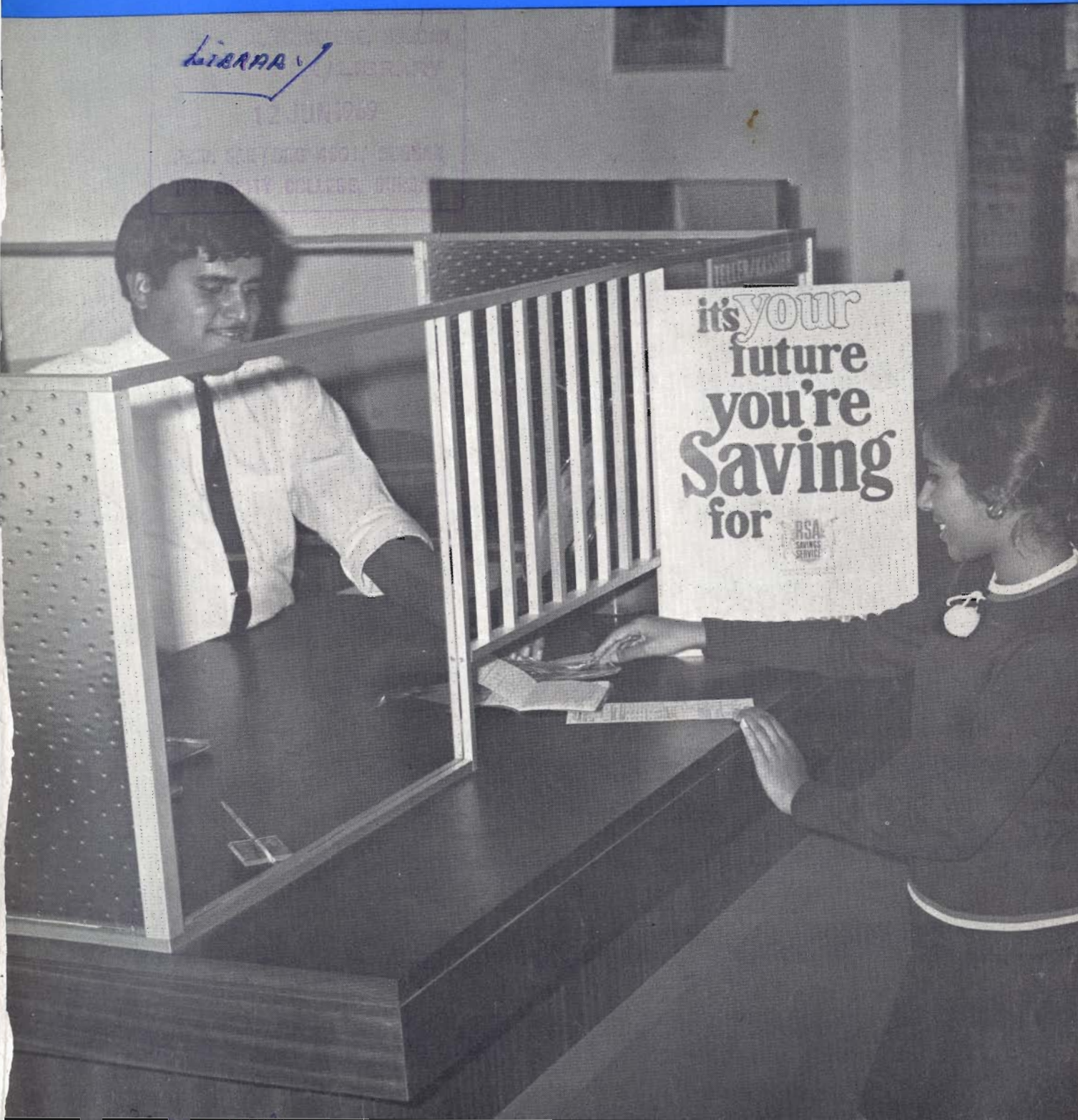


VOLUME 4 No. 5
JUNE 1969 JUNIE

FIAT LUX



FIAT LUX

"Let there be light"

CONTENTS • INHOUD

	Page
University Graduation	130
Savings Campaign	135
Immunisation	139
M. L. Sultan Foundation Stone	144
Milk Marathon	149
New Maths	151
Athletics	154
Drama	156
Photo Flashes	158
Inspectors	160

Cover: It's **your** future you're saving for ! Here a thrifty young miss hands over some money for safe-keeping at a Durban bank.
(See page 135)

DOCUMENTATION CENTRE

University of Durban-Westville

ACCESSION NO. 537/107

VOL. 4 NUMBER 5
JUNE 1969 JUNIE

A MONTHLY JOURNAL
PUBLISHED ON BEHALF OF
THE DEPARTMENT OF INDIAN
AFFAIRS

'N MAANDBLAD NAMENS
DIE DEPARTEMENT VAN
INDIËRSAKE UITGEGEE

All correspondence and requests
for this journal should be directed
to:

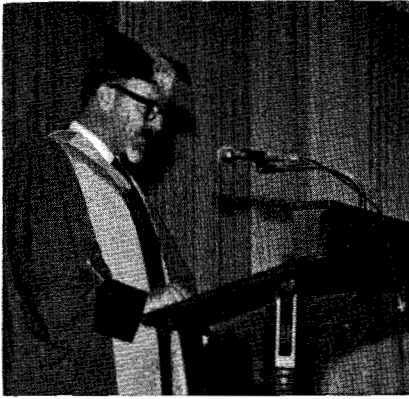
THE EDITOR
FIAT LUX
PRIVATE BAG 4323
DURBAN.

Alle briefwisseling en versoeke vir
hierdie blad moet gerig word aan:

DIE REDAKTEUR
FIAT LUX
PRIVAATSAK 4323
DURBAN.

The views expressed in this journal do
not necessarily reflect the policy of the
Department.

Die sienwyses wat in hierdie blad uitge-
spreek word, vertolk nie noodwendig die
beleid van die Departement nie.



Guest speaker at the graduation ceremony, Prof H. J. J. M. van der Merwe, Dean of the Faculty of Arts and Sciences of the University of South Africa.

UNIVERSITY GRADUATION CEREMONY

AT THE ANNUAL graduation ceremony of the University College for Indians, Durban, on Saturday, 17th May, a record number of students received degrees and diplomas conferred by the University of South Africa, the examining body.

A total of 166 degrees and 79 diplomas were awarded – an increase of 12 and 28 respectively over last year's awards. This was the College's seventh graduation ceremony and each year the number of graduates has progressively increased.

Notable achievements were the College's first two LL.B. graduates, the first award of a certificate in the Theory of Accountancy – a new course, the gaining by two extramural students of the University of South Africa of Masters' degrees in Arts (Psychology) and Science (Mathematics) and a B.A.Hons. degree, with distinction in Afrikaans and Nederlands.

The degrees were conferred by the Chancellor of the University of South

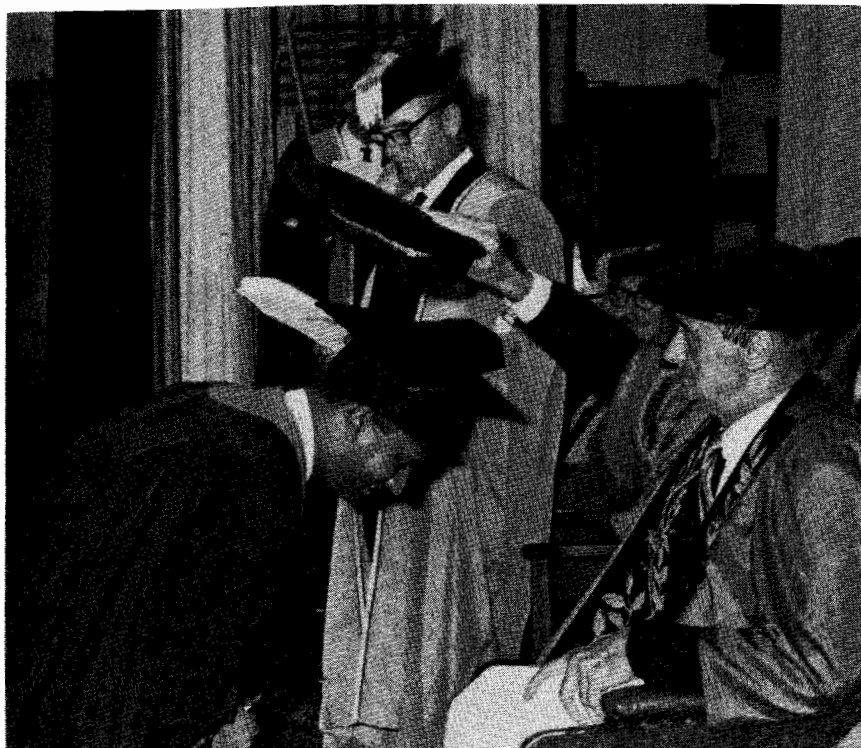
Africa, Dr Francois J. de Villiers, in the presence of a large number of relatives and friends of graduates and guests of honour, including Professor J. A. Maré, Rector of the University College of Zululand, the Registrar of that College, Mr E. W. Redelinghuys, the Director of Indian Education, Mr P. W. Prinsloo, and the Regional Representative, Department of Indian Affairs, Mr M. J. de W. van Eyssen. In congratulating the students and wishing them every success for the future, the Chancellor said that from his own experience a degree required much hard work and a student had a difficult path to follow but it was a wonderful achievement. "An academic education," he said "equips you spiritually for leadership."

The guest speaker at the graduation ceremony was Professor H. J. J. M. van der Merwe, a council member of both the University of South Africa and the University College for Indians, and Dean of the Faculty of Arts and Sciences of the University of South Africa.

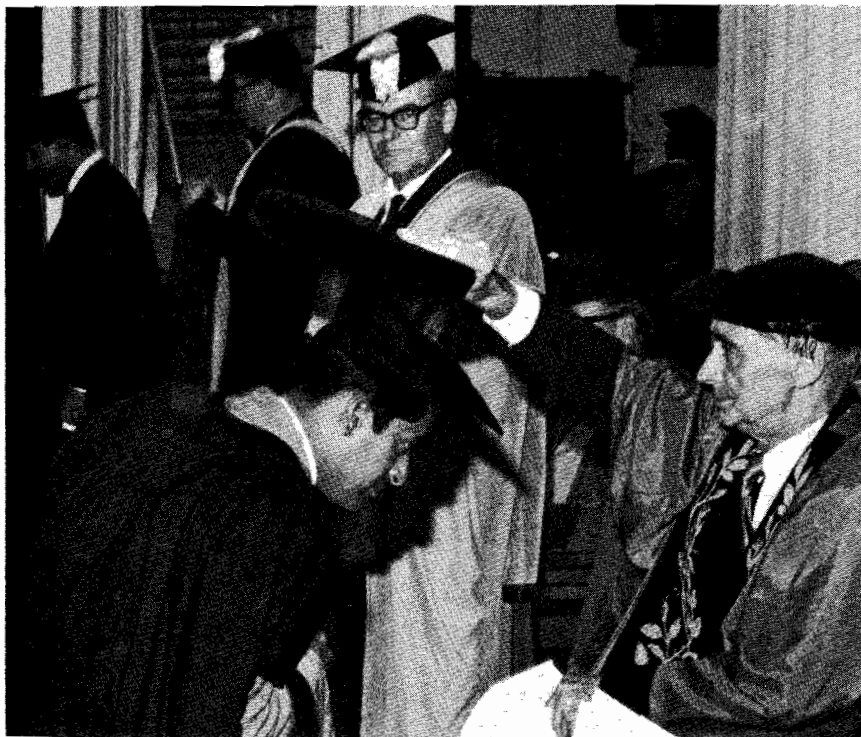
In his address Prof van der Merwe stressed the importance of the role that the graduates would have to play in the future of South Africa, and the country's role in Africa. The College had already emerged as the largest of all the university institutions for non-Whites, and he could see no limit to its growth. This implied that the College could become a repository of considerable brain potential, "and if canalized in a true South African spirit, substantial constructive influence could emanate from your community," he told the graduands.

A respectful silence is maintained as Professor G. C. Oosthuizen reads the prayer.





The Chancellor of the University of South Africa, Dr Francois J. de Villiers, confers the degree M.Sc. (Mathematics) on Mr P. Reddy.



Congratulations to Mr M. Mahipath who attained his B.A. Honours degree (Afrikaans and Nederlands) with distinction.

Congratulating the graduands on their achievements, and on overcoming the obstacles that had lain in their paths, Prof van der Merwe said: "Today you are receiving your key to further study or to a venture into adult life."

He pointed out that they would be faced by ever-increasing responsibilities in community life, which they would have to face.

"First of all great responsibilities will be demanded of you by family life, life in your immediate and intimate family circles.

"Secondly, you will be burdened with inescapable responsibilities towards your own community. Most of us present are well acquainted with your history and present circumstances, and we realise that as future leaders of and in your communities you will be called on to endeavour to further the well-being of your communities spiritually, culturally and economically.

"With your hereditary philosophy and way of life of many centuries this should prove to be not the most difficult obligation. But this is your first and foremost task, which you should not try to shirk but which should be your very ideal and immediate goal."

Thirdly, Prof van der Merwe said, the graduates had a great responsibility to the country of which they were part and parcel.

He believed that South Africa's peoples could, while retaining their own characteristics, become a powerful nation. The Indian community, as an integral part of the country's population, was expected to play its part in its country's future.

"Your future is inseparably entwined with that of the Republic, and that not only implies co-operation but also full responsibility in the role South Africa is to play in Africa."

Speaking on a wider theme, Prof van der Merwe expressed the view that South Africa was predestined to play a decisive role in the continent of Africa. South Africa's outlook should not be restricted by its northern

boundary, the Limpopo, as this resulted in isolation.

"Because South Africans have grown from the soil (of Africa) they understand the problems of awakening countries of Africa, and therefore, I regard South Africa as the only country in the world that can render understanding assistance to African countries," he said.

