pretoria and to a certain extent in the University of Stellenbosch) and also laboratories and teaching staff particularly in the Departments of Pathology and Pharmacology at the University of the Witwatersrand.

The additional numbers of students possible in the first year of the Medical courses were thus limited to less than 100 and this was at the University of Stellenbosch only.

TABLE 7.73
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ANATOMY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		67 27	18 3				
Pretoria		128 0	149 0				
Witwatersrand	19 0	165 32	10 12	68 0	86 0		30 0
Total	19	360	177	68	86		30
Additional number	0	59	15	0	0		0

7.6.1 Limitations in respect of the numbers of students who could be admitted to the Departments of Anatomy

The University of the Witwatersrand could not admit additional students in the first, fourth, fifth or seventh student years. The University of Stellenbosch could admit only 3 additional students in the third year. Medical students at this university and the University of Pretoria were limited in numbers as a result of the limitations of hospital services.

TABLE 7.74
NUMBER OF STUDENTS IN THE DEPARTMENTS OF MEDICINE, OBSTETRICS AND GYNAECOLOGY, PAEDIATRICS AND SURGERY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		44 0	37 3	24 16	22 18	25 15	
Pretoria	15 0		124 0	80 0	93 0	65 0	
Witwatersrand				132 0	86 0	88 0	10 2
Total	15	44	161	236	201	178	10
Additional number	0	0	3	16	18	15	2

7.6.2 Limitations in respect of the number of students who could be admitted to the Departments of Medicine, Obstetrics, and Gynaecology, Paediatrics and Surgery

Only the University of Stellenbosch could admit a reasonable number of additional students in the fourth, fifth and sixth student years but, as in the case of the University of Pretoria, numbers were limited on account of limited hospital facilities.

TABLE 7.75

NUMBER OF STUDENTS IN THE DEPARTMENTS OF PATHOLOGY, PATHOLOGICAL ANATOMY AND MICROBIOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch			37 3	24 16	22 18		
Pretoria	36 0		142 0	76 0			
Witwatersrand			140 40	80 0			
Total	36		319	180	22		
Additional number	0		43	16	18		

7.6.3 Limitations in respect of the number of students who could be admitted into the Departments of Pathology, Pathological Anatomy and Microbiology

In consequence of a shortage of laboratories and teaching staff, the University of the Witwatersrand could only admit 40 additional students in the third student year and no additional students in the fourth student year. Hospital services were also a limiting factor at the Universities of Pretoria and Stellenbosch.

TABLE 7.76
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PHARMACOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch			37	3			
Pretoria			149	0			
Witwatersrand			120	0			
Total			306				
Additional number			3				

7.6.4 Limitations in respect of the numbers of students who could be admitted to the Departments of Pharmacology

In these Departments, only the University of Stellenbosch was in a position to admit 3 additional students. The University of the Witwatersrand could not admit any additional students in consequence of a shortage of lecture room accommodation, laboratories and teaching staff while the number of students in the above department of the University of Pretoria was limited on account of the limiting hospital services.

TABLE 7.77
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ANAESTHETICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch				24	22		
				16	18		
Pretoria	14				110		
	0				0		
Witwatersrand							
Total	14			24	132		
Additional number	0			16	18		

7.6.5 Limitations in respect of the numbers of students who could be admitted in the Department of Anaesthetics

In these Departments the hospital services available were also a limiting factor although the University of Stellenbosch could admit a reasonable number of additional students.

TABLE 7.78
NUMBER OF STUDENTS IN THE DEPARTMENTS OF RADIOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch						25 15	
Pretoria	50 0					66 0	
Witwatersrand							5 3
Total	50					91	5
Additional number	0					15	3

7.6.6 Limitations in respect of the number of students who could be admitted to the Departments of Radiology

In this department hospital facilities were again the limiting factor while the University of the Witwatersrand exercised a policy of limiting the number of students admitted. The University of Stellenbosch had room for an additional 15 students in the sixth year.

TABLE 7.79
NUMBER OF STUDENTS IN THE DEPARTMENTS OF PSYCHIATRY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch				24 16	22 18		
Pretoria					93 0		
Witwatersrand			114 0	11			8
Total			114	35	115		8
Additional number			0	16	18		0

7.6.7 Limitations in respect of the number of students who could be admitted to the Department of Psychiatry

The University of the Witwatersrand was unable to admit additional students in the third student year but gave no reasons. As was the case in the other Departments of Medicine, limiting factors in respect of hospital services also applied in this case.

TABLE 7.80
NUMBER OF STUDENTS IN THE DEPARTMENTS OF OPHTHALMOLOGY AND OTO-RHINO-LARYNGOLOGY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch				24	22		
				16	18		
Pretoria					93		
					0		
Witwatersrand							
Total				24	115		
Additional number				16	18		

7.6.8 Limitations in respect of the numbers of students who could be admitted to the Departments of Oto-Rhino-Laryngology

These departments were also subject to the limiting factor of inadequate hospital facilities to which the Departments of Medicine were subject. The University of Stellenbosch could admit reasonable numbers of additional students namely 16 in the fourth student year and 18 in the fifth student year.

TABLE 7.81
NUMBER OF STUDENTS IN THE DEPARTMENTS OF FORENSIC, PREVENTIVE, AND PROMOTIVE MEDICINE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch					22		
					18		
Pretoria	14			76			
	0			0			
Witwatersrand							
Total	14			76	22		
Additional number	0			0	18		

7.6.9 Limitations in respect of the numbers of students who could be admitted to the Departments of Forensic, Preventive, and Promotive Medicine

Only the University of Stellenbosch indicated that additional students could be absorbed in the fifth year, namely 18. This number as also the number of medical students who could be admitted in the University of Pretoria was limited by limited hospital facilities.

TABLE 7.72

NUMBER OF STUDENTS IN THE DEPARTMENTS OF MEDICINE

Departments	Number of Universities with the following departments	Number of departments supplying information	(a) Number of first year students in departments in 1962 (b) Additional numbers which could be enrolled	Number of departments which could not admit additional first year students	Reasons why the departments concerned were unable to admit additional first year students				Number of departmental heads refusing admission to first year students	Reasons why departmental heads refused first year students admission into their departments				(a) Number of students who were not in their first year in 1962 (b) Additional numbers which could be admitted				
					Shortage of lecture room space	Shortage of laboratories	Shortage of teaching staff	Policy to limit numbers of students admitted		Because of physical or mental disabilities	Because of inadequate admission qualifications	Because of poor performance in the Matriculation exemption examination	No first year students refused	Second year	Third year	Fourth year	Fifth year	Sixth & Seventh year
Anatomy	4	3	(a) 19 (b) 0	2 ^{xx}	1	-	-	-	0	-	-	-	3	(a) 360 (b) 59	177 15	68 0	86 0	30 0
Pathology, Pathological Anatomy and Microbiology	4	3	(a) 36 (b) 0	2 ^{xx}	1	1	1	-	0	-	-	-	3	(a) - (b) -	319 43	180 16	22 18	
Medicine	4	3	(a) 15 (b) 0	2 ^{xx}	2	-	-	-	0	-	-	-	3	(a) 44 (b) 0	161 3	£36 16	201 18	188 17
Surgery	(As for Medicine)																	
Pharmacology	4	3	(a) - (b) -	2 ^{xx}	2	1	1	-	0	-	-	-	3	(a) - (b) -	306 3			
Anaesthetics	4	2	(a) 14 (b) 0	1 ^{xx}	1	-	-	-	0	-	-	-	2	(a) - (b) -	-	24 16	132 18	
Obstetrics & Gynaecology	(As for Medicine)																	
Radiology	4	3	(a) 50 (b) 0	2 ^{xx}	1	-	-	1	0	-	-	-	3	(a) - (b) -	-	-	-	96 18
Psychiatry	4	3	(a) - (b) -	2 ^{xx}	1	-	-	-	0	-	-	-	3	(a) - (b) -	114 0	35 16	115 18	8 0
Paediatrics	(As for Medicine)																	
Oto-Rhinolaryngology	4	2	(a) - (b) -	1 ^{xx}	1	-	-	-	0	-	-	-	2	(a) - (b) -	-	24 16	115 18	
Preventive Medicine	4	2	(a) 14 (b) 0	1 ^{xx}	1	-	-	-	0	-	-	-	2	(a) - (b) -	-	76 0	22 18	
Forensic Medicine	(As for Preventive Medicine)																	
Dentistry	2	2	(a) 85 (b) 0	1	1	1	1	1	1	-	1	1	1	(a) 62 (b) 3	50 7	22 22	30 1	17 0

^{xx} Additional students other than first year students could not be admitted

^{xxx} Students who enrol for the degree of M.B.,B.Ch. take courses in most of these subjects from the third year onwards only. The numbers shown against the first year in certain subjects are thus not M.B.,B.Ch. students but students taking Physiotherapy, Radiotherapy and diagnosis, Nursing and other diplomas taking courses in these Departments.

