

A CRITICAL ANALYSIS OF TRANSFER,
ARTICULATION AND MASTER PLANNING IN
TERTIARY EDUCATION IN CALIFORNIA (1960 - 1988)
AND A RESULTANT MODEL FOR THE RSA

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AND A RESULTANT MODEL FOR THE RSA

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PREFACE

Without the friendliness and generosity of a large number of people in California it would not have been possible to undertake this project. I thank them and I salute them!

I would like to pay tribute to those academics, educational administrators and researchers throughout California and Southern Africa who assisted and guided me and who provided the research material which I needed.

I would also like to acknowledge with gratitude the readiness of the Council of the Cape Technikon to grant me sabbatical leave and financial assistance in order to visit California during the second half of 1988. I would further like to acknowledge the financial support rendered by the Institute for Research Development of the Human Sciences Research Council (HSRC) towards a research project in 1988 which led to a Report being accepted. This thesis is an adaptation of that HSRC Report.

Although this thesis really only provides a foundation and a theoretical basis for further research in the field of "articulation", "transfer" and "master planning", it is primarily intended to stimulate thought in this direction and stir the thoughts of those who make significant decisions at the tertiary education level, both locally, regionally and nationally.

If I succeed in generating interest in these topics and in provoking further analysis of related ideas, then I will have achieved my immediate objective.

Throughout this study, reference has been made to the full-fledged tertiary education institutions in South Africa, namely, the universities, technikons and the colleges of education. Technical colleges have not been included since they are not considered to be tertiary institutions and because they function at the post-school level. The same principle has been applied whenever tertiary (higher) education institutions in California are referred to. Only the community colleges, State universities, the University of California, and the recognised independent institutions, have been included.

GLOSSARY OF TERMS AND ABBREVIATIONS

1. TERMS USED IN THE UNITED STATES

NB It should be noted that key terms such as "articulation"; "transfer"; "an eclectic approach"; "mobility"; "master plan"; "accreditation"; "tertiary, higher or postsecondary education"; "comparative studies in education"; "community colleges"; "California State University"; "University of California", are fully defined in the text and have therefore not been included in this glossary.

Advanced Placement - selected high school pupils are allowed to study for credit at a college or university during their final two years at school

Advanced Standing - community college students are allowed, under controlled circumstances, to transfer to the third year (with credits) of a four-year college or university

Associate Degree - awarded after the completion of a required amount of credits at a community college - could be construed (under certain circumstances) as equivalent to about two years of a four-year degree at a college or university

Faculty - teaching/academic staff at a college or university

Fall - Autumn

Freshman - first-time entering student at a college or university

Grade-point average - marks achieved on a one to four or five scale throughout the student's period of study for a particular programme

High School Graduates - those who have successfully completed all requirements at high school level

Impacted Courses - fully subscribed and unable to accommodate more students

Junior - a third year student at a college or university

Lower-division - the first two years of a four-year degree programme at a college or university

Minority Students - all groups other than Caucasians e.g. Blacks, Hispanics, American Indians, etc

Native Students - those who enrol at the outset as freshmen at a college or university - usually contrasted with transfer students who come from other institutions

President - the Rector or Principal of a college or university

Segment - a part of tertiary education e.g. the community colleges in California are one of three public segments in the higher education structure

Senior - a final or fourth-year student who is studying for a degree at a college or university

Sophomore - a second year student who is studying in order to achieve a four-year degree at a college or university

Upper-division - the third and fourth years of a four-year degree programme at a college or university