Pointing out that South Africa had, by playing a major advisory role, been well on the way to becoming a leader in Africa before the "winds of uhuru" (independence) started to blow in 1957. Prof van der Merwe expressed the view that the time had now come for an active part to be played.

"I believe that the time for active assistance has never been so opportune as at present," he said.

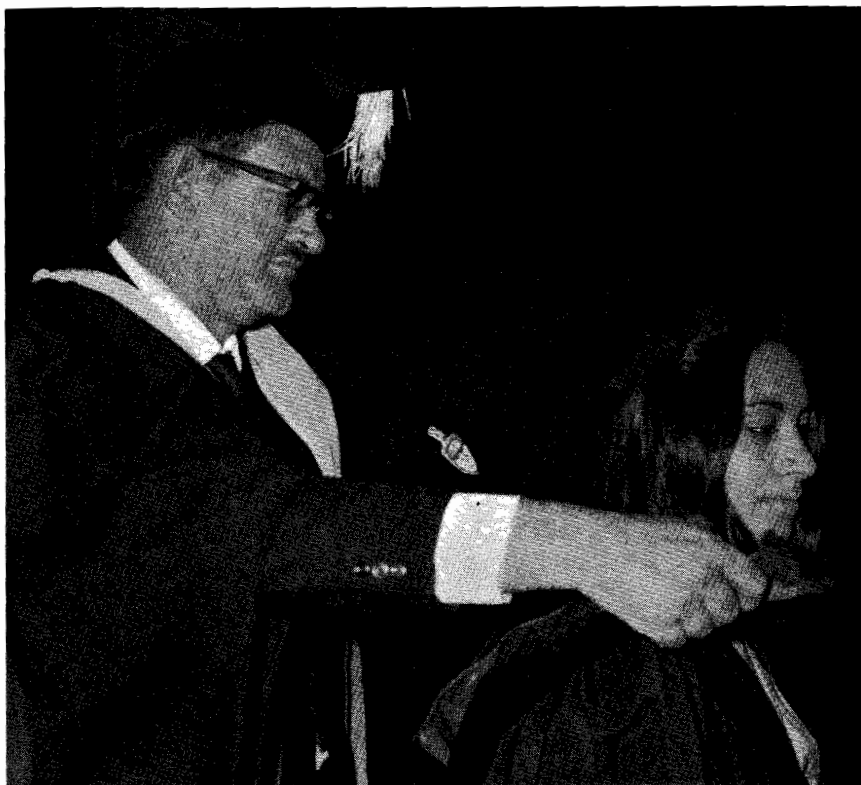
"Our greatest task is to help Africa to be able to help herself, and this cannot be done by an indiscriminate handing out of money without accompanying advice on how to put this to its best use."

Mentioning that the South African Non-Whites were far ahead of the



The University College's first two Bachelor of Law students ever, Mr M. Rajab (left) and Mr B. R. Mahabeer, seen with the Chancellor of the University of South Africa, Dr F. J. de Villiers.

Miss M. N. Lakhi is the first Indian girl in Natal to obtain a B.A. Honours degree in French. Here Mr G. Heysteck, Registrar of Indian University College, Durban, places the hood on her shoulders.



rest of Africa regarding education, health, standard of living and culture,

Professor van der Merwe said that this state of affairs was not unnoticed or unenvied by the African states. They were beginning to realise that "uhuru" alone cannot bring about the "dignity of the human being". Cultural development was a decisive prerequisite.

"In most of the independent black countries 'uhuru' actually brought less 'dignity' to the individual, and as the flush of victory is receding under the impact of greater poverty, these people begin to reflect on the consequences of a precipitated independence," he added.

Discussing the political situation in Africa, he went on to express the view that should South Africa's policy be propagated by her Non-White population in states beyond our boundaries, this may lead to the possibility of these states adopting a similar policy to solve their own problems of ethnic grouping which



A very proud mother, Mrs K. Maithir, seen with her daughter, Miss A. Maithir, U.E.D. (post graduate), and her son, Mr I. Maithir, who attained his Higher Primary Teachers' Diploma.

Mr E. Seedat kneels to receive the conferment of his B.A. degree which he attained with a Psychology distinction.



have been the cause of much unrest in Africa.

"At the same time the way will be paved for South Africa to take over the leadership in a confederation of independent states of Southern Africa. Just imagine what a constructive part you could play in moulding such a multi-racial confederation of states," he told the graduands.

Discussing economic links with African states, Professor van der Merwe said that not only would trade have to be expanded, but active assistance would have to be given in the various economic fields. It was South Africa's duty to help supply foreign capital to these states, "but at the same time it should be done cautiously," he said.

He added that he considered South Africa should be prepared to assist neighbouring states against foreign attack and invasion, as these states constituted buffers for South Africa.

In all these questions South Africa

would need the co-operation of every South African, White and Non-White. Progress towards a United States of Africa would have to proceed cautiously and with discretion.

"And you, graduates, graduands and students of this College can never be excluded or exempted from the contribution you must make in this respect."

Praising the College's achievements over the past eight years, Professor van der Merwe pointed to the continuous growth and remarkable progress in the academic field. He expressed his appreciation to the Senate and Council for their respective contributions towards building up an academic institution which was gaining in reputation. Its standards and degrees were respected and accepted throughout the country and the outside world.

"I am especially proud of the laudable step taken by instituting an Advisory Board consisting of eminent members of the Indian community. And may I, on behalf of the University of South Africa, thank them for their very positive and constructive attitude in furthering the interest of the college."

In concluding his address Professor van der Merwe wished the graduands great success in their studies, in the role they would play in community life and the role they are duty-bound to play as South Africans. The following is a list of the degrees and diplomas conferred :

DEGREES

B.A.	100
B.A. (Social Science)	1
B.A. (Law)	3
B.Sc.	24
B.Sc. (Pharmacy)	2
B.Com.	6
B.A. (Hons)	14
B.Sc. (Hons)	4
B.Ed.	10
M.A. (Psychology)	1
M.Sc. (Mathematics)	1

DIPLOMAS

Social Science	4
Commerce	1
School Librarianship	3
Theory of Accountancy	1
Attorney's Admission Examination	3
Higher Primary Teachers'	3
Junior Secondary Teachers'	4
University Education (Non-Graduate)	13
University Education (Post-Graduate)	45
Special Education	2



Mr and Mrs A. S. Vahed, who both received post graduate University Education Diplomas.

Guests from far and near attended the ceremony. All the way from Zululand came Prof J. A. Maré, Rector of the Zululand University College (left), Mrs E. W. Redelinghuys and Mr Redelinghuys, Registrar of that College.



THE RSA SAVINGS CAMPAIGN

THIS YEAR marks the fiftieth anniversary of the National Thrift Organisation, the first organised thrift movement established in South Africa. To mark this jubilee and to arouse the public's awareness of the communal and personal benefits of saving, a nine-month campaign was initiated in January, and the thrift organisation has been re-named the RSA Savings Service. This campaign is unique in that a Government body has initiated and is sponsoring a campaign designed to increase the level of personal savings deposits in savings banks and building societies, as well as the Post Office.

The fiftieth anniversary of the initiation of an organised thrift movement in South Africa provides the occasion and the opportunity now in 1969 not only to give renewed impetus to the thrift movement and to inspire the population as a whole to save more and to use what they have more effectively, but also to take positive and effective steps to achieve these aims.

This Golden Jubilee is not merely a historic celebration, but also a call for even more intensive action in taking out of what we are earning today enough to guarantee the stability of the present, and increasing growth in the future. This is a challenge that we must and will meet.

NATIONAL IMPORTANCE

The national importance of arousing a public awareness of the benefits of saving are obvious: the industrial and commercial development of the Republic and its political role on the continent of Africa demand that South Africa should move away from its traditional dependence on the importation of foreign capital towards not only self-sufficiency in the creation of capital but as rapidly as possible,

to a position where South Africa can assist its neighbours on the continent.

The campaign is thus vitally important in terms of the Republic's economic, industrial, strategic and political future.

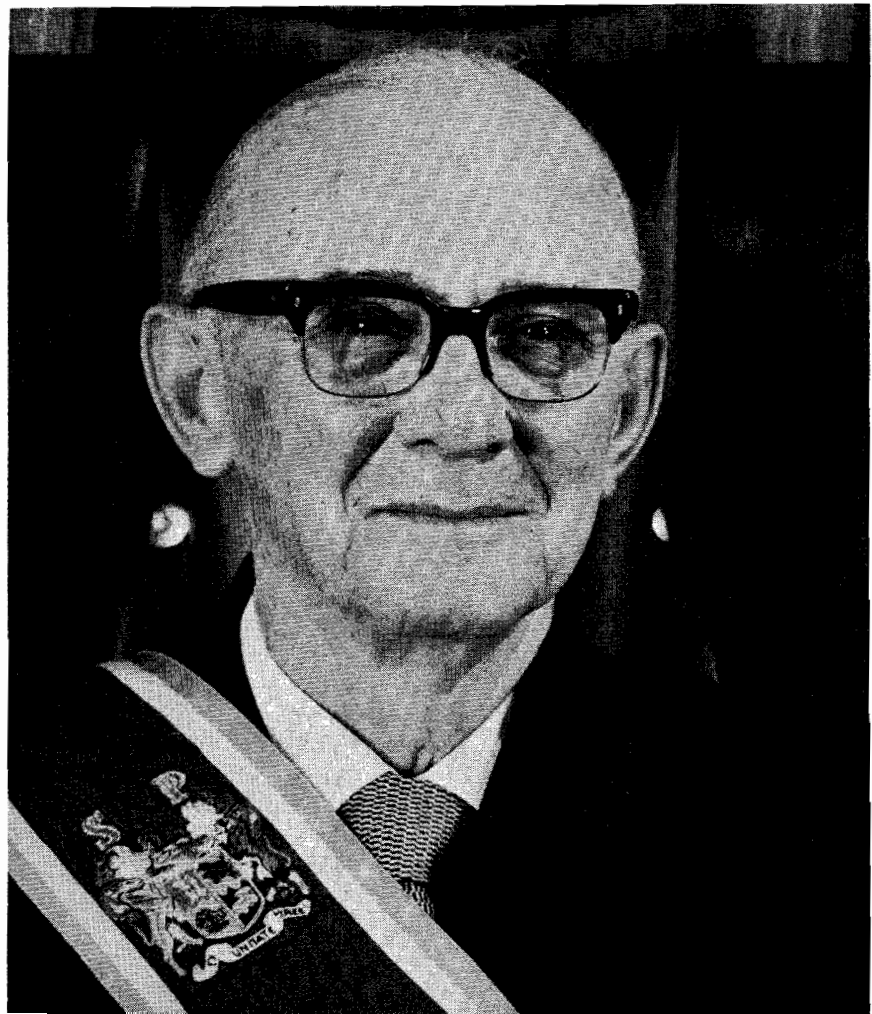
The campaign will also play an important role in containing the effects of the inflationary spiral.

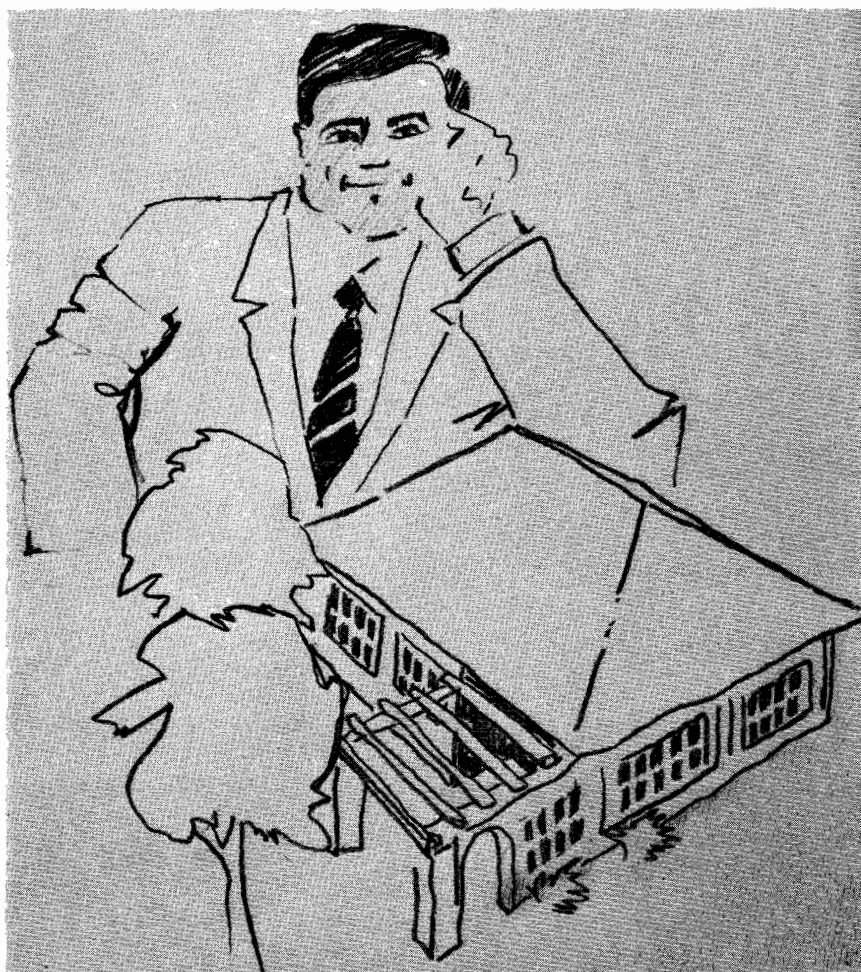
THE FUTURE

There can be nothing more important for the well-being and con-

tinued progress of our country than that our people should, on the one hand, set aside from their current prosperity more of their income as savings, and, on the other hand, purposefully concentrate on intelligent financial management. Just as our present level of development has been attained through the thrift and enterprise of the past, our present prosperity can be continued and greater success be achieved in the future only through the mobilisation and effective use of all our resources and assets.