TABLE 7.83

NUMBER OF STUDENTS IN ALL DEPARTMENTS OF COMMERCE

Departments	Number of Universities with the following departments	Number of departments supplying information	(a) Number of first year students in departments in 1962 (b) Additional numbers which could be enrolled	Number of departments which could not admit additional first year students	Reasons why the departments concerned were unable to admit additional first year students				Number of departmental heads refusing admission to first year students	Reasons why departmental heads refused first year students admission into their departments				(a) Number of students who were not in their first year in 1962 (b) Additional numbers which could be admitted					
					Shortage of lecture room space	Shortage of laboratories	Shortage of teaching staff	Policy to limit numbers of students admitted		Because of physical or mental disabilities	Because of inadequate admission qualifications	Because of poor performance in the Matriculation exemption examination	No first year students refused	Second year	Third year	Fourth year	Fifth year	Sixth & Seventh year	
Business Economics	4	4	(a) 634 (b) 447	0	-	-	-	-	0	-	-	-	4	(a) 487 (b) 255	207 162	24 20	3 7	2 8	
Economics	9	7	(a) 1216 (b) 505	0	-	-	-	-	0	-	-	-	7	(a) 716 (b) 304	241 280	29 72	14 36	8 66	
Commerce	6	5	(a) 644 (b) 248	1	-	1	-	1	0	-	-	-	5	(a) 393 (b) 222	368 97	27 28			
Accounting and Auditing	9	7	(a) 1422 (b) 434	0	-	-	-	-	0	-	-	-	7	(a) 910 (b) 186	695 138	437 104	12 31		
Statistics	6	5	(a) 995 (b) 666	1	1	1	1	1	1	-	1	1	4	(a) 138 (b) 293	117 283	39 45	3 28	0 40	
Cost Accounting	1	1	(a) 56 (b) 28	0	-	-	-	-	0	-	-	-	1	(a) 31 (b) 16					
Economics of Transport	1	1	(a) - (b) -	-	-	-	-	-	-	-	-	-	1	(a) 37 (b) 25	12 20				

TABLE 7.82
NUMBER OF STUDENTS IN THE DEPARTMENTS OF DENTISTRY

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Pretoria	39	25	18	4	15		
Witwatersrand	46 0	37 3	32 7	18 22	15 1	17 0	
Total	85	62	50	22	30	17	
Additional number	0	3	7	22	1	0	

7.6.10 Limitations in respect of the numbers of students who could be admitted to the Departments of Dentistry

In consequence of a shortage of laboratories, teaching personnel and the policy of admitting only a limited number of students, the faculty of Dentistry in the University of the Witwatersrand could admit no additional first year students. This Department was compelled to refuse first year students in consequence of inadequate admission requirements and poor performance in the matriculation exemption examination.

7.7 AN ANALYSIS OF THE NUMBER OF STUDENTS REGISTERED, THE POSSIBLE ADDITIONAL NUMBERS AND THE LIMITING FACTORS IN THE DEPARTMENTS OF COMMERCE DURING 1962

There is considerable overlapping in the various Departments of Commerce. Certain sections in one University may fall under a particular department while at another university they would fall under another department. Because the subject Statistics is taken by most students in Commerce at certain Universities, this subject is classified as a Commerce subject.

The Departments which could admit most additional students are as follows: Business Economics (447 additional first year students), Economics (505 additional first year students of whom many were following an Arts or Social Science degree), Commerce (248 additional first year students), Auditing and Accounting (434 additional first year students) and Statistics (666 additional first year students).

Only two departments were unable to admit additional first year students, namely Commerce (Rhodes University) as a result of a shortage of practical facilities and the policy of admitting only a limited number, and Statistics (University of the Orange Free State) in consequence of a shortage of lecture room accommodation, laboratories, teaching staff and a policy of admitting only a limited number. The latter Department was in addition the only Department which had refused admission to first year students in consequence of inadequate admission requirements and poor performance in the matriculation exemption examination.

It may therefore be concluded that there is considerable scope for additional first year students (say about 500) to be admitted to the Departments of Commerce.

TABLE 7.84
NUMBER OF STUDENTS IN THE DEPARTMENTS OF BUSINESS ECONOMICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	192 150	148 75	68 50	24 20	3 7	1 4	1 4
Orange Free State	85 80	- (80)	- (80)	- (12)	- (4)	- (2)	- (2)
Pretoria	294 147	270 135	91 46				
Potchefstroom	63 70	69 45	48 66				
Total	634	487	207	24	3	1	1
Additional number	447	255	162	20	7	4	4

7.7.1 Limitations in respect of the numbers of students who could be admitted to the Departments of Business Economics

The Universities with Departments of Business Economics all indicated that in each student year more than half again of the number already registered could be admitted. No limitations were imposed by any of the Departments on the admission of first year students, and no departmental heads had refused admission to first year students.

TABLE 7.85
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ECONOMICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	185 65	154 20	47 30	12 8	3 2	2 2	3 1
Rhodes (Grahamstown)	160 30	58 30	32 30	1 10			
Rhodes (Port Elizabeth)	42 30	10 40	1 30				
Orange Free State	60 30	45 20	20 15	8 6	6 4	1 3	0 0
Pretoria	401 201	253 127	99 50				
Witwatersrand	234 23	120 12	15 35	3 9			
Potchefstroom	98 102	61 40	22 80	4 30	5 30	1 30	1 30
Natal (Durban)							
Natal (Pietermaritz- burg)	36 24	15 15	5 10	1 9			
Total	1216	716	241	29	14	4	4
Additional number	505	304	280	72	36	35	31

7.7.2 Limitations in respect of the numbers of students who could be admitted to the Departments of Economics

The Department of Economics in the University of the Witwatersrand could admit only a few additional students in the first and second years (say 10% of the number already registered) but no limiting factors were mentioned. The University of the Orange Free State mentioned as limiting factors a shortage of lecture room accommodation. With the exception of two student years at the University of Stellenbosch, the other departments could admit considerable numbers of extra students. No department indicated that first year students had been refused admission.

TABLE 7.86
NUMBER OF STUDENTS IN THE DEPARTMENTS OF COMMERCE

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	23	28	8	12			
	17	12	32	28			
Rhodes (Grahamstown)	48	91	75	15			
	0	18	0				
Rhodes (Port Elizabeth)		10	2				
Pretoria	342	164	130				
	171	82	65				
Witwatersrand	167	86	153				
Potchefstroom	64	14					
	60	110					
Natal (Durban)							
Total	644	393	368	27			
Additional number	248	222	97	28			

7.7.3 Limitations in respect of the numbers of students who could be admitted to the Departments of Commerce

Of the Departments which indicated the numbers of additional students who could be admitted, the Department of Commerce at Rhodes University (division of Shorthand and Typing) indicated that no additional first and third year students could be admitted as a result of a shortage of laboratories and its policy of admitting only a limited number. The other Departments could have admitted considerable additional numbers. No first year students were refused admission to any department.