2. ABBREVIATIONS

AB - Assembly Bill

AICCU - Association of Independent California Colleges and Universities

ASSIST - Articulation System Stimulating Interinstitutional Student Transfer

AUT - Universities and Technicians Advisory Council

BA - Bachelor of Arts

BComm - Bachelor of Commerce

Bus. - Business

BSc - Bachelor of Science

B Tech - Bachelor of Technology

CAN - California Articulation Number System

CATE - College for Advanced Technical Education

CCC - California Community College

CC - Community College

Cert. - Certificate

CMA - California Maritime Academy

CNAA - Council for National Academic Awards

Cond. - Conditional

CPEC - California Postsecondary Education Commission

CSU - California State University

CTP - Committee of Technikon Principals

CUP - Committee of University Principals

Dip. - Diploma

DC - District of Columbia

DEC - Department of Education and Culture

DNE - Department of National Education

D Tech - Doctor of Technology

DVC - Diablo Valley College

Educ. - Education

Exams - Examinations

Exemp. - Exemption

GE - General Education

Gen. - General

HDE - Higher Diploma in Education

HMSO - Her Majesty's Stationery Office

Hons - Honours

HSRC - Human Sciences Research Council

ICC - Intersegmental Coordinating Council

IFG - Institute for Research on Educational Finance and Governance

JMB - Joint Matriculation Board

m. - million

ME - Matriculation Exemption

MSc - Master of Science

M Tech - Master of Technology

NASOP - Nasionale Opvoeding

Nat. Dips. - National Diplomas

NATED - National Education

NHD - National Higher Diploma

No. - Number

NTC - National Technical Certificate

Ord. - Ordinary

para. - paragraph

Perf. - Performing

PhD - Doctor of Philosophy

RP - Republic of South Africa Publication

RSA - Republic of South Africa

SACPE - South African Council for Professional Engineers

SAPSE - South African Postsecondary Education

SATEC - South African Tertiary Education Commission

Sc - Science

SC - Senior Certificate

SERTEC - Certification Council for Technikon Education

Snr. - Senior

Std. - Standard

TPA - Transvaal Provincial Administration

Trans. - Transfer

UC - University of California
UCT - University of Cape Town
UK - United Kingdom
UNISA - University of South Africa
UP - University of Pretoria
US - University of Stellenbosch

VOL. - Volume

3. NUMERICAL ABBREVIATIONS

"2+2" - Two years at a high school followed by two years at a community college

"2+2+2" - The final two years at high school followed by two years at a community college plus two years at a university or four-year college, or alternatively, four consecutive years at a college or university after "graduating" from high school

SUMMARY

The main hypothesis underlying this study is the belief that the great emphasis on "transfer" and "articulation" in tertiary education in California contains lessons for the tertiary sector in the RSA. Such lessons can fruitfully be examined with a view to intelligent, selective adaptation.

In California an extremely flexible pattern of mobility exists between the four systems of tertiary education, namely the University of California (UC) (9 campuses), the California State University (CSU) (19 campuses), the Community Colleges (CCs) (106 campuses), and the Private/Independent sector (377 campuses). This pattern contrasts strikingly with the relatively inflexible approach in the RSA where transfer and articulation between the universities, technikons and colleges of education are not generally encouraged and do not occur too frequently.

The creation of a model in the RSA which incorporates the most constructive elements of the systems in California, is one of the primary objectives of this study. In the creation of this model cognisance has been taken of the many similarities and also the considerable differences in the economic, social, historical and physical conditions which exist in the RSA and in California. Every attempt has been made to avoid errors of "transplantation" which could easily take place. The key word in this study is "adaptation" and not the direct "transfer" of ideas since an eclectic approach, if applied too literally, can easily lead to an imposition of alien concepts.

This study is therefore aimed primarily at focusing attention on the need for greater "mobility" among the tertiary education sectors in the RSA and in stimulating constructive moves in this direction.

A secondary hypothesis underlying this study is the assumption that the 1960 Master Plan for Higher Education in California has proved successful and worthy of emulation in certain respects. This assumption has led to

an examination of the California Plan with a view to the possible adaptation of some of its successful principles - other than "transfer" and "articulation" - in order to formulate the basis for a much needed Master Plan for Tertiary Education in the RSA. Implicit in this secondary hypothesis is a brief analysis of those aspects of the California Master Plan such as budgeting, funding, examining, control of standards, and so on, which have contributed to the success which has been achieved in California during the last three decades. This analysis is inevitably followed by a consideration of these points in the South African context in order that any constructive ideas may be incorporated or adapted to the conditions prevailing in the RSA.

The universality of certain educational principles emerges clearly from this study as do the undeniable virtues of careful, logical studies of other educational systems in order that one may be in a stronger position to assess and improve one's own system.

OPSOMMING

Die vernaamste, fundamentele hipotese in hierdie studie is die mening dat die sterk klem op "oorplasing" en "artikulasie" in tersiêre onderwys in Kalifornië lesse bevat vir die tersiêre sektor in die RSA. Sodanige lesse kan met vrug beskou word met die oog op 'n intelligente, selektiewe aanpassing.

In Kalifornië bestaan daar 'n uiters buigsame vloeibaarheidspatroon tussen die vier tersiêre onderwysstelsels, naamlik die University of California (9 kampusse), die California State University (19 kampusse), die Gemeenskapskolleges (106 kampusse) en die Private/Onafhanklike sektor (377 kampusse). Hierdie patroon is in opvallende teenstelling met die relatief onbuigsame benadering in die RSA waar oorplasing en artikulasie tussen die universiteite, teknikons en onderwyskolleges oor die algemeen nie aangemoedig word nie en nie te dikwels voorkom nie.