The State President, Mr J. J. Fouché: "The campaign is being launched to re-activate the will to save and the habit of saving."





One of these days I will save enough to buy a house.

LAW OF SURVIVAL

The story of thrift is as old as Man — and Nature. From the beginning of time, Man has garnered in the summer against the onset of winter. It has been a simple law of survival. As Man progressed, however, his needs became more complex and material wealth came to play an important part in human society. The instinct to save in times of plenty became translated into the custom of putting money aside in times of affluence against the possibility of "a rainy day".

In due course, with the evolution of the capitalist system and the development of the use of money and wealth, saving became something more than a stern discipline for safety and survival. Saving became the means to a new freedom; it became a source

of personal power and the basis for a new confidence and self-respect. Saving also offered scope for imagination and enterprise; it opened up new vistas of human progress. Today it is the foundation of the modern economy.

TRACING THE PAST

To trace the beginnings of public saving in South Africa we have to go back to the year 1831, when the first savings bank was opened in Cape Town. By the end of that century, post office savings banks had been established throughout the country and the Post Office had become the chief sponsor of the growth of the savings movement. It was not until after World War I, however, that the idea of promoting organised saving was implemented.

A leading Cape Town business man, Mr Cecil J. Sibbett, persuaded the Government of the day to establish the Union Loan Certificates Savings Scheme for a trial period of six months. So big was the initial response to the scheme that in less than two months more than two million certificates were sold at 15/6 (R1.55) each.

ORGANISED MOVEMENT

As a result of this success the Government decided to establish the organised savings movement on a permanent basis. The first Union Loan Certificate was sold on 22nd September, 1919, a date of significance to the Jubilee Campaign of 1969. In due course, the National Thrift Committee — later the National Thrift Organisation — was appointed, with the task of promoting thrift in all its different facets amongst all sections of the public. Soon the savings movement had become firmly established and over 5,000 savings clubs had been formed.

These clubs have been the instruments for the active stimulation of saving, particularly in schools and in industry. They were founded through the efforts of voluntary workers serving on regional committees.

In launching the Jubilee Savings Year of 1969 the State President, Mr J. J. Fouché, in an address to the nation, said that the campaign was being launched to "reactivate the will to save and the habit of saving".

CAPITAL NEEDED

"South Africa stands on the threshold of great development and expansion, and our country will need more and more capital to sustain and increase this. While we by no means shut out capital from other countries, it is better that most of it should be found in South Africa," he said.

"Capital comes from savings and we must save hard to meet these needs. We must also think of the immediate advantages of today's saving: it helps to stabilise our economy, to preserve the value of our currency and to check uncontrolled and undesirable speculation."

COMMUNAL BENEFITS

Dr N. Diederichs, the Minister of Finance, stated recently that the first objective of the RSA Jubilee Savings Campaign was to create the maximum public awareness of the personal, family and national advantages flowing from saving and judicious utilisation of assets.

The second objective was to unite the public and private savings institutions in a national campaign for large-scale creation of new savings capital, which would, whilst stabilising the economy, demonstrate South Africa's ability to finance its development largely from its own resources.

NO TIME LIMIT

He made it clear, however, that "these objectives, though associated specifically with the Jubilee Campaign, are not limited in time. Public saving is a continuing process which should not be turned on and turned off like

a tap. It forms an integral part of a modern economy, the buoyancy of which must fluctuate according to variations in the volume of savings which are made available.

"The Jubilee Campaign, then, is intended to give new vigour to a long-established custom, and to stimulate saving by the public to the higher level needed by our developing economy."

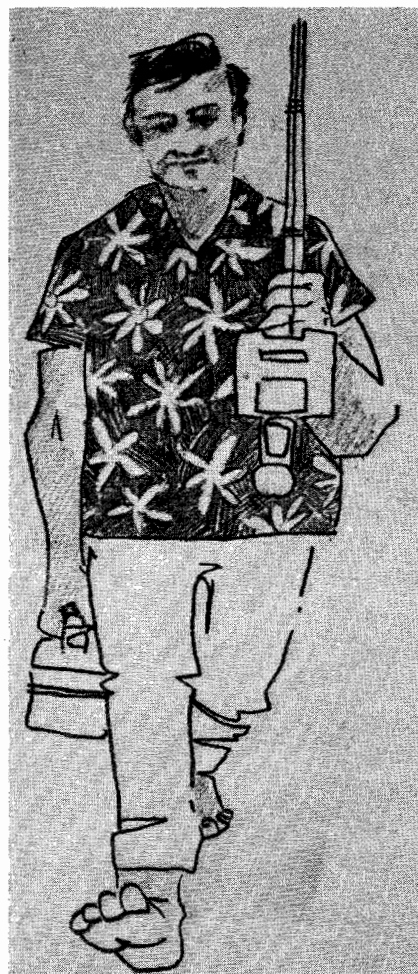
THE INDIAN COMMUNITY

In a radio talk on 2nd April, 1969, the Prime Minister, Mr B. J. Vorster, added weight to the 1969 Savings Campaign in a speech, in which he addressed a few words especially to the Indian people of South Africa.

He said that all through the years the Indians of South Africa had enjoyed the reputation of being a hard-working people, who cared for the needs of others, both inside their own family circle and outside.



My sixth sense tells me to save. I've gone ten whole months now without bumping a fender and I just know my luck can't hold much longer.



By switching on savings power I can retire early and enjoy a life of fishing.

"They are moreover regarded," he said, "as persons who exercise thrift as a normal way of life."

He urged the present generation to continue the good example provided by their forebears, whose principles of thrift and thriftiness had stood many Indians of this generation in good stead.

RESPONSIBILITY

Mr Vorster went on to say that: "Just as with the other sections of the South African population, the South African Indian has a responsibility towards ensuring a stable and economically sound South Africa. Investment of savings in the many and varied state and private institutions will contribute towards the security and national prosperity which we all seek."

He concluded by saying: "The Jubilee Savings Campaign of 1969 gives all of us the opportunity of re-dedicating ourselves to the ideals of thrift and thriftiness. I know that the Indian people of South Africa will grasp the opportunity with both hands. By putting these ideals into practice they will be making a contribution towards the expansion and development of a greater South Africa besides ensuring their own economic security."

RE-EMPHASIS

The official encouragement of thrift is not new in South Africa. But as new generations and new conditions arise, it is necessary from time to time to teach again the lessons of the past in the lights of the needs of the present.

Young and old alike should therefore be convinced of the intrinsic

merits of thrift, the desirability of purposeful and regular saving and of the judicious use of all assets, as well as those benefits flowing from the handling of savings by those qualified to use it to the best advantage of the saver, the community and the country.

Every channel of communication is being used in the savings campaign. Listen for radio announcements stressing the need for saving, and look out for press features and advertisements on the subject in newspapers and magazines.

The campaign seeks to carry the message to all race groups, to schools, shops and offices, factories and mines, urban homes and farms.

CIVIC PHASE

The civic phase of the campaign is being accentuated this month with mayors of many of the larger towns

and cities arranging local functions in collaboration with the leaders of the various race groups and all participating organisations and bodies.

A feature of the civic phase will be the distribution of commemorative money boxes to primary school children, and also various festivities designed to bring home to tomorrow's men the values of saving.

The success of the past is a challenge for the future — a challenge to the men, women and children of South Africa to build future security and happiness on the firm foundations of the organised savings movement established over the past fifty years. On its part the RSA Savings Service will continue to bring to all sections of the population the message of judicious saving, of intelligent and responsible utilisation of all assets, of anti-waste and prevention of unnecessary expense.

THE MONEY-BOX is the symbol of saving. It comes in many shapes and sizes but the purpose of every one is the same — to promote saving.

To the child the money-box not only gives him positive proof of his savings success as it grows heavier and heavier, but can also be an object of play. The pink piggy-bank is his, and he is owner, manager, saver and spender, learning valuable lessons for use in later life. In fact it is possibly sometimes more difficult to prise open the piggy-bank than draw money from a real bank.

As part of the RSA Savings campaign money-boxes are being issued to primary school children. It is hoped to cultivate in the men and women of tomorrow the realisation of how necessary it is to save, and to encourage the savings habit.

The savings idea also implies that the child must earn money in some way or another or forego some amusement or pleasure in order to save — this will give money or possessions real value or meaning for the owner, especially when obtained through work and sacrifice.

It is often difficult to save when incomes are low and expenses high.

But saving embraces more than money. Saving can mean anti-waste — in other words you can save by respecting and looking after what you have or what is entrusted to you. This includes property, furniture, clothes, toys, books and so on.

Everyone of us is also a member of the community, and of a nation, and in the same way as we have obli-

gations to ourselves and to our families we have obligations to the other people in the community and to the country as such.

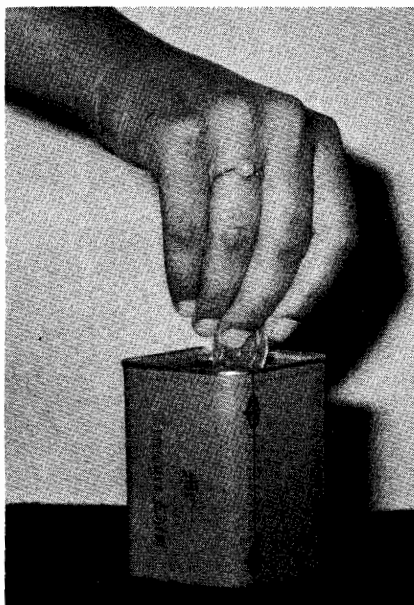
By working and saving we assist in providing facilities and services for the community and the nation: . . . public services, such as the provision of water and power . . . communal facilities such as train and bus services . . . parks . . . roads and streets . . . these are all provided at great cost and should never be misused, polluted or soiled.

This also applies to our great natural resources . . . our countryside, coast, wild life and natural vegetation.

There are certain things which all of us strive after. Self-reliance is one of these. Self-reliance, however, only lies on the way of diligence and thriftiness.

Without working and saving no man has ever achieved permanent success and no man has ever reached greatness.

Even if the money-box only serves as a symbol of the ideal of self-reliance, it still serves the purpose for which it was made available to the school children.



Guarding your health:

IMMUNISATION

A YOUNG CHILD stands watching his fellows playing soccer. The iron calipers on his thin, wasted legs tell their own story of a pathetic little figure, keen but unable. A victim of polio, the rest of his life will be spent watching and wishing, instead of joining in the fun. But so often this sort of tragedy can be prevented, for medical science has provided us with the means to immunise children against crippling diseases — such as poliomyelitis.

"We cannot eliminate these diseases," a spokesman of the State Health Department told *Fiat Lux*, "but we are able to control them."

And yet there has been an increase in the incidence of poliomyelitis over the last year — why? "Because," we were told, "too many parents do not bring their children forward to be immunised."

PARENTS' RESPONSIBILITY

Your child's health is entirely your responsibility until he or she is an adult. Ninety-nine per cent. of the people suffering from poliomyelitis are children under the age of four years. These are children who should, by law, have been fully immunised by the age of twelve months, but must now suffer primarily because of parental neglect.

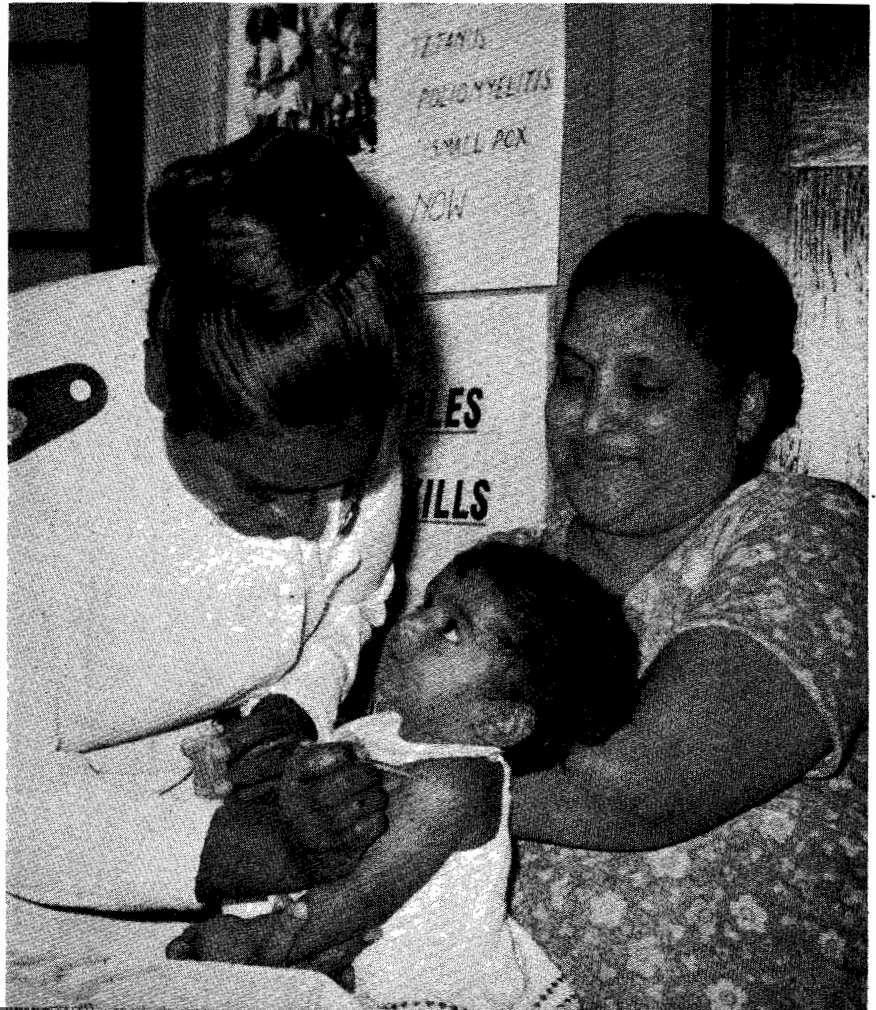
It is every parent's bounden duty to have his children immunised against the various diseases, such as smallpox, diphtheria, whooping cough, etc., for which vaccines are available. Facilities are everywhere to hand.