TABLE 7.87
NUMBER OF STUDENTS IN THE DEPARTMENTS OF ACCOUNTING AND AUDITING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	165		6	7	3		
	95		20	3	15		
Rhodes (Grahamstown)	61	61	120				
Rhodes (Port Elizabeth)	37	54	45	23			
Orange Free State	102	50	20	6			
	50	25	25	25			
Pretoria	425	208	84	83			
	213	104	42	42			
Witwatersrand	409	393	359	282			
Potchefstroom	199	128	49	16	9		
	76	57	51	34	16		
Natal (Durban)							
Natal (Pietermaritz- burg)	24	16	12	20			
Total	1422	910	695	437	12		
Additional number	434	186	138	104	31		

7.7.4 Limitations in respect of the number of students who could be admitted to the Departments of Accounting and Auditing

According to the information provided by the Departments of Accounting and Auditing the Universities which did indicate how many additional students could be admitted could have taken considerably more. No limitations had been placed on first year student admissions and no departmental head indicated that he had refused admission to first year students.

TABLE 7.88
NUMBER OF STUDENTS IN THE DEPARTMENTS OF STATISTICS

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch	160	60	15	4	2		
	150	40	35	20	8		
Orange Free State	182	18	13	5	1		
	0	0	5				
Pretoria	112	26	13				
	56	13	7				
Witwatersrand	440	21	69	30			
	60	20	10	5			
Potchefstroom	101	13	7	0	0	0	0
	400	220	226	20	20	20	20
Total	995	138	117	39	3	0	0
Additional number	666	293	283	45	28	20	20

7.7.5 Limitations in respect of the numbers of students who could be admitted to the Departments of Statistics

The Department of Statistics at the University of the Orange Free State could not admit additional students in the first and second student years in consequence of a shortage of lecture room accommodation, laboratories and teaching staff. The same department had a policy of only admitting a limited number of students. The University of the Witwatersrand could only admit a few additional students, less than 20% of those already registered, in the first, third and fourth student years. The Departmental head in the University of the Orange Free State had refused admission to first year students in consequence of inadequate admission requirements and poor performance in the matriculation exemption examination.

TABLE 7.89
NUMBER OF STUDENTS IN THE DEPARTMENT OF COST ACCOUNTING

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Potchefstroom	56	31					
	28	16					
Total	56	31					
Additional number	28	16					

7.7.6 Limitations in respect of the number of students who could be admitted to the Department of Cost Accounting

This Department is to be found only in the Potchefstroom University for C.H.E. as a fully self-contained department with students in the first and second year. The Department could admit virtually unlimited numbers of students in both

years and it was said that there had been no limitations on the admission of first year students in 1962. The Department had not had occasion to refuse admission to first year students.

TABLE 7.90
NUMBER OF STUDENTS IN THE DEPARTMENT OF ECONOMICS OF TRANSPORT

University	1st year	2nd year	3rd year	4th year	5th year	6th year	7th year
Stellenbosch		37	12				
		25	20				
Total		37	12				
Additional number		25	20				

7.7.7 Limitations in respect of the number of students who could be admitted to the Department of Economics of Transport

The Department of Economics of Transport, found only in the University of Stellenbosch, offers courses in the second and third year student years and could easily absorb as many students again as there were registered in 1962. The Departmental head could not admit additional first year students in 1962, nor had first year students been refused admission since the courses only begin in the second student year.

CHAPTER EIGHT

SUMMARY OF THE MAIN FINDINGS OF THE INVESTIGATION

8.1 GENERAL

The following data have been analysed in this study:

- (i) The numbers of matriculants of ~~November-December 1961~~ and March 1962, and the numbers who enrolled during 1962 for university courses for which matriculation exemption was a requirement.
- (ii) The courses of study for which these matriculants enrolled and the numbers in each university group of courses.
- (iii) The matriculation subjects taken and the symbols obtained in each by first year students in the various university groups of courses.
- (iv) The extent of the remaining group of matriculants and possible courses which they could have taken, had they gone to a university.
- (v) The existing university teaching facilities.

8.2 AN ANALYSIS OF THE NUMBER OF MATRICULANTS OF NOVEMBER - DECEMBER 1961 AND MARCH 1962 AND THE NUMBERS OF THESE WHO ENROLLED FOR COURSES FOR WHICH MATRICULATION EXEMPTION WAS A REQUIREMENT

8.2.1 A general analysis

From Table 2.1 it is concluded that:

- (i) In ~~November-December 1961~~ and March 1962, 9853 matriculation candidates obtained matriculation exemption.
- (ii) Of this group of matriculants, 4078 (41.39%) enrolled for university courses in 1962 for which matriculation exemption was a requirement, while 5775 (58.61%) did not enrol.
- (iii) Out of a total of 3353 candidates with first class passes, 1870 (55.78%) enrolled for university courses in 1962 for which matriculation exemption was a requirement as against 1483 (44.22%) who did not. Although a considerable number of the 5775 (58.61%) of the matriculants who did not go to a university may possibly have been absorbed by the Armed Forces, Police, Teachers Colleges, Commercial firms (some of whom may be taking courses through the University of South Africa) and other occupations, they must nevertheless be looked upon as constituting a considerable loss in potential university material for 1962. This is particularly so in the light of the country's dire shortage of graduate scientists, engineers, medical practitioners and teachers, as shown in the survey of the "Training and Employment of Scientists and Engineers in South Africa" by the National Bureau of Educational and Social Research. (For potential university material amongst Armed Forces ballotees, see paragraph 2.1.6).

8.2.2 An analysis of candidates according to home language

Although half of the matriculants were Afrikaans-speaking, (vide Table 2.3), only 1835 (37.2%) enrolled for university courses for which matriculation exemption was required as compared with 2058 (46.5%) of the English-speaking. This indicates a greater loss of Afrikaans-speaking university student potential than of English-speaking.

8.3 AN ANALYSIS OF THE NUMBER OF MATRICULANTS WHO ENROLLED FOR THE DIFFERENT UNIVERSITY COURSES FOR WHICH MATRICULATION EXEMPTION IS A REQUIREMENT

For purposes of this investigation, the various university courses were divided into six groups which coincided broadly with the Faculties of the universities (vide para. 1.4.10).

8.3.1 General analysis

According to Table 2.2, the largest group, namely 1750 (42.9%) of the 4078 matriculants who went to a university enrolled for courses in Arts and Social Science. Then follow the Pure Science group with 862 (21.1%), the Commerce group with 493 (12.1%), the Engineering group with 412 (10.1%), the Medical group with 385 (9.4%) and the Agriculture, Forestry and Veterinary Science group with 177 (4.3%). Hence we may deduce that 1835 (44.9%) candidates chose courses in Pure or Applied Sciences.

Of the 1870 matriculants with first class certificates who went to a university, 729 (39.0%) chose Arts and Social Sciences, 477 (25.5%) Pure Sciences, 220 (11.8%) Engineering, 208 (11.1%) Medical Sciences, 165 (8.8%) Commerce and 71 (3.8%) a course in Agriculture, Forestry or Veterinary Science. In short 976 or 52.2% of the first class pass candidates chose courses in Pure and Applied Sciences.

8.3.2 An analysis according to home language

An analysis in accordance with the home language of the matriculants who enrolled for a university course in 1962 reveals the following (see Table 2.3):

- (i) Of the 1750 matriculants who chose courses in Arts and Social Science, 914 (52.2%) were Afrikaans-speaking.
- (ii) Of the 861 matriculants who chose Science courses, 443 (51.5%) were English-speaking.
- (iii) Only 106 (25.7%) of the matriculants taking engineering were Afrikaans-speaking.
- (iv) English-speaking students taking courses in Agriculture, Forestry and Veterinary Science, numbering only 37 (20.9%), were far fewer than the Afrikaans-speaking students.
- (v) Only 116 (30.1%) of the matriculants enrolling in the Medical Sciences were Afrikaans-speaking.
- (vi) Afrikaans-speaking students numbering 187 (37.9%) who chose courses in Commerce were also in the minority.

Although the Afrikaans-speaking students were thus in the majority in Arts and Social Sciences, they were by far in the minority in Engineering, Medical Sciences and Commerce. The English-speaking students on the other hand constitute a smaller percentage of those taking courses in Agriculture, Forestry and Veterinary Science.