Die skep van 'n model in die RSA waarin die mees konstruktiewe elemente van die stelsels in Kalifornië verenig word, is een van die hoofdoelwitte van hierdie studie. In die daarstelling van hierdie model is daar baie nou kennis geneem van die vele ooreenkomste en ook die aansienlike verskille in die ekonomiese, sosiale, geskiedkundige en fisiese toestande wat in die RSA en Kalifornië heers. Al die moontlike is gedoen om "oorplantingsfoute" wat so maklik kan insluip, te vermy. Die sleutelwoord in hierdie studie is "aanpassing" en nie die regstreekse "oordrag" van idees nie, aangesien 'n eklektiese benadering, indien te letterlik toegepas, maklik tot 'n misbruik van vreemde begrippe kan lei.

Hierdie studie is derhalwe hoofsaaklik daarop gemik om aandag te vestig op die behoefte aan groter "mobiliteit" in die tersiêre onderwyssektore in die RSA en om konstruktiewe beweging in hierdie rigting te prikkel.

'n Sekondêre hipotese onderliggend aan hierdie studie is die opvatting dat die "1960 Master Plan for Higher Education in California" suksesvol geblyk het en verdien om in sekere opsigte nagevolg te word. Hierdie opvatting het gelei tot 'n ondersoek van die "California Plan" met die oog op die

moontlike aanpassing van sommige van sy geslaagde beginsels - benewens "oorplasing" en "artikulasie" - ten einde die basis vir 'n baie nodige meesterplan vir tersiêre onderwys in die RSA te formuleer. Hierdie sekondêre hipotese sluit in 'n kort ontleding van daardie aspekte van die "California Master Plan" soos begroting, fundering, eksaminering, beheer van standaarde, ensovoorts, wat bygedra het tot die sukses wat die afgelope drie dekades in Kalifornië behaal is. Op hierdie ontleding volg noodwendig 'n oorweging van relevante aspekte in die Suid-Afrikaanse konteks sodat enige konstruktiewe idees met die heersende toestande in die RSA verenig of daarby aangepas kan word.

Die universaliteit van sekere onderwysbeginsels blyk duidelik uit hierdie studie, nes die onmiskenbare deugde van 'n nougesette, logiese studie van ander onderwysstelsels ten einde 'n mens beter in staat te stel om jou eie stelsel te evalueer en verbeter.

CHAPTER ONE

BROAD FRAMEWORK OF RELEVANT THEORY AND RESEARCH

1. LITERATURE OVERVIEW

1.1 California

The main sources of information within the context of tertiary education planning in California are contained in the two documents entitled: (a) A Master Plan for Higher Education in California 1960-1975, and b) The Master Plan Renewed - Unity, Equity, Quality, and Efficiency in California Postsecondary Education, July 1987.

These publications provide a summary of many of the relevant theories and research which preceded the 1960 Master Plan and the very recent updated approach in the Renewed Master Plan during the mid-1980s.

What emerges very clearly in both documents is the centrality of the concepts of "articulation" and "transfer" and the very specific provision which has been made for student mobility.

Another major source of theory and statistical data - in fact the main research findings in California of the last 25 years - is to be found in the numerous publications of the California Postsecondary Education Commission (CPEC). This agency was created by the State in 1974 and its mandate was to co-ordinate and plan for postsecondary education in California and to ensure that the State's resources are utilised effectively. It also advises on statewide educational policy and funding. The CPEC provides a regular source of authoritative articles, papers, and major publications which have provided the single, most-important source of information for this thesis.

A wide variety of journals, books, unpublished material (including minutes of confidential meetings), have been gleaned from libraries all over

California and have been useful adjuncts in the compiling of this study. All references or information taken from the many different sources have been meticulously recorded and listed in the "List of References" in order to benefit other researchers in the field.

1.2 The Republic of South Africa (RSA)

In stark contrast to California, the RSA has a dearth of information relating to "articulation", "transfer", and "mobility" which is indicative of the fact that such concepts have not been developed or regarded as important during the first century of tertiary education in this country.

Information has been extremely difficult to obtain and this thesis has revealed a definite need for detailed studies of these concepts. The population in the RSA is gradually becoming more mobile and, concomitant with this increase, the need will develop for greater articulation between tertiary education sectors and institutions.

The somewhat dated, nonetheless relevant, views expressed in the Report of the Commission of Inquiry into Universities (1974), have provided a foundation for the making of assumptions within the RSA. One question which inevitably arises during an examination of the so-called Van Wyk de Vries Report, is the following: Why did educators and educational authorities virtually ignore references made to "mobility" amongst tertiary education institutions?