CLINICS

For example, the Durban Municipal Health Department has clinics in Chatsworth, Clairwood, Merebank and the other Indian townships; local municipalities in other urban areas and the district surgeons in the rural areas provide similar facilities.

The State Health Department also employs mobile clinics which periodically visit an immunisation point (a local store or school) and there administer the necessary vaccines and medicines.

This baby seems fascinated by Nurse D. Isaac and quite unconcerned about the smallpox vaccination she is receiving. This vaccination is compulsory by law and must be completed by the time the child is thirteen months old. Thereafter the vaccination should be repeated at five-yearly intervals.



Man's body is tough and resistant, but it nevertheless requires protection against heat and cold, wind and rain, and especially against the infectious diseases.

BEST DEFENCE

A strong and healthy body is man's best defence against disease, and his natural resistance can usually prevent the development of many of the infectious diseases after exposure to the germs causing them.

However, the spread of disease depends on many things, such as a well-balanced diet, physical fitness and good habits, which tend to increase a person's natural resistance to infection. It also depends on clean water and food, clean air and good sanitation.

On the other hand, the germs or micro-organisms which cause infectious diseases are themselves tough, and, because of this, man requires extra protection against many of them.

This extra protection against most of the really dangerous infectious diseases is fortunately nowadays available in the form of immunisation.

HOW GERMS ARE SPREAD

Infectious diseases are easily spread from one person to another, especially during the early stages of the illness. The germs usually spread from the body of a person suffering from the disease, but sometimes from a "carrier" — that is, a person who is not sick but who carries in his body the germs causing the disease.

The germs usually leave the body of a sick person in the discharges from his nose or throat or by way of his intestinal tract, that is, the stools, as in diseases such as typhoid fever and dysentery. Direct spread of these diseases to other persons may occur through kissing or through the inhalation of droplets from a cough or sneeze.

Indirect spread may occur through water or foods, through using the same drinking cups or towels, or through unclean hands. Germs usually enter the body of a healthy person through the mouth or nose, occasionally through a break in the skin.



At the Lancer's Road Clinic, Durban, Nurse T. Naidoo gives a mother her child's immunisation card. Each immunisation treatment is recorded on this card and it is therefore most important. The card must be kept by the parent, and produced when the child starts school, as well as for further immunisation.

PARASITES

The germs which cause infectious diseases are parasites and require favourable conditions for their multiplication. As the conditions necessary for their growth exist in the bodies of living persons, germs multiply after they have entered the body of a person. This multiplication disturbs the normal functioning of the body and leads to the development of the disease and the appearance of signs and symptoms of the particular disease with which the germ is associated.

WHAT IS IMMUNISATION?

Immunisation is a means by which the body is stimulated to develop protective substances against certain infectious diseases.

A person is said to be immune to the germs causing an infectious disease when he has the power within his own body to overcome or resist them.

When a person is infected by germs,

his body's defences come into action and his blood is stimulated to produce substances called antibodies, which tend to check the germs and neutralize the poisons produced by them. The blood can also be stimulated artificially to produce antibodies by injecting specific vaccines. These antibodies usually remain in the blood for many years and prevent further infections by the same germs. This state of resistance to infection is called immunity.

NATURAL AND ACQUIRED IMMUNITY

We speak of two kinds of immunity — they are natural immunity and acquired immunity.

- (i) *Natural Immunity* is an inborn trait which renders a species, a race or an individual highly resistant to certain infections or stresses. For example, human beings are naturally immune to hog cholera.

(ii) *Acquired Immunity* is conferred on the individual in several ways. The new-born baby enjoys a high degree of acquired immunity from antibodies given to him through the blood stream of his mother. These immunities apply in general only to the diseases to which the mother herself was immune and, except for natural immunity, rarely last beyond a period of a few months to a year.

A less pleasant way of acquiring immunity is to suffer a light attack from a disease involving specific micro-organisms. This situation is more or less true of the common diseases of childhood, especially those caused by viruses, but there is no guarantee that a given individual cannot contract the same disease twice.

JENNER — PIONEER

Finally, immunity can be acquired by *deliberate and artificial immunisation*. This requires inoculation or injections. The first practical success in this direction was smallpox vaccination, introduced in England by Edward Jenner in 1798.

As a young boy Jenner became interested in a belief held by farmers of that time that cowpox, which affected the udders of cows, when communicated to milkmaids prevented

their catching smallpox.

After many years of study he inoculated a small boy with matter from the cowpox cells on the hand of a dairymaid. The boy developed typical cowpox. Six weeks later he was inoculated with smallpox but the inoculation failed to have any effect.

Thus, from a chance belief held by rural folk in the 18th century the life-saving practice of vaccination as we know it today developed.

SHORT LIST

The list of diseases for which artificial immunisation is considered practical is still short. It includes — routinely for infants — smallpox, paralytic polio, diphtheria, tetanus (lockjaw) and whooping cough; and — for adults or children where the risk warrants — cholera, plague, typhus, typhoid and paratyphoid fever, influenza, yellow fever and rabies (for anyone bitten by an animal known or strongly suspected to have rabies).

Smallpox is a highly contagious and serious disease, against which vaccination provides an almost 100% immunity. Vaccination is a very simple procedure which is practically painless. Unfortunately, many people neglect to have themselves or their children vaccinated, notwithstanding the fact that vaccination against this disease is compulsory in South Africa.

Such neglect is dangerous. By law, infants *must* be vaccinated by the time they are 13 months old, and every inhabitant is required to ensure that he/she is vaccinated against smallpox.

Diphtheria is an acute contagious disease which attacks the membranes of the throat and mouth, producing a powerful poison (toxin) which spreads through the bloodstream, and which can be fatal. Immunising injections against this disease can be given separately, or, preferably, by means of the combined diphtheria-whooping cough-tetanus (DWT) vaccine, which has the virtue that it reduces the number of injections of the immunisation course from nine to three.

Whooping Cough is an acute, highly communicable infectious disease which attacks the throat and respiratory system and which can be dangerous for any child under three years old. Immunising injections can be given separately, or, as is to be preferred, by means of the combined diphtheria-whooping cough-tetanus (DWT) vaccine.

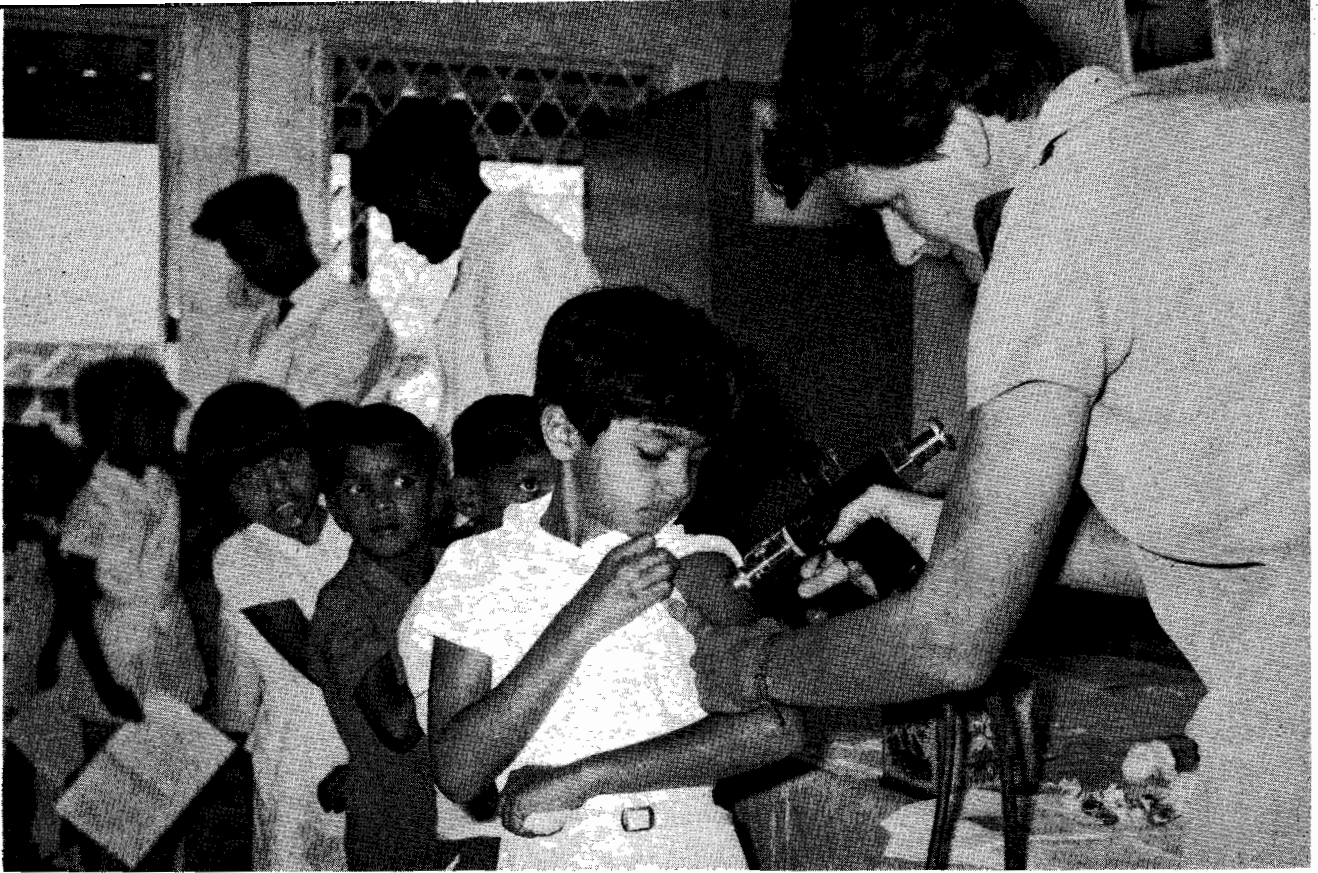
Tetanus, which is also called lockjaw, because it is characterised by stiffness of the jaws and painful muscular contractions, is an acute infectious disease which is frequently fatal. Immunising injections can be given separately, or, preferably, by means of the combined diphtheria-whooping cough-tetanus (DWT) vaccine.

Poliomyelitis is an acute virus disease which attacks the central nervous system and in some cases causes paralysis. It used to be called "infantile paralysis", because it was thought that this disease only attacked children. Adults, however, are also susceptible to this disease. Immunisation against this disease does not require injections. A vaccine which is given by mouth has been developed. This vaccine can be given separately or at the same time that the combined diphtheria-whooping cough-tetanus injections are given.

By law, every child on reaching the

This mobile clinic, employed by the State Health Department, immunises Chatsworth children against poliomyelitis.





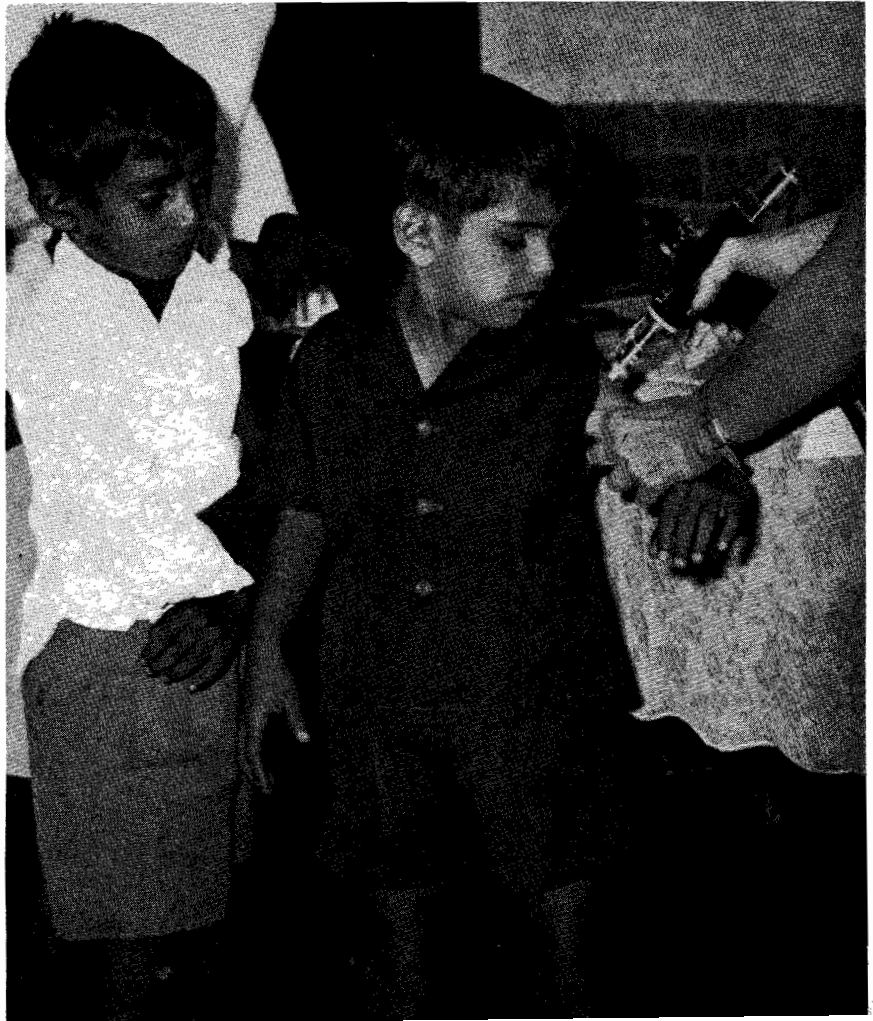
Above: Sister M. Frickel and her two assistants travel to various schools immunising pupils. Here a group of class I pupils at the M.L. Sultan St. Mary's School in Merebank, Durban, receive diphtheria/tetanus injections.

Right: Say! It really doesn't hurt! This ultra-modern jet gun forces vaccine through the skin under pressure, replacing entirely the formidable needle and syringe formerly used. The new jet method also immunises people at twice the rate of the needle and syringe. Despite all this, these youngsters still look rather apprehensive about the whole business.

age of three months, and every unimmunised immigrant under the age of 40 must be immunised against this disease.