8.4 A COMPARISON OF MATRICULATION SUBJECTS TAKEN AND PERFORMANCES IN THE MATRICULATION SUBJECTS BY FIRST YEAR STUDENTS IN THE VARIOUS COURSES

TABLE 8.1

FIRST YEAR STUDENTS IN THE VARIOUS STUDY COURSES ACCORDING TO MATRICULATION SUBJECTS TAKEN

Subjects	Arts and Social Sciences		Pure Science Group		Engineering		Agriculture, Forestry and Veterinary Science		Medical Sciences		Commercial courses	
	No.	% of group	No.	% of group	No.	% of group	No.	% of group	No.	% of group	No.	% of group
Afrikaans	1733	99.0	855	99.3	402	97.6	177	100.0	384	99.7	489	99.2
English	1748	99.9	861	99.9	412	100.0	177	100.0	385	100.0	493	100.0
Third Language	1374	78.5	477	55.4	266	64.6	78	44.1	276	71.7	158	34.1
Mathematics	1300	74.3	858	99.7	410	99.5	176	99.4	378	98.1	486	98.6
Physical Science, Physics or Chemistry	853	48.7	749	87.0	407	98.8	165	93.2	332	86.2	406	82.3
Biology, Botany or Zoology	1104	63.1	359	41.7	78	18.9	78	44.1	170	44.2	137	27.8
Geology, Mechanics, Physiology and Hygiene	48	2.7	22	2.5	21	5.1	5	2.8	8	2.1	6	1.2
Bookkeeping	170	9.7	164	19.0	57	13.8	46	26.0	49	12.7	249	50.5
Commerce, Economics or Shorthand and Typing	108	6.2	25	2.9	12	2.9	1	0.6	12	3.1	51	10.3
History	1241	70.9	432	50.1	194	47.1	76	43.0	216	56.1	283	57.4
Geography	413	23.6	245	28.5	135	32.8	32	18.1	75	19.5	145	29.4
Art or Music	199	11.4	32	3.7	13	3.2	0	0.0	13	3.4	9	1.8
Domestic Science, Wood and Metal work, Agricultural and Technical subjects	227	13.0	88	10.2	52	12.6	47	26.6	28	7.3	37	7.5
Total in group	1750		861		412		177		385		493	

8.4.1 Matriculation subjects taken

An analysis of the percentage of matriculants in each university group of courses taking certain subjects shown in Table 8.1 reveals the following:

- (i) More than 99.0% of each group of students in the various courses had taken Afrikaans and English as matriculation subjects. As a rule the percentage taking English was slightly more than that for Afrikaans.
- (ii) Mathematics was taken by 74.3% of those taking courses in Arts and Social Sciences compared with more than 98% in each of the other five groups.
- (iii) A larger percentage of the Arts and Social Science group, namely 63.1%, took Biology, Botany or Zoology as a matriculation subject compared with 48.7% who took Physical Science, Physics or Chemistry. More than 80% in each of the other five groups had taken Physical Science, Physics or Chemistry as a matriculation subject (98.8% of those taking Engineering).
- (iv) Amongst the other matriculation subjects in the Arts and Social Science group, a third language was particularly popular, 78.5% taking this subject compared with 71.7% in the Medical group, 64.6% in the Engineering group and 55.4% in the Pure Science group. History was taken by 70.9% of the Arts and Social Science group, compared with 57.4% of the Commerce group, 56.1% of the Medical group, 50.1% of the Pure Science group while Bookkeeping was taken by only 50.5% of the Commerce group.

The subjects which were taken to the greatest extent by the various study groups were Afrikaans, English, a third language, Mathematics, Biology, Botany or Zoology and History by the Arts and Social Sciences group; Afrikaans, English, a third language, Mathematics, Physical Science, Physics or Chemistry and History by the Science and Medical groups and Afrikaans, English, Mathematics, Physical Science, Physics or Chemistry, History and Bookkeeping by the Commerce group.

TABLE 8.2

PERFORMANCES IN MATRICULATION SUBJECTS OF FIRST YEAR STUDENTS IN THE DIFFERENT STUDY COURSES

Subjects	Average percentage of groups in each subject					
	Arts and Social Science Group	Pure Science Group	Engineering Group	Agriculture, Forestry and Veterinary Science Group	Medical Group	Commerce Group
Afrikaans	61.4	59.1	56.5	57.3	58.3	55.4
English	61.9	59.6	57.8	55.2	60.1	55.7
Third language	57.8	59.8	59.3	55.6	58.5	56.6
Mathematics	54.6	64.5	68.5	58.5	61.8	59.0
Physical Science, Physics or Chemistry	56.9	64.5	65.3	61.5	62.6	56.9
Biology, Botany or Zoology	58.3	64.1	65.7	63.0	63.9	58.8
Geology, Mechanics, Physiology and Hygiene	58.8	65.9	69.4	57.0	60.2	61.7
Bookkeeping	59.8	66.4	69.3	61.3	64.5	66.9
Commerce, Economics, Shorthand and Typing	60.3	62.2	63.5	85.0	65.8	60.0
History	61.4	62.1	59.8	57.6	63.0	59.1
Geography	56.2	57.7	57.8	57.8	59.0	54.8
Art or Music	62.0	62.3	59.0	-	59.8	56.1
Domestic Science, Wood and Metal work etc.	60.9	62.5	65.2	61.4	62.9	57.8

8.4.2 Performances in subjects taken for the matriculation examination

Upon determining the average performance of the various university study course groups in each matriculation subject, the following is to be noted (see Table 8.2):

- (i) A good average performance in the official languages, is achieved by virtually all the study groups, the best being the Arts and Social Science group (with an average performance of 61.4% in Afrikaans and 61.9% in English), the Pure Science group (with an average performance of 59.1% in Afrikaans and 59.6% in English) and the Medical group (with an average performance of 58.3% in Afrikaans and 60.1% in English).
- (ii) Those taking study courses in the Pure Science with 59.8%, those taking courses in Engineering with 59.3% and those in the Medical Sciences with 58.5% had these good average performances in a third language. The fairly poor average performance of 57.8% obtained by the Arts and Social Science group is to be noted.
- (iii) As was to be expected the Engineering group had the best performance in Mathematics with an average of 68.5%, followed by the Pure Science group (64.5%) and the Medical group (61.8%). The average performance of the other three groups in Mathematics was less than 60%, namely Arts and Social Science with 54.6%, Agriculture, Forestry and Veterinary Science group with 58.5% and the Commerce group with 59.0%.
- (iv) The Engineering group also had the best performance in Physical Science, Physics or Chemistry with 65.3%, followed by the Pure Science group with 64.5% and the Medical group with 62.6%.
- (v) The order for Biology, Botany and Zoology is broadly the same, namely the Engineering group with 65.7% (a smaller percentage i.e. 18.9% of this group took these subjects), the Pure Science group with 64.1% and the Medical group with 63.9%.
- (vi) The average performance in Bookkeeping was particularly high for all groups, with the Engineering group the highest with 69.3%, followed by the Commerce group with 66.9% and the Pure Science group with 66.4%.
- (vii) The Medical group had the best performance in History with an average of 63.0% followed by the Pure Science group with 62.1% and the Arts and Social Science group with 61.4%.
- (viii) By comparison with the average performances in other matriculation subjects, that in Geography was fairly low for all study groups and ranged from 54.8% to 59% among the six groups.

As was to be expected the Arts and Social Science group had the best performances in the official languages, namely 61.4% in Afrikaans and 61.9% in English, and also reasonably good performances in History with 61.4%. The average performance of this group in a third language with 57.8% was, however, poorer than that of the Science and related groups. The good performance in History of the Medical group namely 63.0% was surprising. The good averages of the Science groups in Mathematics and the Physical Sciences was to be expected.