WHEN SHOULD IMMUNISATION BE GIVEN?

The best time to immunise people is during childhood, when they are first exposed to germs at school and at play, and when they have little natural immunity. Immunisation, which is a safe procedure and seldom causes any upsets, should be started when a baby is three months old.



The following time-table is suggested :

Age.	Immunisation.
3 months.	First injection of the combined diphtheria - whooping cough - tetanus (DWT) vaccine and first dose of polio oral vaccine.
4½ months.	Second injection of the combined diphtheria - whooping cough - tetanus (DWT) vaccine and second dose of polio oral vaccine.
6 months.	Third injection of the combined diphtheria - whooping cough - tetanus (DWT) vaccine and third dose of polio oral vaccine.
7 months.	Smallpox vaccination.
18 months.	Booster or reinforcing injection of the combined diphtheria - whooping cough - tetanus (DWT) vaccine.
5 years.	Smallpox re-vaccination and booster injection of combined diphtheria - tetanus (DT) vaccine.
10 years.	Smallpox re-vaccination and booster injection of combined diphtheria - tetanus (DT) vaccine.
Every 5 years thereafter.	Smallpox re-vaccination and tetanus vaccine.

DOES PROTECTION (IMMUNITY) LAST ?

Because the vaccines against smallpox, diphtheria and tetanus do not provide life-long immunity, booster or reinforcing injections against diphtheria, whooping cough and tetanus and vaccinations against smallpox are necessary at special times. These booster injections and vaccinations are essential, and it is the duty of every mother to make sure that these are given to her child as often as they are recommended, both before and during the school years. Every mother should keep on hand the record of her child's immunisation.

But parents must look to their own health, too, and this is particularly so

This nine-month-old baby is at the Merebank Child Health Clinic, Durban, for her monthly check-up. Sister S. Jacobs discusses questionable aspects of the child's health with the mother.

when travelling into another country. The thousands of people who have travelled to Mecca and to other countries well know that they are required to have certain vaccinations when leaving one country for another in terms of International Sanitary Regulations.

The purpose of this is two-fold : to prevent the introduction of a disease into foreign countries and to protect the traveller against diseases

which are prevalent in that country. India, for example, requires compulsory vaccination against smallpox and cholera. If you are to travel through an area where yellow fever is prevalent, for example, Central Africa, then you must have this vaccination.

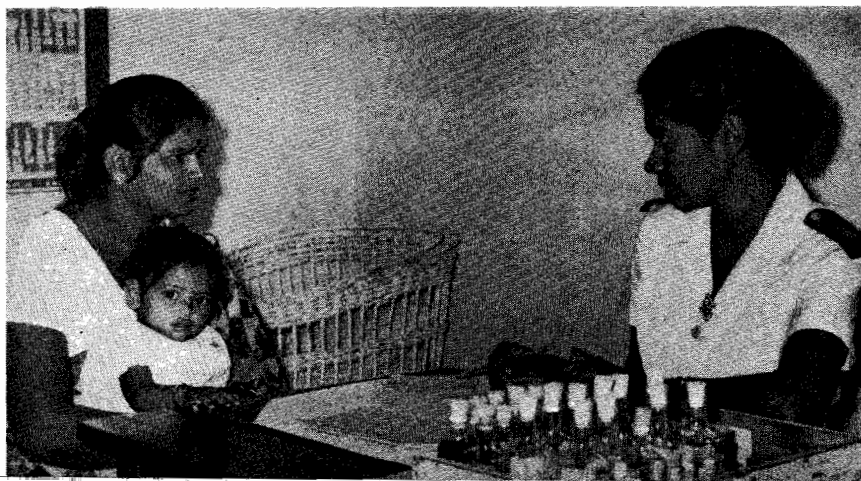
For international travel smallpox vaccination is valid for three years, cholera for six months and yellow fever for ten years.

As proof of vaccination the official international vaccination certificate must be completed in this country by the Port Health Officer or District Surgeon and presented to the health authorities in the countries to be visited.

To obtain these vaccinations Indians in Durban must visit the Port Health Office in the Department of Indian Affairs building on Tuesdays, Wednesdays and Thursdays at 10 a.m. Similar facilities are offered by the District Surgeon of Pietermaritzburg and also by the part-time surgeons in all districts of Natal. Similar facilities are available in the Transvaal.

To ensure that these facilities are available to all economic groups of the population immunisation against any disease is free unless a private doctor's services are used.

Too many people fail to understand or appreciate the importance of immunisation, or what immunisation is all about, and we are always a little afraid of the unknown. It is hoped that this article will provide a little extra insight — and allay any fears regarding immunisation.



Technical College builds for the future

College gains in autonomy, gets new teaching block



Mr R. C. Woodville performing the foundation stone-laying ceremony. Looking on is the Mayor of Durban, Mr Trevor Warman.

Mr M. E. Sultan, Vice-President of the College Council, welcoming visitors and guests to the foundation stone-laying ceremony.

THERE HAVE BEEN two red-letter days for the M.L. Sultan Technical College recently — the new status it has obtained under the Indians' Advanced Technical Education Act of 1968, which came into effect on 1st March this year, and the laying of a foundation stone for a new teacher training block at the College last month. Both are significant steps in the development of the College and have important implications for all connected with it.

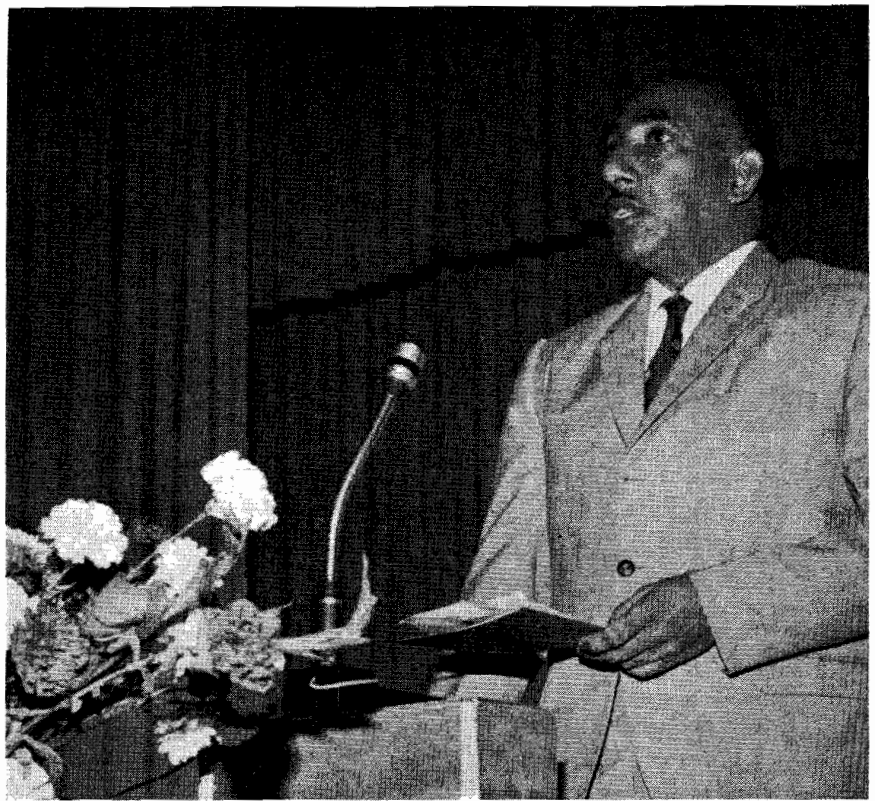
With effect from 1st March the College became an institution for advanced technical education under the terms of the above-mentioned Act.

Under the new Act the functions of the College will be to provide advanced technical education and training, teacher training, and also tertiary and other education on a full- or part-time basis.

The effect of this is that the College will gradually close its high school section and concentrate on post-school and specialised education that cannot be offered elsewhere.

IMPLICATIONS

Explaining the implications of the College's new status when he laid the foundation stone of a new teacher training block last month, the chairman of the College Council, Mr R. C. Woodville, told students: "Perhaps the most important aspect of it is that the Government realises fully that in this rapidly developing country of ours there is an urgent and ever-increasing demand for young people with a higher education; by that I mean an education standard in excess of the matriculation standard but at



Mr Woodville being garlanded by Mr A. M. Rajab, a member of the executive committee of the College Council.



A bouquet being presented to The Mayoress of Durban (Mrs T. Warmān) by Miss V. Sebastian, Vice-Chairman of the Students' Representative Council. Looking on (far right) is the Rector of the College, Mr A. Pittendrigh.

the same time not necessarily a university education with its degrees and research work.

"With this in mind the whole status of this College, in common with the leading technical colleges throughout the Republic, has been uplifted, and now colleges, such as the Cape Technical College, the Natal Technical College, the Pretoria Technical College, the Witwatersrand Technical College and our own M.L. Sultan Technical College, will be embarking upon courses of tertiary education. In so doing they will be playing their part in bringing to fruition the plan for which the Bill was enacted."

Mr Woodville added that the change-over required much careful planning and a great deal of ultimate expansion. As the only college for advanced education for Indian South Africans the M.L. Sultan College would have to set the pattern.

COUNCIL'S POWERS

Mr Woodville pointed out that the Government and executive authority of the College was, in terms of the new Act, vested in the College Council. The new Council had been appointed and came into operation in March.

"Naturally, the Council is a carefully planned and selected body which should have but one aim in view — and that is to work for the good of the College, its staff, its students and the Indian community who have such faith in this College," Mr Woodville said.

EXPANSION

Referring to the expansion that accompanied the planning of the College's future, Mr Woodville said the teacher training block was an example of this expansion.

"The building of our teacher train-

ing block is the first major step in our advancement towards tertiary education," Mr. Woodville stressed.

The building would comprise 12 class- or lecture-rooms, a teacher training laboratory and a gymnasium, as well as administrative offices.

Teachers trained at the College would become fully conversant with the use of the newest teaching aids and teaching methods, he added.

RESPONSE

Mr Woodville also expressed his admiration for the "wonderful way" in which those called upon for assistance had responded. Inside a month the College had raised R37,000, and with assistance from the Department of Indian Affairs had been able to begin the first phase of the expansion programme — the building of the teacher training complex, and also the alteration and extension of other projects.

At a subsequent dinner held by the College, a R100,000 Development Fund was launched to provide money for future building projects. Gifts to this fund will be invested to produce the required finance, so that the need for continuous appeals to the public will fall away.

OFFICIAL OPENING

The building of which Mr Woodville laid the foundation stone will be officially opened by the Minister of Indian Affairs, Mr Frank Waring, in September. The event will be tied up with the College's Founders' Day and an open day when work done at the College will be exhibited.

Mr Woodville also added that further plans for development had already been formulated.

Other speakers at the foundation-laying ceremony, in common with Mr Woodville, expressed their appreciation at the harmonious way in which the new Act, the regulations and the plans for re-organisation had been brought into operation, and thanked all concerned.

GAIN IN AUTONOMY

It is important to note that the M.L. Sultan Technical College has by the new Act gained in autonomy. The new College Council is the employer of the College staff and has full control of college affairs. The Department of Indian Affairs subsidises the College on its fee income and the College Council manages its affairs using the total funds available to it — which consist of the subsidy, fee incomes and grants and donations from various sources.

Obviously the creation of new courses can radically affect the running costs of the College and the subsidy which it earns. The College Council cannot unilaterally commit the Department of Indian Affairs or the Treasury to expenditure which they have not approved, and so the Council must seek this approval before introducing new courses at the College.

In the same way, if the College hopes to erect buildings using the 75 per cent. subsidy basis it must obtain prior approval from the Department of Indian Affairs and the Treasury before starting to build.

The College has now entered a new era and is expected to play an ever-increasing role in the development of the Indian community as well as in the economy of the country.

RESIDENCES

According to the College the establishment of men's and women's residences is at this stage of prime importance. This will enable more people to take advantage of the increasing number of courses being offered, and enable the College help fulfil the educational needs of the Indian community even better than in the past.



Guests of honour being escorted to the site of the new college block by Mr M. E. Sultan (left) included the Mayor of Durban, Mr Trevor Warman, and Mr Woodville. Mrs Warman can be seen in the left background.

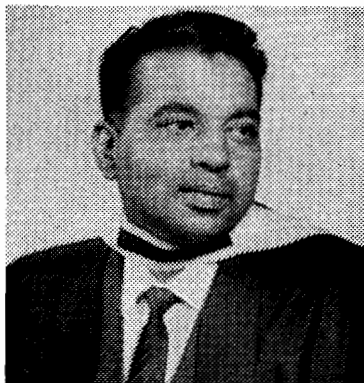


On behalf of the consulting architects for the building, Mr J. S. Simpson presents a ceremonial trowel to Mr R. C. Woodville to use in laying the foundation stone.

The Principal of the Greyville Primary School, Lenasia, in Johannesburg, Mr L. F. Sangaran, was recently awarded a M.Ed. degree by the University of the Witwatersrand for a thesis on the history of Indian education. He is reportedly the first Indian educationist in the Transvaal to be awarded the M.Ed. degree.

His thesis was entitled "An historical evaluation of Indian education in the Transvaal covering the period 1900 to 1968, with special reference to certain matters related to Indian education."

Mr Sangaran, who is well known in education circles in the Republic, holds two other degrees from the same university. His thesis is generally considered to be the most exhaustive investigation ever carried out in the field of Indian education in the province. It reflects the historical development and progress of Indian and Coloured education



from the days when the first Indians settled in South Africa.

Mr Sangaran intends carrying out further research into the early education of the Indian immigrants in Natal and the adaptability of Indians to a Western type of education for a Ph.D. at the same university.

The new Council consists of the following:

The Rector of the M.L. Sultan Technical College, Mr A. Pittendrigh;

A representative of the Durban City Council: Mrs. D. Powell;

Two representatives of the donors to the College, still to be elected by them;

Fourteen persons appointed by the Minister of Indian Affairs:

Mr R. C. Woodville,
Mr F. J. D. Heese,
Mr M. E. Sultan,
Mr G. Jackson,
Mr P. R. Pather,
Adv. W. H. Booysen,
Mr A. M. Rajab,
Mr H. H. Duphelia,
Dr M. B. Naidoo,
Mr K. P. Desai,
Mr J. B. Patel,
Mr D. Bhugwan,
Mr J. Naidoo,
Dr A. L. Smith;

the following representatives of bodies approved of by the Minister of Indian Affairs:

The M.L. Sultan Charitable and Educational Trust: Mr E. Seedat;

The Durban Chamber of Commerce: Mr U. P. Hargovan.

The Chamber of Industries: Mr L. van der Spuy;

The Natal Provincial Administration: Mr E. Stumpf;

The S.A. Indian Teachers' Association: Mr R. S. Naidoo;

The College Board of Studies: Mr M. Hean;

The University College for Indians: Prof S. P. Olivier.

Two Honorary Life Members: Mr T. M. Naicker and Dr Alan Taylor; plus two co-opted members yet to be appointed and another person to be appointed by past students when a past students' society is formed.



The ladies start the marathon very cheerfully but gay chatter became more and more difficult as the race progressed!

CHATSWORTH MILK MARATHON

More than 800 men, women and children took part in the Chatsworth Milk Marathon, a 12-mile walking race, last month.

The race, organised by the Durban Milk Publicity Council, started at the Chatsworth Unit 2 sportsfield and continued on a circular route in and around Chatsworth, with the finishing post back at the sportsfield.

A large crowd of enthusiastic spectators encouraged the competitors from various points *en route*, and eventually gathered on the sportsfield to cheer in the winners.

The winner of the men's section was Mr Luxmichund Soni, of the Hollies athletic team, who is a student at Springfield Teachers' Training College. He clocked a record time of 1 hour 32 minutes, thus greatly improving on his performance in last year's race when he came in eleventh.

Miss Molly Moodley, a Std 8 pupil at the Chatsworth High School, won the women's section of the marathon, completing the course in 2 hours 5 minutes.

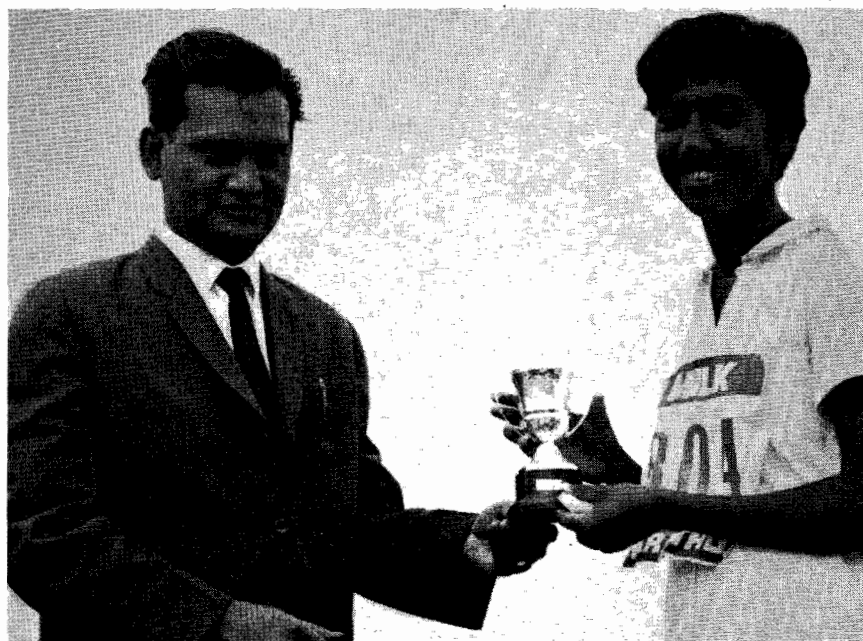
In the section for veteran men (those over 40) Mr J. Govender, who

just managed to qualify for this age group, did well to come in first with a time of 2 hours.

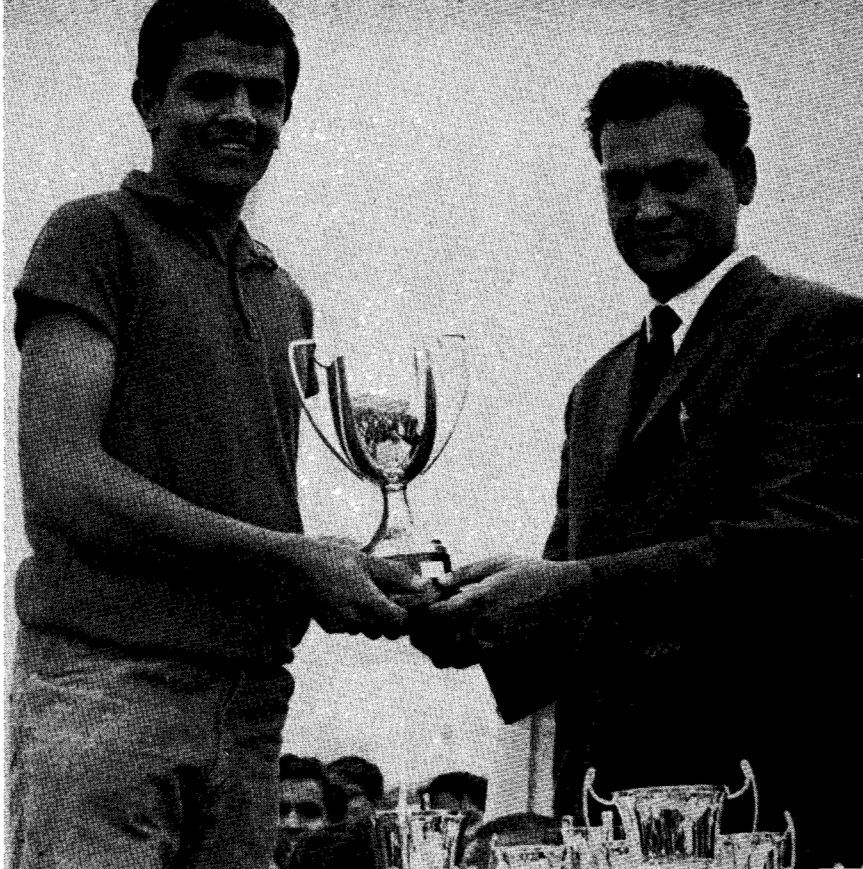
But it is to Mrs Ellamah Ramsamy that we take off our hats. This

spirited, 60-year-old grandmother finished well within the required time of 2 hours 50 minutes for the third year in succession. A trophy was presented to her for this grand achievement.

Mr R. Ori presents the trophy to the winner of the women's section, Miss Molly Moodley, who completed the 12-mile marathon in 2 hrs 5 mins.



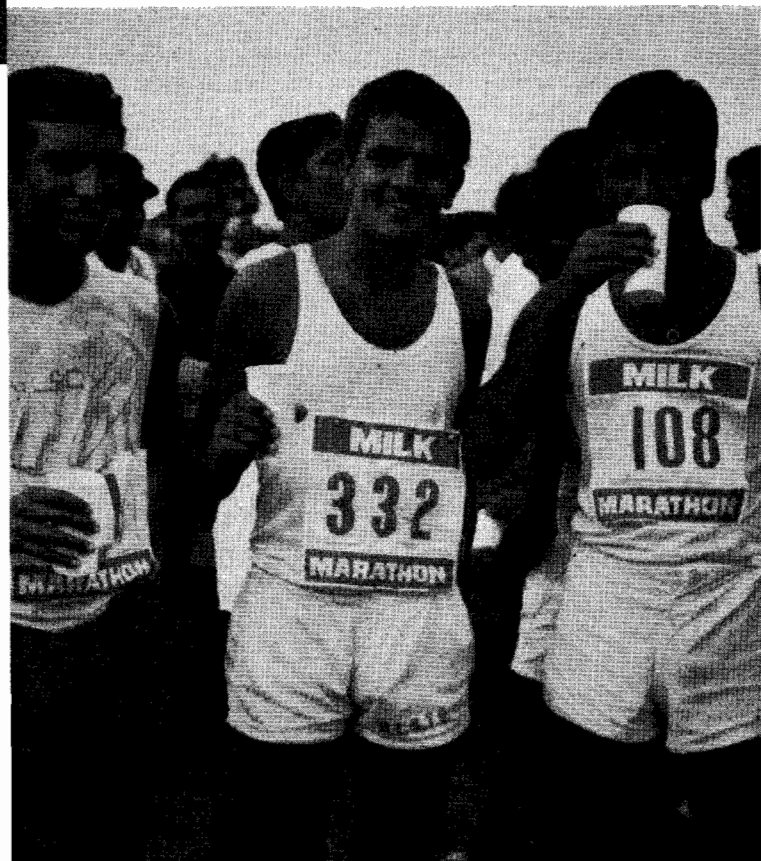
Right: Mr L. Soni, winner of the men's section of the Chatsworth Milk Marathon, receives his trophy from Mr R. Ori, Nutrient Educator for the Durban Milk Publicity Council.



Below, Right: Mrs E. Ramsamy, a 60-year-old grandmother, is awarded a trophy for completing the marathon within the required time for the third successive year. A grand achievement!

Below, Left: The men who took the first three places in the men's section of the race find milk a very refreshing reward:

*1st place: L. Soni (centre), 1 hr 32 m
2nd place: S. Chetty (left), 1 hr 50 m
3rd place: M. Mangla (right), 1 hr 55 m*



THE NEW MATHS by K. L. Reddy

IN THIS final article on the "new maths" we consider the basic properties or laws of arithmetic fundamental to mathematics.

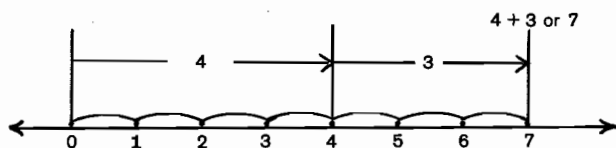
1. THE COMMUTATIVE PROPERTY

(i) Addition

Question: What does $4 + 3$ mean?

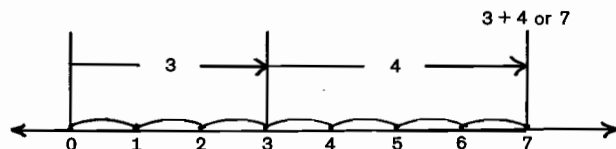
Answer: $4 + 3$ is the name or symbol for the number obtained by adding 3 to 4.

Let us interpret $4 + 3$ on the number line:



We first move 4 units to the right of 0, and then a further 3 units to the right of the point reached, locating a point with co-ordinate $4 + 3$ or 7.

A similar process is followed when adding 4 to 3. On the number line we first move 3 units to the right of 0, and then a further 4 units to the right, locating a point with co-ordinate $3 + 4$ or 7.



Question: Are these two processes the same?

Answer: No, as you can see by comparing the diagrams.

Question: Do $4 + 3$ and $3 + 4$ give the same result?

Answer: Yes. The answer in each case is 7.

Diagram A

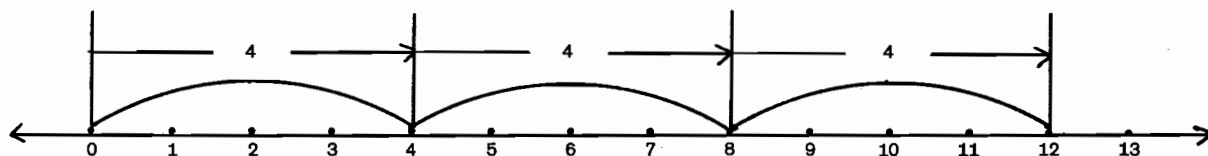
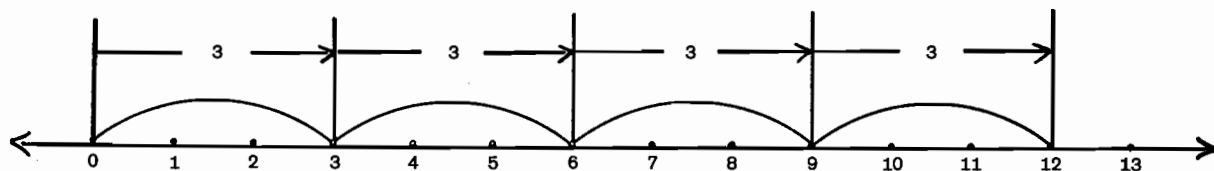


Diagram B



Therefore $3 + 4 = 4 + 3$ is a true mathematical sentence.

This sentence illustrates the *commutative property* of addition. This means that when two numbers are added the order in which they are added is immaterial. In other words, the sum of any two numbers is not altered if they are commuted or exchanged. (The word "commutative" is derived from the Latin word *commuto* which means "I change, I interchange or I alter".)

We may now state this property as follows:

For each replacement of a and for each replacement of b

$$a + b = b + a.$$

Note that this property of addition reduces the number of addition bonds by half.

(ii) Subtraction

Question: Does the commutative law hold for subtraction?

Answer: $7 - 4 = 3$
 $4 - 7 = -3$

therefore $7 - 4 \neq 4 - 7$ (the symbol $\neq$ means "is not equal to"), and the law does not hold for subtraction.

(iii) Multiplication

Consider 4×3 (4 multiplied by 3), which is a symbol for the number obtained by adding three 4's.

On the number line this is interpreted as taking the interval between 0 and 4 as the unit of measure and moving three such places to the right of 0, locating a point with co-ordinate 4×3 or 12. (see diagram A)

Question: Is $3 \times 4 = 12$?

Answer: (see diagram B)

Therefore $3 \times 4 = 12$.

Note that although the two multiplications are different

they terminate at the same point with co-ordinate 12.

Therefore $4 \times 3 = 3 \times 4$ is a true mathematical sentence.