8.5 THE REMAINING GROUP OF MATRICULANTS AND THE COURSES THEY COULD POSSIBLY HAVE TAKEN

TABLE 8.3

MATRICULANTS WHO DID AND DID NOT GO TO UNIVERSITY IN 1962 ANALYSED BY MATRICULATION SUBJECTS

Subjects	First year students at University in 1962		Matriculants not at University in 1962		Total number of matriculants	
	With C symbols or higher	Total	With C symbols or higher	Total	With C symbols or higher	Total
Afrikaans	1857 (48.9%)	4040 (41.4%)	1936 (51.0%)	5728 (58.6%)	3793 (100.0%)	9768 (100.0%)
English	1898 (51.6%)	4076 (41.4%)	1679 (48.4%)	5775 (58.6%)	3677 (100.0%)	9851 (100.0%)
Third language	1113 (59.4%)	2639 (48.7%)	762 (40.6%)	2780 (51.3%)	1875 (100.0%)	5419 (100.0%)
Mathematics	1728 (51.8%)	3608 (41.1%)	1611 (48.2%)	5166 (58.9%)	3339 (100.0%)	8774 (100.0%)
Physical Science, Physics or Chemistry	1493 (53.4%)	2912 (42.8%)	1304 (46.6%)	3893 (57.2%)	2797 (100.0%)	6805 (100.0%)
Biology, Botany or Zoology	956 (50.7%)	1926 (40.7%)	930 (49.3%)	2811 (59.3%)	1886 (100.0%)	4737 (100.0%)
Geology, Mechanics, Physiology and Hygiene	59 (51.3%)	110 (41.1%)	56 (48.7%)	158 (58.9%)	115 (100.0%)	268 (100.0%)
Bookkeeping	466 (39.3%)	735 (30.7%)	719 (60.7%)	1658 (69.3%)	1185 (100.0%)	2393 (100.0%)
Commerce, Economics, Shorthand and Typing	103 (37.9%)	209 (37.9%)	169 (62.1%)	342 (62.1%)	272 (100.0%)	551 (100.0%)
History	1318 (52.5%)	2442 (43.4%)	1192 (47.5%)	3183 (56.6%)	2510 (100.0%)	5625 (100.0%)
Geography	366 (50.6%)	1045 (37.8%)	357 (49.4%)	1723 (62.2%)	723 (100.0%)	2768 (100.0%)
Art or Music	142 (49.5%)	266 (45.3%)	145 (50.5%)	321 (54.7%)	287 (100.0%)	587 (100.0%)
Domestic Science, Wood or Metal work, etc.	259 (32.6%)	479 (30.7%)	536 (67.4%)	1083 (69.3%)	795 (100.0%)	1562 (100.0%)

8.5.1 The extent of the remaining group of matriculants

When the number of matriculants who did not enrol for university courses during 1962 (about 1000¹⁾ of the 5775 remaining matriculants were possibly chosen by ballot for compulsory military service) are compared with the other matriculants, the following becomes apparent (see Table 8.3):

- (i) Nearly three fifths of those who took the official languages as matriculation subjects did not go to a university. More than half (51.0%) of those who obtained a C symbol in Afrikaans, did not go to a university.
- (ii) More than half (51.3%) of the matriculants who took a third language in the matriculation examination did not go to a university.
- (iii) A particularly high percentage (58.9%) of the matriculants with Mathematics as a matriculation subject were not at a university during 1962. Almost half of those who obtained a C symbol or higher in Mathematics did not go to a university.
- (iv) Of the matriculants with Physical Science, Physics or Chemistry and Biological subjects, 57.2% and 59.3% respectively did not go to a university in 1962.
- (v) The percentage of matriculants who took Bookkeeping and did not go to a university was 69.3%; 60.7% of those with a C symbol or higher in bookkeeping did not go to a university during 1962.
- (vi) For all the other subjects, more than half of the matriculants taking them did not enrol for university courses.

The university student potential lost amongst those taking Mathematics and the Science subjects was thus particularly high, especially if one takes into consideration the shortage of scientists, engineers and medical practitioners in the country.

1) See note on page 7.

TABLE 8.4

DISTRIBUTION OF THE NON-UNIVERSITY GROUP
AMONG THE SIX STUDY COURSES.

Courses	First class pass	Second class pass	Total
Arts and Social Sciences	578	1900	2478
Pure Science	378	841	1219
Engineering	175	409	584
Agriculture, Forestry and Veterinary Science	56	193	249
Medical Sciences	165	380	545
Commercial Courses	131	569	700
Total	1483	4292	5775

8.5.2 A distribution of the matriculants who did not go to a university during 1962, in possible study courses

If the remaining group of matriculants be distributed among university courses in a manner analogous to the distribution of those who did go to a university, the following may be taken as a possible distribution (see Table 8.4):

- (i) About 2478 of the remaining group of matriculants, of whom 578 had first class passes, should have enrolled for Arts and Social Science courses.
- (ii) For Pure Science courses there would have been about 1219 more matriculants, of whom 378 had obtained first class passes.
- (iii) About 584 (175 in the first class) should have enrolled for Engineering.
- (iv) About 249 (56 in the first class) would have chosen courses in Agriculture, Forestry and Veterinary Science.
- (v) About 545 (165 in the first class) would have chosen a course in the Medical Sciences.
- (vi) Some 700 (131 in the first class) would have chosen a course in Commerce.

From this we may deduce that during 1962 all university courses would have had considerably more first year students if this lost university student potential ¹⁾ for courses for which matriculation exemption is a requirement had enrolled during 1962.

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1) If it be assumed that about 1,000 ballottees (see page 7) could also have gone to a university.

8.6 AN ANALYSIS OF EXISTING UNIVERSITY TEACHING FACILITIES

A shortage of teaching facilities, which of necessity limits the number of additional students who could be absorbed by university departments, is more particularly a problem in the Departments of Arts and Social Sciences, Engineering and Medical Science of certain universities. Furthermore only those departments which could admit no more or very few additional first year students are discussed with reference to those factors responsible for these limitations.

8.6.1 An analysis of the Departments of Arts and Social Science

Only those Departments which could admit less than 30% of the total of first year students registered in 1962 are discussed. (See Tables 8.5 and 8.6)

The following factors were responsible for the inability of various departments to admit any more students or more than a very few additional first year students during 1962.

- (i) A shortage of lecture theatres or lecture room space in the Departments of Philosophy (University of the Orange Free State), Music (Rhodes University) and Fine Arts (Rhodes University).
- (ii) A shortage of facilities for practical work in the Departments of Psychology (University of the Witwatersrand), Music (Potchefstroom University for C.H.E.) and Physical Education (Rhodes University).
- (iii) A shortage of lecturers in the Departments of History (University of Stellenbosch, the Orange Free State and Rhodes University), Philosophy (University of Stellenbosch), Psychology (University of Stellenbosch and the Witwatersrand), Physical Education (University of Stellenbosch and Rhodes University), Afrikaans-Nederlands (University of Stellenbosch), English (Universities of Stellenbosch and Natal (Durban)) and French (Rhodes University).

The following departments could have admitted additional first year students, but fewer than 30% of the number already registered:

Geography (University of Stellenbosch and Natal), History (Potchefstroom University for C.H.E.), Sociology and Social Work (University of the Witwatersrand), Music (University of the Witwatersrand), Education (Rhodes University), Afrikaans-Nederlands (University of the Orange Free State), English (Potchefstroom University for C.H.E.), Classics (University of the Witwatersrand and the Orange Free State), Semitic languages (University of Stellenbosch), German (University of Stellenbosch) and French (University of Stellenbosch).

It appears therefore that there is more particularly a need for expansion in the Arts departments at the Universities of Stellenbosch (especially necessary), Natal, the Witwatersrand, the Orange Free State, Rhodes University and the Potchefstroom University for C.H.E. In consequence of this, not many more than 500 additional students could be admitted.