It may be said that multiplication is commutative since any two numbers may be *commuted or interchanged without altering the product*.

We may generalize this property of multiplication by saying that for each replacement of a and for each replacement of b

$$a \times b = b \times a \text{ (or } ab = ba).$$

For example:

When $a = 5$, $b = 6$, then $5 \times 6 = 6 \times 5 = 30$.

When $a = \frac{1}{4}$, $b = \frac{1}{2}$, then $\frac{1}{4} \times \frac{1}{2} = \frac{1}{2} \times \frac{1}{4} = \frac{1}{8}$.

When $a = 0.5$, $b = 1.2$, then $0.5 \times 1.2 = 1.2 \times 0.5 = 0.6$.

(iv) Division

Consider the example $15 \div 3$ and $3 \div 15$.

$$15 \div 3 = 5 \text{ but } 3 \div 15 = \frac{3}{15} \text{ or } \frac{1}{5}.$$

It is, therefore, apparent that $15 \div 3 \neq 3 \div 15$. Division then, is not commutative.

Conclusion: Addition and multiplication are commutative, subtraction and division are not.

2. THE ASSOCIATIVE PROPERTY

(i) Addition

Now for a little test! Can you add the numbers 5, 6 and 7 *simultaneously*? Have you tried hard enough? Yes, it is impossible. We cannot add three numbers simultaneously however hard we may try. What we do is to choose *any two* of the numbers, add them and then add the third to the sum. Addition is always performed on two numbers and we therefore say that addition is a *binary operation*.

Consider the example $5 + 6 + 7$.

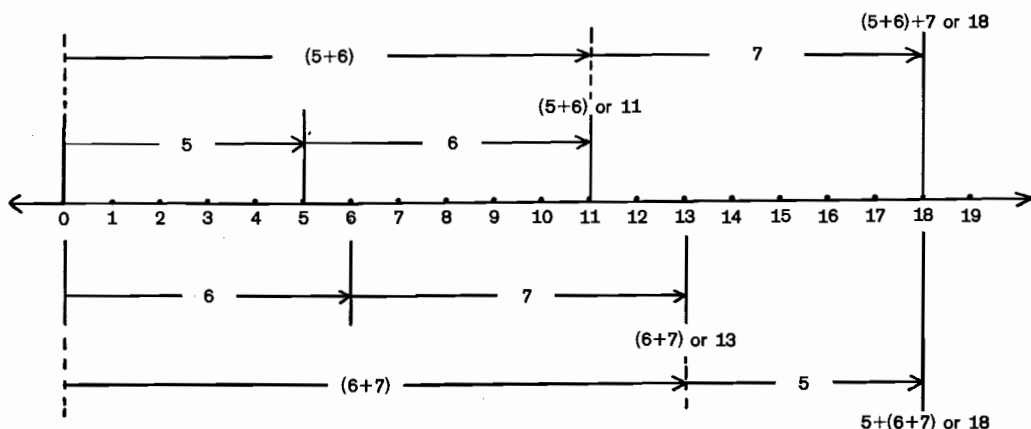
We may make the association $(5 + 6) + 7$, that is, add 7 to the sum of 5 and 6 OR we may make the association $5 + (6 + 7)$, meaning add the sum of 6 and 7 to 5. In each case the brackets indicate the numbers we are singling out to operate on first.

For example $(5 + 6) + 7 = 11 + 7 = 18$

and $5 + (6 + 7) = 5 + 13 = 18$;

therefore $(5 + 6) + 7 = 5 + (6 + 7)$ is a true sentence.

(see diagram below)



Similarly, $(3 + \frac{1}{2}) + \frac{3}{2} = 3 + (\frac{1}{2} + \frac{3}{2})$ and $(2.8 + 5.2) + 1.8 = 2.8 + (5.2 + 1.8)$ are true sentences.

Note that if we add the third number to the sum of the first two numbers the result is the same as when we add the sum of the second and the third numbers to the first number. This property is called the *associative property* of addition.

The generalization of this property is that for each replacement of a , for each replacement of b and for each replacement of c

$$(a + b) + c = a + (b + c).$$

The use of the two properties that we have discussed in choosing the simplest way to add mentally is shown in the following example:

$$\begin{aligned} 167 + (256 + 33) &= 167 + (33 + 256) \text{ by the commutative property of addition.} \\ &= (167 + 33) + 256 \text{ by the associative property of addition.} \\ &= 200 + 256 \\ &= 456. \end{aligned}$$

(ii) Multiplication

Question: Is multiplication a binary operation?

Answer: Yes, since we operate on two numbers at a time.

Question: How do we multiply the factors 4, 5, 6 in that order?

Answer: The multiplication can be done in two ways:

$$\begin{aligned} 4 \times 5 \times 6 &= (4 \times 5) \times 6 \\ &= 20 \times 6 \\ &= 120. \\ 4 \times 5 \times 6 &= 4 \times (5 \times 6) \\ &= 4 \times 30 \\ &= 120. \end{aligned}$$

Therefore $(4 \times 5) \times 6 = 4 \times (5 \times 6)$.

This illustrates the associative property of multiplication. For each replacement of a , for each replacement of b and for each replacement of c

$$\begin{aligned} (a \times b) \times c &= a \times (b \times c) \\ \text{OR} \\ (ab)c &= a(bc) \end{aligned}$$

Note that most people will find $9 \times (2 \times 35) = 9 \times 70$ much easier to perform than $(9 \times 2) \times 35 = 18 \times 35$.

(iii) Division

Consider the following example:

$$(48 \div 8) \div 2 = 6 \div 2 \\ = 3$$

$$48 \div (8 \div 2) = 48 \div 4 \\ = 12$$

therefore $(48 \div 8) \div 2 \neq 48 \div (8 \div 2)$.

This shows that the associative property does not hold for any three numbers under division.

3. THE DISTRIBUTIVE PROPERTY OF MULTIPLICATION

Rani collected some money from her classmates. On Monday six students gave her 18 cents each; on Tuesday four students gave her 18 cents each.

This is how she recorded what she collected:

$$18(6) + 18(4) = 108 + 72 \\ = 180.$$

Therefore R1.80 was collected.

Now consider these questions:

Did each student give the same amount?

Could Rani have added the number of students who gave her money and multiplied by the amount each gave?

Answer: Yes to both questions, and therefore Rani could have recorded her collection as follows:

$$18(6 + 4) = 18(10) \\ = 180.$$

Collected R1.80.

Thus although different methods are used to record the amount of money collected the result is the same. Therefore

$$18(6 + 4) = 18(6) + 18(4) \text{ is a true sentence.}$$

This example shows that *multiplication distributes over addition*. This property is called the distributive property of multiplication.

Further examples:

$$(i) 180(\frac{1}{2} + \frac{1}{3}) = 180(\frac{5}{6}) \\ = 150$$

$$180(\frac{1}{2}) + 180(\frac{1}{3}) = 90 + 60 \\ = 150.$$

$$\text{Therefore } 180(\frac{1}{2} + \frac{1}{3}) = 180(\frac{1}{2}) + 180(\frac{1}{3}).$$

$$(ii) 250(60 + 40) = 250(60) + 250(40) \\ 250(100) = 15,000 + 10,000 \\ 25,000 = 25,000$$

A generalisation of the distributive property is that for each replacement of a , for each replacement of b and for each replacement of c

$$a \times (b + c) = a \times b + a \times c$$

$$\text{that is } a(b + c) = ab + ac.$$

We now do some computations employing the distributive property.

Computation	Reason
(i) $7 \times 18 = 7 \times (10 + 8)$	18 renamed $10 + 8$
$= (7 \times 10) + (7 \times 8)$	distributive property
$= 70 + 56$	
$= 126$	
(ii) $207 \times 371 = (200 + 7) \times 371$	
$= 371 \times (200 + 7)$	commutative property
$= (371 \times 200) + (371 \times 7)$	distributive property
$= 74200 + 2597$	
$= 76797$	

Note that the distributive property holds for multiplication and division with respect to subtraction, as the following examples show:

$$(i) 8 \times 97 = 8 \times (100 - 3) \\ = (8 \times 100) - (8 \times 3) \\ = 800 - 24 \\ = 776$$

$$(ii) 174 \div 6 = (180 - 6) \div 6 \\ = (180 \div 6) - (6 \div 6) \\ = 30 - 1 \\ = 29$$

4. IDENTITY ELEMENTS FOR ADDITION AND MULTIPLICATION

Study the following simple additions:

$$3 + 0 = 3$$

$$7 + 0 = 7$$

$$15 + 0 = 15$$

Question: What conclusion can be drawn from these examples?

Answer: That zero (0) added to any number gives the same number again.

For this reason zero (0) is called the *identity element* for addition; that is $a + 0 = 0 + a = a$.

Question: What is the identity element for multiplication?

Answer: One (1) is called the identity element for multiplication because when 1 is multiplied by any number it yields that number again.

$$\text{For example: } 3 \times 1 = 1 \times 3 = 3$$

$$5 \times 1 = 1 \times 5 = 5$$

$$a \times 1 = 1 \times a = a$$

5. ADDITIVE AND MULTIPLICATIVE INVERSES

We call $-a$ the inverse element for addition or the additive inverse because for each replacement of a , $-a$ is a number which when added to a gives zero (0). Thus $a + (-a) = (-a) + a = 0$.

$$\text{For example: } 2 + (-2) = 0 \text{ and } 5 + (-5) = 0.$$

On the other hand the inverse element for multiplication or the multiplicative inverse is $1/a$ because for each replacement of a , $1/a$ is a number which when multiplied by a yields 1. Thus $a \times 1/a = 1$ ($a \neq 0$).

$$\text{For example: } 4 \times \frac{1}{4} = 1 \text{ and } 6 \times \frac{1}{6} = 1.$$

But remember that zero (0) has no multiplicative inverse because $1/0$ is not defined.

6. THE PROPERTY OF CLOSURE

The last property that we deal with is one that we have dealt with before but perhaps a little reminder won't go amiss! You may remember our learning that if we add any two whole numbers, or if we multiply any two whole numbers the sum or the product is always an element of the set of whole numbers. We say therefore that the set of whole numbers is closed under the operations of addition and multiplication.

This article concludes the series on the "new maths". There is much more that one could say on this subject, but that is the function of the text-books and courses arranged for teachers. We hope the series has given parents and those not directly connected with education but who wanted to know more about the subject, a working knowledge of what the new approach is all about.

NEW ATHLETIC TRACK AT CURRIES FOUNTAIN



Above: Mr R. Bijou, chairman of the Durban Indian Sports Ground Association, unveils a commemorative plaque at the opening ceremony of the new athletic track at Curries Fountain, Durban. The Mayor of Durban, Mr T. Warman, looks on.

Below: The Mayor of Durban, Mr T. Warman, cuts the tape to officially open the new athletics track at Curries Fountain. Seen with him are (left to right): Mr C. M. Bassa, Mr A. Khan and Mr R. Bijou.



MAY was a gala month for athletics in Natal, with three large meetings, highlighted by the opening of a new athletics track at Curries Fountain, Durban. The opening of the new track coincided with the 14th annual inter-school athletics competition for Durban schools. The other prominent athletics meetings held during the month were the Natal School championships and an athletics meeting between the Springfield College of Education, Durban, and the Transvaal College of Education.

The opening of the athletics track at Curries Fountain is seen by Indian sports administrators as an important boost for Indian sport in the Durban area. Built by the Durban City Council, the track was thoroughly tested by the many athletes at the opening ceremony, and it is hoped to hold a sports meeting there at least once a month.

In opening the new track, the Mayor of Durban, Mr Trevor Warman, praised the Durban Indian Sports ground Association for its efforts in furthering the interests of athletics among the Indian community. "Athletics has greatly increased in popularity over the past few years and I trust that much valuable use will be made of this fine track by young Indian athletes," he said.

At the opening the Mayor cut a tape to officially open the track and the chairman of the DISGA, Mr R. Bijou, unveiled a commemorative plaque.

According to officials local athletes are already showing an increasing interest in the sport now that the track is open, and more clubs are expected to affiliate.

Nine primary schools from central Durban took part in the athletic meeting held in the morning to commemorate the opening of the track, and in the afternoon, after the opening of the track there was another meeting between six clubs.

The six participating athletic clubs were Rosebank, Durban Heights,

Technical College, Springbok, Fordsburg and Alberton Callies.

The outstanding athlete of the day, Vivian Pillay, from the Technical College Athletic team, won the 200 metres senior event, dead-heated with K. Naidoo, from the Springbok Club, in the 100 metres, and also dead-heated in the 400 metres event.

The Technical College Club won both the senior and junior relay events.

The meeting was held in a happy spirit that epitomised the atmosphere



Mr F. T. Mahommed, a pupil of the Anjuman State Indian Primary School, Durban, receives the Victor Laudorum trophy from Mr R. Bijou for his good performance at the Inter-Primary School athletic meeting at Curries Fountain, Durban.

the organisers are hoping will continue in the future.

The highlight of the inter-Teachers' Training College athletic meeting at Curries Fountain on 26th April was the unofficial breaking of the South African schools' high jump record by Mr A. H. Haffejee. This first-year student broke the record by half-an-inch when he cleared the 5ft 9½ins mark.

Mr Haffejee is a member of the Springfield College of Education's team which competed against a team from the Transvaal College of Education. This is the third time that an inter-Teachers' Training College meeting has been organised between these two colleges.

Mr Haffejee was encouraged in his good performance by his team mate, Mr M. Peeters, who attempted the 5ft 9ins mark with him. Mr Peeters was placed second and Mr E. Bhoraj (Transvaal) was placed third in this high jump event.

Competition was stiff in a number of events. Mr P. Hiraman (Springfield), for example, came home with little time to spare in the men's 800 metres. Mr L. Soni (Springfield) was placed a close second with Mr S. Jagguan (Transvaal) third.

Miss S. Naidoo, a member of the Springfield College athletic team, clears the bar at the meeting between the Natal and Transvaal Education Colleges.