TABLE 8.5

DEPARTMENTS OF ARTS AND SOCIAL SCIENCES WHICH TOGETHER COULD ONLY ADMIT 40 PER CENT ADDITIONAL FIRST YEAR STUDENTS

Departments	Number of universities with the following departments	Number of departments which provided information	Number of departments which could not admit first year students	(a) Number of students in departments (1962) (b) Additional numbers which could be admitted					
				First year	Second year	Third year	Fourth year	Fifth year	Sixth and Seventh year
History	9	7	3 (S,R,O)	(a) 1076 (b) 133	497 62	347 61	36 13	10 0	6 0
Philosophy	9	7	2 (S,O)	(a) 518 (b) 182	146 89	95 74	13 6	8 10	6 5
Psychology	9	8	2 (S,W)	(a) 1853 (b) 665	936 253	457 111	43 43	26 29	9 8
Music	7	6	2 (R,Po)	(a) 300 (b) 79	151 47	149 23	38 11	3 3	6 5
Fine Arts	5	3	1 (R)	(a) 181 56	49 14	49 17	6 0		
Afrikaans	9	7	1 (S)	(a) 2069 (b) 783	620 356	361 205	67 55	19 36	9 20
Nederlands	9	7	2 (S,Nd)	(a) 2096 (b) 508	382 84	290 52	43 21	7 10	1 0
English	9	7	2 (S,Nd)	(a) 2096 (b) 508	382 84	290 52	43 21	7 10	1 0
Semitic languages	6	3	0	(a) 191 (b) 75	134 55	41 21	1 4	2 3	1 1
German	9	7	1 (Po)	(a) 709 (b) 251	215 159	123 112	1 28	1 5	4 15
French	8	4	1 (R)	(a) 424 (b) 106	70 36	38 33	5 6	2 5	0 0

S = University of Stellenbosch
R = Rhodes University
O = University of the Orange Free State
W = University of the Witwatersrand
Po = Potchefstroom University for C.H.E.
Nd = University of Natal (Durban)

TABLE 8.6

ARTS AND SOCIAL SCIENCE DEPARTMENTS WHICH COULD ADMIT NOT MORE THAN 30% ADDITIONAL STUDENTS

Departments	Universities					
	Stellenbosch	Rhodes	Orange Free State	Witwatersrand	Potchefstroom	Natal
Geography	(a) 340 (b) 25					41 7
History	(a) 238 (b) 0	99 0	306 0		89 20	
Philosophy	(a) 79 (b) 0		100 0			
Psychology	(a) 412 (b) 0			250 0		
Sociology and Social work	(a) (b)			358 77		
Music	(a) (b)	13 3		102 25	91 0	
Fine Arts	(a) (b)	66 0				
Physical Education	(a) 68 (b) 0	23 7				
Education	(a) (b)	55 10				
Afrikaans-Nederlands	(a) 480 (b) 0		427 100			
English	(a) 346 (b) 0				215 50	236 0
Classics	(a) (b)		50 7	241 49		
Semitic languages	(a) 82 (b) 20					
German	(a) 141 (b) 30				85 0	
French	(a) 115 (b) 15	89 0				

(a) Number of first year students in departments.

(b) Additional number of first year students who could be admitted.

TABLE 8.7

DEPARTMENTS IN PURE SCIENCE WHICH COULD ADMIT NOT MORE THAN 40% ADDITIONAL FIRST YEAR STUDENTS

Departments	Number of universities with the following departments	Number of departments which supplied information	Number of departments which could not admit additional first year students	(a) Number of students in departments in 1962						(b) Additional number which could be admitted	
				1st year	2nd year	3rd year	4th year	5th year	6th and 7th year		
Hygiene	1	1	0	(a) 90 (b) 30	36 14	15 10					
Botany	8	7	0	(a) 535 (b) 519	222 118	119 101	21 20	11 10	9 5		
Domestic Science	3	3	0	(a) 135 (b) 52	103 58	96 55	45 63	2 8			

TABLE 8.8

DEPARTMENTS OF PURE SCIENCE WHICH COULD ADMIT NOT MORE THAN 30% ADDITIONAL FIRST YEAR STUDENTS

Departments	Universities					
	Stellenbosch	Rhodes	Orange Free State	Witwatersrand	Potchefstroom	Natal
Botany	(a) 207 (b) 29		47 13	260 70	136 14	170 38
Zoology	(a) (b)			280 40		
Physiology	(a) 148 (b) 8					
Pharmacy	(a) (b)	48 2				
Domestic Science	(a) 85 (b) 11					
Mathematics and Applied Mathematics	(a) (b)			466 0		408 110

(a) Number of first year students in departments

(b) Additional number of first year students who could be admitted

8.6.2 An analysis of departments of Pure Science

An examination of Tables 8.7 and 8.8 reveals that the Department of Mathematics and Applied Mathematics in the University of the Witwatersrand was the only department which was unable to enrol additional first year students in consequence of a shortage of teaching personnel.

The following departments were able to take in not more than thirty per cent additional students:

Botany (Universities of Stellenbosch, Natal, the Orange Free State, the Witwatersrand and the Potchefstroom University for C.H.E.), Zoology (University of the Witwatersrand), Physiology (University of Stellenbosch), Pharmacy (Rhodes University), Domestic Science (University of Stellenbosch) and Mathematics and Applied Mathematics (University of Natal (Durban)).

The needs for extension of teaching facilities are thus particularly acute in the departments of Botany. This is of importance since Botany is taken by future students in Agriculture, Forestry and Medicine in their first year. It appears further that existing teaching facilities will not limit the expansion of the numbers of students in the Physical Sciences, with the exception of the University of the Witwatersrand.

8.6.3 An analysis of the Departments of Engineering

In part four of the report on "A Survey of the Training and Employment of Scientists and Engineers in South Africa", published by the National Bureau for Educational and Social Research which deals with the training and employment of scientists and engineers, it was estimated that, without taking into account the loss of engineers who change their calling early in their careers, some 3,200 new engineers would be required for the period 1959-1965. The estimated number who would graduate during that period was some 2,600. The following is quoted from the report:

"Even with the most optimistic expectations, it appears that the shortage of engineers will persist even after 1965, unless there is a radical change brought about in the tempo of the training of engineers at the universities". In the light of this, adequate training facilities are thus extremely necessary.

The Universities of Stellenbosch and Pretoria, which are largely responsible for the training of Afrikaans speaking engineers still have plenty of training facilities for additional students in engineering. It is to be regretted that such plentiful good potential material, referred to in paragraph 8.5.2 of this chapter fails to make application for courses in engineering at these two universities.

It appears that in consequence of a shortage of accommodation and of teaching staff in the Department of Civil, Mechanical and Electrical Engineering, and the Department of Chemical Engineering, the University of the Witwatersrand was unable to admit additional first year engineering students, the last named department mentioning inadequate practical facilities as an additional reason. This university had not been able to admit additional first year students for some time past.

TABLE 8.9

DEPARTMENTS OF ENGINEERING WHICH COULD ADMIT NOT MORE THAN 40% ADDITIONAL FIRST YEAR STUDENTS

Departments	Number of universities with the following departments	Number of departments which supplied information	Number of departments which could not admit additional first year students	(a) Number of students in departments in 1962 (b) Additional numbers which could be admitted					
				1st year	2nd year	3rd year	4th year	5th year	6th and 7th year
Civil Engineering	5	3	1 (W)	(a) 30 (b) 15	164 58	111 30	97 39	21 9	4 3
Mechanical Engineering	5	4	1 (W)	(a) 459 [‡] (b) 66	329 76	131 72	61 43	12 1	1 4
Electrical Engineering	5	4	1 (W)	(a) 42 (b) 21	278 110	273 93	70 54	13 14	4
Chemical Engineering	3	2	1 (W)	(a) 64 (b) 14	38 8	33 4	29 4		

‡ This number also includes the number of first year students in the departments of Civil and Electrical Engineering of the Universities of Stellenbosch and the Witwatersrand.

W = University of the Witwatersrand.

TABLE 8.10

AN ANALYSIS OF THE DEPARTMENTS OF ENGINEERING WHICH COULD ADMIT FEWER THAN 40% ADDITIONAL FIRST YEAR STUDENTS

Departments	Universities		
	Stellenbosch	Pretoria	Witwatersrand
Civil, Mechanical and Electrical Engineering	(a) 59 (b) 40	124 62	348 0
Chemical Engineering	(a) (b)	28 14	36 0

(a) Number of first year students in departments

(b) Additional number of first year students who could be admitted

8.6.4 An Analysis of the Departments of the Faculties of Agriculture, Forestry and Veterinary Science

The Faculties of Agriculture at the Universities of Stellenbosch, Pretoria, Natal and the Orange Free State could collectively enrol an appreciable number of additional students (according to the estimate, more than a hundred). Only the Department of Biometry at the University of the Orange Free State was unable in consequence of a shortage of teaching personnel, to admit additional students. It should be borne in mind that the only other factor which could possibly have limited the enrolment of additional students in Agriculture was the capacity of the Department of Botany in which Stellenbosch could only admit twenty-nine additional first year students, Natal could only admit thirty-eight more first year students and the Orange Free State only thirteen.

The Faculty of Forestry at the University of Stellenbosch was in a position to enrol more students than were registered at the time.

The Faculty of Veterinary Science at the University of Pretoria could not enrol any additional students in consequence of the limitations imposed by the research facilities at Onderstepoort.

8.6.5 An Analysis of the Departments in the Medical Sciences

According to Part 5 of the report on "A Survey of the Training and Employment of Scientists and Engineers in South Africa" which deals with the training and employment of medical and dental personnel, the estimated accumulated requirements of the country would be between 3500 and 4500 new medical practitioners for the period 1959-1965. From the survey of trends in graduation at Universities in Part Three of the same report, it was deduced that the estimated number of qualified medical practitioners who would qualify during this period would be 1911, i.e. only about half the requirements of the accumulated requirements.

The universities are thus not meeting the needs of the country in this respect, and so the limiting factors which mitigate against the enrolment of additional students in medicine at the Universities of Pretoria, the Witwatersrand and Cape Town are most certainly impeding any possible increase in numbers of qualified medical practitioners.

TABLE 8.11

DEPARTMENTS OF MEDICINE WHICH COULD ADMIT VERY FEW ADDITIONAL STUDENTS

Departments	Number of universities with the following departments	Number of departments which supplied information	Number of departments which could not admit additional first year students	(a) Number of students in departments in 1962							(b) Additional number which could be admitted
				1st year ***	2nd year	3rd year	4th year	5th year	6th and 7th year		
Anatomy	4	3	2 [#] (Pr,W)	(a) 19 (b) 0	360 59	177 15	68 0	86 0	30 0		
Pathology, Pathological Anatomy and Microbiology	4	3	2 [#] (Pr,W)	(a) 36 (b) 0		319 43	180 16	22 18			
Medicine, Surgery, Obstetrics and Gynaecology, and Paediatrics	4	3	2 [#] (Pr,W)	(a) 15 (b) 0		161 3	236 16	201 18	188 17		
Pharmacology	4	3	2 [#] (Pr,W)	(a) (b)		306 3					
Anaesthetics	4	2	1 [#] (Pr)	(a) 14 (b) 0			24 16	132 18			
Radiology	4	3	2 [#] (Pr,W)	(a) 50 (b) 0	29 0				96 18		
Psychiatry	4	3	2 [#] (Pr,W)	(a) (b)		114 0	35 66	115 18	8 0		
Ophthalmology, Oto-rhino-laryngology	4	2	1 [#]	(a) (b)			24 16	115 18			
Preventive and Promotive medicine and Forensic Medicine	4	2	1 [#] (Pr)	(a) 14 (b) 0			76 0	22 18			
Dentistry	2	2	1 [#] (W)	(a) 85 (b) 0	62 3	50 7	22 22	30 1	17 0		

Pr = University of Pretoria.

W = University of the Witwatersrand.

Applies also to years subsequent to the first year.

*** Students who enrol for the degree of M.B., B.Ch. take courses in most of these departments from the third year onwards. The numbers shown against certain departments in the first year are thus not M.B., B.Ch. students but students in Physiotherapy, Radiotherapy and Diagnosis, Nursing and other diplomas taking courses in these departments.

As may be deduced from Table 2.11, it was not possible for the Universities of Pretoria and the Witwatersrand to enrol more students in the first year during 1962 in most of the departments of Medicine. According to the University of Pretoria, the limiting factor lay in the hospital facilities provided, while the University of the Witwatersrand reported an inadequacy of facilities for practical work, teaching staff and of lecture room accommodation, particularly in the departments of Pathology and Pharmacology.

The Faculty of Dentistry in the University of the Witwatersrand was unable to enrol any additional students in consequence of a shortage of lecturing staff, lecture room accommodation and facilities for practical work. The University of the Witwatersrand had also been compelled to refuse admission to aspirant students of dentistry because they had failed to pass the matriculation examination at a sufficiently satisfactory level of achievement.

The University of Stellenbosch indicated that the Faculty of Medicine could at the present time not admit many more students, but that upon completion of the new hospital in the northern suburbs of Cape Town there would be no problem in that respect.

According to estimates made, only seventy additional first year students could be enrolled in Medicine (and that only by the University of Stellenbosch); this compared most unfavourably with other faculties in respect of numbers which could be enrolled.

8.6.6 An Analysis of the Departments of Commerce

It appears that it would be possible to enrol some 500 additional first year students in these departments. The following departments would be able to enrol somewhat less than 30% of additional first year students: The Departments of Economics (University of the Witwatersrand and Rhodes University), Commerce (Rhodes University could take no additional students), Statistics (the University of the Orange Free State could accept no additional students and the University of the Witwatersrand very few).

TABLE 8.12

DEPARTMENTS OF COMMERCE WHICH COULD ADMIT LESS THAN 40%
ADDITIONAL FIRST YEAR STUDENTS

Departments	Number of Universities with the following departments	Number of departments which supplied information	Number of departments which could not admit additional first year students	(a) Number of students in departments in 1962					
				(b) Additional number which could be enrolled					
				1st year	2nd year	3rd year	4th year	5th year	6th and 7th year
Commerce	6	5	1 (R)	644 248	393 222	368 97	27 28	- -	- -

(R) = Rhodes University

TABLE 8.13

DEPARTMENTS OF COMMERCE WHICH COULD ADMIT LESS THAN 30%
ADDITIONAL FIRST YEAR STUDENTS

Departments	Universities		
	Rhodes	Orange Free State	Witwatersrand
Economics	(a) 202	-	234
	(b) 60	-	23
Commerce	(a) 48	-	-
	(b) 0	-	-
Statistics	(a)	182	440
	(b)	0	60

(a) Number of first year students in departments .

(b) Additional numbers of students who could be admitted

8.6.7 General Analysis of Departments which could only admit a few additional students

In Table 8.14 a resumé is given of the whole picture of the numbers of additional first year students who could be enrolled, as also an indication of those departments responsible for the limitations on numbers in certain directions.

TABLE 14

AN ESTIMATE OF THE NUMBERS OF ADDITIONAL FIRST YEAR STUDENTS WHO COULD BE ADMITTED TO VARIOUS COURSES, WITH AN INDICATION OF DEPARTMENTS WHICH LIMITED ADMISSION

Courses	Number of additional first year students	Universities which limited the admission of first year students	Departments of these universities which were responsible for the limitations on the admission of additional first year students
Arts and Social Sciences	500	Stellenbosch	Afrikaans-Nederlands (0), English (0), History (0), Psychology (0), Physical Education (0), Philosophy (0), Geography (25), French (15), Semitic Languages (20), German (30).
		Natal	English (0), Geography (7).
		Rhodes	History (0), French (0), Fine Arts (0), Music (3), Physical Education (7), Education (10).
		Orange Free State	History (0), Philosophy (0), Classics (7), Afrikaans-Nederlands (100).
		Potchefstroom	German (0), Music (0), History (20), English (50).
		Witwatersrand	Psychology (0), Sociology and Social Work (77), Classics (49), Music (25).
Pure Sciences	1000 (700)*	Witwatersrand	Mathematics and Applied Mathematics (0), Botany (70), Zoology (40).
		Stellenbosch	Botany (29), Physiology (8), Domestic Science (11).
		Rhodes	Pharmacy (2).
		Natal	Botany (38), Mathematics and Applied Mathematics (110).
		Orange Free State	Botany (13).
		Potchefstroom	Botany (14).
Engineering	100	Witwatersrand	Civil, Mechanical and Electrical Engineering (0), Chemical Engineering (0).
Agriculture, Forestry and Vet. Science	100 +	Pretoria	Veterinary Science (0).
Medical Sciences	70	Witwatersrand Pretoria	Dentistry (0), Medicine (0) Dentistry (0), Medicine (0)
Commercial Courses	500	Rhodes Witwatersrand Orange Free State	Commerce (0), Economics (60) Economics (23), Statistics (60) Statistics (0)

* If some 300 first year students in Engineering, Medical Science and Agricultural Faculties be subtracted

8.7 CONCLUSIONS

As has been shown elsewhere (vide para. 8.6.5), the shortage in particular of medical practitioners and engineers in South Africa is a most serious matter and the universities are not meeting the needs of the country.