Mr V. Pillay (Technical College Athletic Club, right) and Mr K. Naidoo (Springbok Athletic Club) at the finish of the 100 metres sports event at the Inter-Club athletics meeting. The result was a dead-heat between the two athletes.

On the other hand, Mr L. Soni took an early lead in the one-mile event, which he maintained fairly easily to the finish. Two Transvaal students, Mr S. Jugevan and Mr A. Mahomed came in second and third respectively.

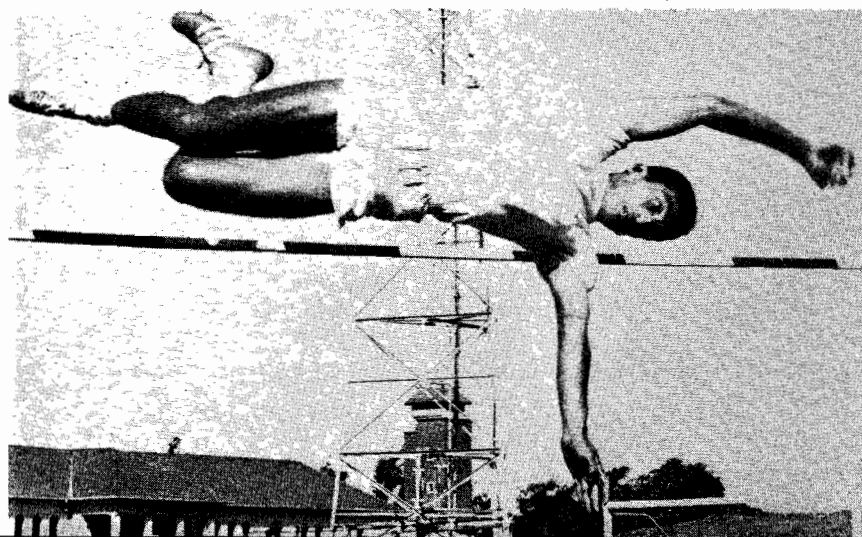
Few outside spectators attended the meeting but the colleges were well represented.

Sixty-five Transvaal students, accompanied by three staff members, arrived in Durban by train on the Friday

immediately preceding the meeting. The visiting team was accommodated at the homes of the Springfield College students as their guests.

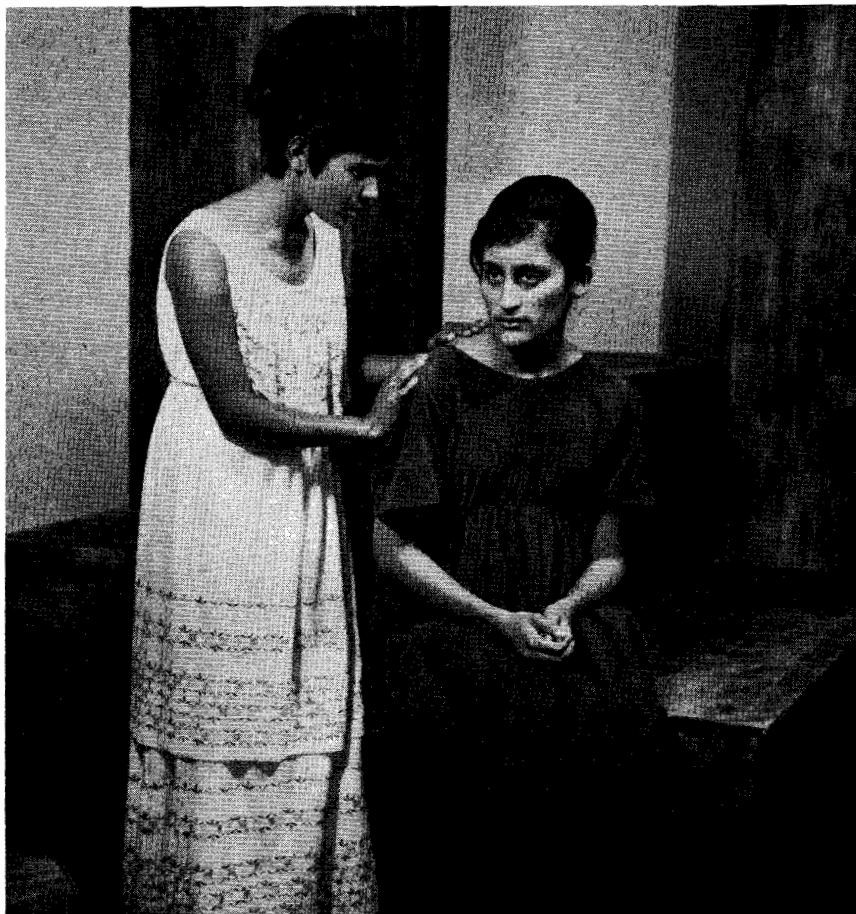
The Springfield College Students' Committee and Mr P. G. Naiker, chairman of the sports section, organised the week-end's activities with the co-operation of several staff members. The trip included a tour of Durban, a beach picnic party, a dance, and a luncheon at the College on the Sunday before the team returned to the Transvaal.

Mr A. H. Haffejee (Springfield College of Education) unofficially broke the South African schools' high jump record with a jump of 5ft 9½ins at the athletic meeting between Springfield College of Education, Durban, and the Transvaal College of Education.



"ANTIGONE"

- at the University
College



THE DEPARTMENT of Speech and Drama at the University College for Indians, Durban, recently produced a modern version of the old Greek "Antigone", rewritten with a timeless setting by the contemporary French playwright, Jean Anouilh.

The play is a prescribed text for first-year students doing the speech and drama course, and the play certainly helped give them a greater understanding of the drama.

Above: The prison scene in which Jonas, the First Guard (Y. Mansoor) takes down a farewell message from Antigone (S. Chetty) before she is led off to execution.

Left: Ismene (Vicki Dalipsingh) pleads with her sister Antigone (Sushila Chetty) not to go out and bury their brother as she knows that this act will lead to Antigone's execution.



Above: Jonas, the First Guard (Yosuf Mansoor) discusses the arrest of Antigone with a soldier of his watch (Abdulhak Essack, seated) while another soldier (Mohamed Omerjee) holds Antigone captive.

Below, Left: Near the close of the play a messenger (Morganathen Nadasen) tells of the death of Antigone and Haemon.

Below, Right: Haemon (Robin Singh) comforts Antigone (S. Chetty) when she comes in after burying her brother.



"Antigone" was written in 1942 when France was part of Hitler's Europe, and dictators and storm-troopers were the background of daily life.

In Anouilh's world there are two main kinds of human being; idealists who die rather than compromise over their ideals, and ordinary mortals who have come to terms with life and are therefore "contemptible". He poses the question of whether the ordinary people of the world *are* to be despised.

It is the insoluble problem of the holy laws of heaven versus the rules of everyday life.

The play forms part of the practical examination syllabus and was the first heavy dramatic vehicle that students of the Speech and Drama Department tackled.

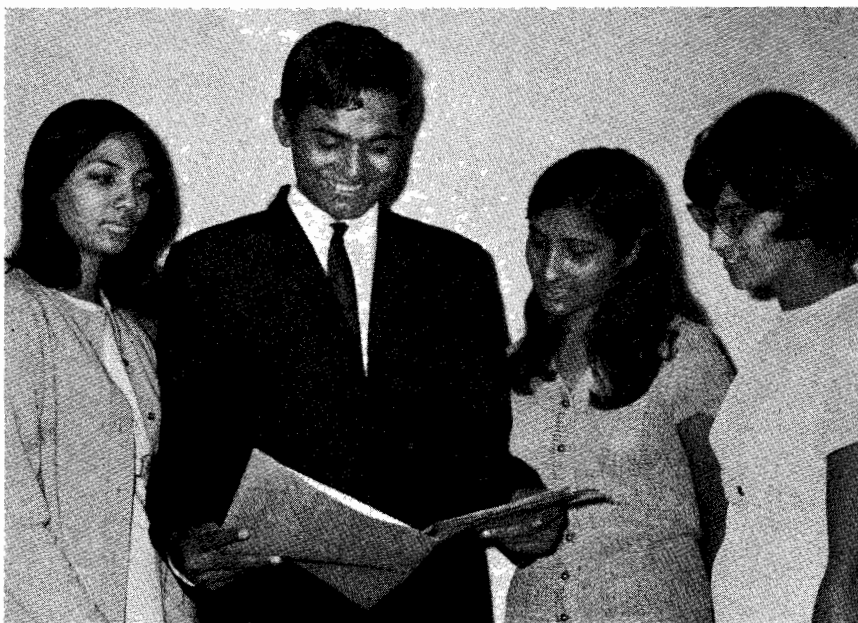
The external examiner, Miss Joan Little of the Speech and Drama Department of the University of Natal, praised the group concentration and dramatic mood created by the student cast. The production was also well received by the large audiences that attended.

Miss Sushiela Chetty, the first honours student in the Department, played the difficult title role.



The Deputy Secretary for Indian Affairs, Mr G. T. Niewoudt, with some of the students who enrolled for the second course of training for school secretaries, which started at the Durban offices of the Department of Indian Affairs last month. The students are, from left to right: Mr H. Bhana (Nizan Road Primary), Miss P. Pillay (Roodepoort High, Transvaal), Miss Z. Hassim (Laudium High, Pretoria), and Mr S. N. Singh (Settlers' Primary School, Durban).

PHOTO FLASHES



Four new probation officers were recently appointed in the professional welfare section of the Department of Indian Affairs' Regional Offices, Durban. They are (from left to right): Miss A. D. C. Ramfol, Mr V. Chiba, Miss D. Pillay and Miss O. Harduth.



Left: A tense moment in the match between Durban West "B" and Durban Central on the first day's play of the new season. Durban West eventually won 9-0.

Below: The annual presentation of trophies by the S.A. Police Indian and Coloured Sports Club took place towards the end of last month. Here Constable M. Ganas, captain of the Durban West "A" team, receives the Nu Jewellery Cup from Col. R. A. Coetzee, of the Criminal Investigation Division of the Police, for his team's success last season.

Below: At a dinner to celebrate the completion of the first business leadership course at the M.L. Sultan Technical College, Durban, Mrs M. Naidoo, the only woman in the class of 40, received a diploma from Mr M. E. Sultan. Her results were attained with flying colours.



THREE NEW INSPECTORS



Mr R. L. Charles

MR R. L. CHARLES was born in 1930 in Durban and educated at the Port Shepstone Indian School, Sastri College, and the University College of Fort Hare, where he obtained a B.Sc. degree with distinctions in both his major subjects, Physics and Chemistry.

He subsequently obtained a University Education Diploma through the University of South Africa.

In a long teaching career Mr Charles held posts at the Tongaat Indian High School and the Stanger Indian High School.

In 1959 he took up a post at the Swedru College, Ghana, as a senior science master and remained there for 3 years.

On his return to South Africa he was appointed as a science lecturer at the M.L. Sultan Technical College, and in 1967 he was promoted to head of the department of science at the Springfield College of Education.

In 1965 Mr Charles was awarded a United States-South Africa Leader Exchange Fellowship and attended the Science Foundation Summer Science Institute at Knox College, Galesburg, in Illinois, U.S.A. Here he made a special study of the Physical Science Study Committee (PSSC) and the Chemical Education Material Study (CHEM) approaches to modern science teaching in the United States.



Mr K. L. Reddy

MR K. L. REDDY, already familiar to readers as the writer of the series of articles on the "new maths", was born in 1920 in Durban and received his high school education at Sastri College, Durban.

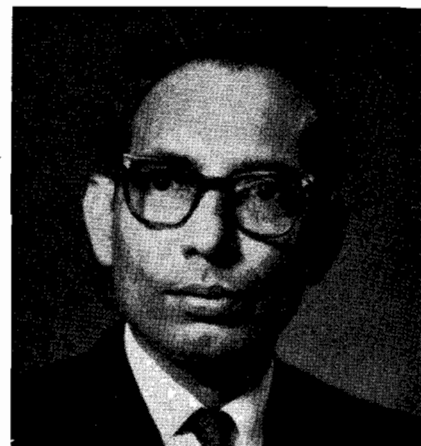
Here he also trained as a teacher, and then, whilst teaching at the Greyville Indian School, obtained through part-time study at the University of Natal, a B.A. Degree. He subsequently also obtained a University Education Diploma and a B.Ed. degree through the University of South Africa.

Mr Reddy has had wide and varied experience as a teacher at primary and high schools, and also at post-matric level. After teaching for a number of years at various primary schools, he also taught at Sastri College, the Clairwood State Indian High School, and the M.L. Sultan Technical College (in a part-time capacity).

In 1955 he joined the Springfield Training College, was a lecturer, senior lecturer and finally head of the department of mathematics, specialising in arithmetic, mathematics and teaching methods.

In 1968 Mr Reddy became principal of the Springfield 28 State Indian High School, the post he held until his appointment as an Inspector of Indian Education.

Mr Reddy is interested in sport and is a keen tennis player.



Mr R. Bangalee

BORN IN 1917 in Durban, Mr R. Bangalee received his high school education at Sastri College, Durban, where he also trained as a teacher. He started teaching in 1938, and has been in this vocation ever since.

Studying as a part-time student he obtained a B.A. degree through the University of Natal in 1938 and a University Education Diploma through the University of South Africa.

In 1943 Mr Bangalee joined the staff of his *alma mater*, Sastri College, and remained there until he was promoted, in 1952, as vice-principal of the Verulam High School. He was transferred to the Orient High School in 1959 and became principal of the Isipingo Beach High School (HC) in 1965. In 1966 he became principal of Avoca High School (HB) and remained as principal when the School was upgraded to HA status in July, 1968.

Mr Bangalee has been widely associated with various religious, educational and sporting institutions and associations. He is at present chairman of the Avoca Temple Committee, a trustee of the M.L. Sultan State Aided Indian Primary School.

He takes a keen interest in sport, captaining the Avoca Tennis Club and being an executive member of the Southern Natal Lawn Tennis Association.

Mr Bangalee recently toured Mauritius, India and Ceylon.