The potential student material for the universities during 1962 was nevertheless available since virtually sixty per cent of the country's matriculants¹⁾ of November-December, 1961 and March, 1962 (including nearly 1500 with first class passes) did not enrol for degree courses or the equivalent thereof in universities. This potential material was available for all courses, namely matriculants with good symbols in languages and History (for Arts and the Social Sciences) Mathematics and Physical Sciences (for the Pure Sciences, Engineering, Medical Sciences) and Bookkeeping (for the Commercial Courses).

Although adequate teaching facilities were available at most of the universities for enrolling considerably more additional students, there were nevertheless several departments which needed to be expanded. Limitations of teaching facilities made an increase in student numbers impossible in certain of the Arts and Social Science departments (University of Stellenbosch), in Engineering (University of the Witwatersrand) and in Medicine (Universities of Pretoria and the Witwatersrand).

In order to overcome the shortage of graduate manpower, a possible solution lies in directing as many matriculants as possible to the universities immediately after matriculating. This would necessitate making available adequate provision for further study and removing any limitations in respect of existing training facilities, especially in the Medical Sciences. It would also be necessary to encourage Afrikaans speaking persons to take a greater interest in Engineering and Medicine as the interest shown by the Afrikaans speaking section of the community falls far short of what it should be.

1) Of whom 1000 were military ballottees who for that particular year must be regarded as lost manpower in Pure Science, Engineering and Medicine. It is not known how many of them went to a university upon completion of their military training.

APPENDIX A.

AN ANALYSIS OF THE DOMICILES OF FIRST YEAR UNIVERSITY STUDENTS IN 1962, WHO HAD MATRICULATED IN NOVEMBER-DECEMBER 1961 AND MARCH 1962

Area in which home is located	Number of first year students	Percentage first year students of total	Number of first year students at English-speaking Universities	Number at English medium Universities as percentage of total	Number of first year students at Afrikaans-speaking Universities	Number at Afrikaans medium universities as percentage of total
Johannesburg	653	16.0	565	13.8	88	2.2
Southern Transvaal	55	1.4	26	0.7	29	0.7
East-Rand	204	5.0	101	2.5	103	2.5
West-Rand	115	2.8	57	1.4	58	1.4
Pretoria	402	9.9	50	1.3	352	8.6
Eastern and North-eastern Transvaal	174	4.3	30	0.8	144	3.5
South-western Transvaal	134	3.3	18	0.5	116	2.8
Western Transvaal	63	1.5	6	0.1	57	1.4
Northern Transvaal	61	1.5	12	0.3	49	1.2
Transvaal	1861	45.6	865	21.2	996	24.4
Cape Town and Peninsula	460	11.3	332	8.2	128	3.1
Boland and South-western Districts	288	7.1	61	1.5	227	5.6
Western and North-western Cape	177	4.3	28	0.6	149	3.7
Port Elizabeth and Uitenhage	94	2.3	70	1.7	24	0.6
East London and environs	64	1.6	54	1.4	10	0.2
Eastern Province	180	4.4	93	2.3	87	2.1
Cape Province	1263	31.0	638	15.7	625	15.3
Durban	297	7.3	274	6.7	23	0.6
Pietermaritzburg	82	2.0	75	1.8	7	0.2
Natal country areas	83	2.0	69	1.7	14	0.3
Natal	462	11.3	418	10.2	44	1.1
Bloemfontein	162	4.0	38	0.9	124	3.1
Free State country areas	208	5.1	35	0.9	173	4.2
Orange Free State	370	9.1	73	1.8	297	7.3
South West Africa	70	1.7	25	0.6	45	1.1
Foreign	52	1.3	37	0.9	15	0.4
Total	4078	100.0	2056	50.4	2022	49.6

APPENDIX B

AN ANALYSIS OF THE DEPARTMENTS OF THE UNIVERSITY OF CAPE TOWN
WHICH COULD ADMIT LESS THAN THIRTY PER CENT OF ADDITIONAL
STUDENTS

Departments	(a) Number of students in departments in 1962 (b) Additional numbers which could be admitted						Reasons for which departments could not admit additional first year students
	First year	Second year	Third year	Fourth year	Fifth year	Sixth year	
Arts and Social Sciences:							
History	(a) 237 (b) 0	68 20	38 2	3 6			Shortage of teaching staff and lecture room accommodation
Philosophy	(a) 128 (b) 0	35 0	2 0	1 0			
Psychology	(a) 198 (b) 52	60 0	26 4	3 7	5	7	
Music	(a) 35 (b) 10	25 10	20 10	10 5			
Fine Arts	(a) 85 (b) 0	41 0	40 0	5 0			
Afrikaans-Nederlands	(a) 207 (b) 20	21 32	11 10	1	1	1	
English	(a) 840 (b) 12	425 0	102 0	14 4			
Semitic languages	(a) 36 (b) 4	22 8	10 10	7 8			
African studies	(a) 369 (b) 0	87 0	3 0	5 0	6 0	2 0	
Classics	(a) 218 (b) 0	32 0	11 0	2 0			
Geography	(a) 77 (b) 3	24 16	18 22	0 8			
Pure Sciences:							
Botany	(a) 338 (b) 0	14 16	11 9				Shortage of teaching staff and lecture room accommodation
Zoology	(a) 355 (b) 0	22 66	22 50	4 8			
Physiology	(a) (b)	170 10	8 4				Shortage of teaching staff and lecture room accommodation.
Chemistry	(a) 579 (b) 35	109 22	69 28	35 10	6 4	13 7	
Physics	(a) 648 (b) 36	113 16	38 6	16 3	3 5	10 2	
Mathematics and Applied Mathematics	(a) 654 (b) 40	455 29	133 27	9 2	3 2		

APPENDIX B (CONTD.)

Departments	(a) Number of students in departments in 1962 (b) Additional numbers which could be admitted						Reasons for which departments could not admit additional first year students	
	First year	Second year	Third year	Fourth year	Fifth year	Sixth year		
Engineering:								
Civil Engineering	(a) - (b) -	98 0	55 0	42 0				
Mechanical Engineering	(a) 132 (b) 30	75 25	35 0	25 0				
Electrical Engineering	(a) - (b) -	77 50	120 50	53 30				
Chemical Engineering	(a) - (b) -	32 8	35 5	28 2				
Medicine:								
Pathology	(a) (b)		123 0	110 25				
Pharmacology	(a) (b)		120 0			110 0		
Psychiatry	(a) (b)		123 0		110 0		Shortage of teaching staff and lecture room accommodation	
Medicine	(a) (b)				110 0			
Surgery	(a) (b)				110 0	106 0		
Infectious Diseases	(a) (b)			96 0		110 0		
Bacteriology	(a) (b)		123 0					
Commercial Courses								
Economics	(a) 441 (b) 40	153 0	24 10	5 5				Shortage of teaching staff and lecture room accommodation

1. In the departments of the Faculties of Arts and Social Sciences and certain departments of Engineering there is apparently a great shortage of teaching staff and lecture room accommodation, particularly in the first year classes.
2. In the departments of the Faculties of Pure Science and Medicine there was apparently little likelihood of immediate expansion on account of a shortage of teaching staff and lecture room accommodation, as also of facilities for practical work.
3. Because of the overlapping of certain classes the numbers in engineering may lead to some confusion.