Other literature sources have been provided by very brief references to the topic in official Department of National Education (DNE) publications and in reports issued by the Human Sciences Research Council (HSRC) during the 1980s and very recently by the Committee of Technikon Principals (CTP).

It is disturbing to note that very little reference was made to articulation, transfer or mobility in the 1987 Report of the Committee of University Principals (CUP) entitled Macro-Aspects of the University within the Context of Tertiary Education in the RSA.

Despite appeals to universities and the CUP, very little data on student

mobility has been made available. This fact suggests either a lack of concern for this topic or an ignorance of the need for such data in order to better meet the needs of the future - particularly in a developing country.

This study is intended to stimulate a greater awareness of this field and lay the groundwork for more concerted research efforts during the next few years.

2. THE CENTRAL THEORETICAL PROBLEM

The study undertaken in this thesis is a part - a significantly important part - of the whole issue worldwide of catering for individual and local needs in education.

Although the main thrust of this thesis revolves around the concept of "mobility" in tertiary education as it has evolved during the last thirty years in California, this topic nonetheless has significance for South Africa and for other nations with sophisticated education systems.

Allied to the reasoning underlying the development of a particular education system in California is also the issue of the devising of an appropriate "master plan" which will provide a framework within which the various colleges, technikons, and universities in the RSA can function.

It is very clear, therefore, as this thesis unfolds, that the development of California's Master Plan for Higher Education resulted from a need to create a model which was conducive to, and which catered for, the great amount of personal and employment mobility in the social sense, and the needs of the individual to vary his direction, pace and place of study and to be "mobile" in the educational sense.

The more one examines the situation in California, the more the question arises: In what way can their experiences be of benefit to those involved in tertiary education in the RSA?

The concepts which therefore emerge, and which are analysed in this thesis, include those of identifying the needs of an educational community at the tertiary level (in a local or national sense), of providing adequate options and opportunities for tertiary education students (of all ages), and of the creation of an appropriate framework (master plan) at the tertiary level in which the various parts can conveniently be housed and co-ordinated.

The specific, theoretical problem which is central to this study is the development of an appropriate model for tertiary education in the RSA. Such a model will be required to provide greater articulation between the three main sectors and to promote more transfer and accreditation between sectors and institutions. In devising a solution (model), an effective framework within which it can function will also have to be constructed. This is a secondary, theoretical problem which underlies the assumption that greater mobility in tertiary education will be beneficial.

3. DEFINITION OF CENTRAL CONCEPTS

The central concepts which are examined include those of mobility, articulation and transfer, master planning, accreditation, tertiary or higher or postsecondary education, the significance of a comparative study with a view to adaptation, and the view that an eclectic approach is to be commended. The following definitions are provided by the author in order to qualify their use throughout this study.

3.1 Mobility

The term "mobility" is used throughout this study as describing an approach in tertiary education which is not rigid but which allows change in programme, and controlled movement from one system or institution to another. It is understood that such mobility can only occur (lead to accreditation) under clearly defined circumstances and that deviations from those norms could result in delays and the imposition of additional requirements in order to preserve standards and protect students who enrolled initially at the receiving institution.

3.2 Articulation and Transfer

"Articulation" is a term used mainly in California and in other parts of the United States. It implies a joining of parts (institutions or sectors) and refers to agreements which provide links between similar programmes offered at various institutions with a view to accreditation. Such articulation agreements are the backbone of the tertiary education system in California and exist in large numbers. These agreements are the main means of promoting mobility/movement between institutions and sectors in California.

"Transfer" is allied to articulation and is used to indicate the movement, usually with full or part credits for work completed, to another institution within the same sector or in another sector. Transfer is one of the basic provisions of an articulated system and is fundamental to the whole structure of tertiary education in California and in many parts of the United States.

3.3 Master Plan

Many countries have created so-called "Master Plans" for their whole education systems. In some instances, for example, the Robbins Report in the United Kingdom, and the Martin Report in Australia, tertiary education has been singled out for special attention.

Particular reference is made in this study to the Californian experience over the past 30 years. In this State a carefully structured system has been developed and implemented. It has been used as a possible model for the adaptation of the structure of tertiary education in the RSA.

3.4 Accreditation

"Accreditation" is used to refer to the transfer of credits, acquired by a student in one institution, to another institution. It usually implies that the receiving institution has accredited the programme or part thereof and that the student will not suffer any undue delays in the

achievement of his goals. In most instances accreditation is only allowed up to a particular point in a programme, for example, in the RSA universities only grant up to 50 percent of the credits needed to complete a bachelor's degree.

3.5 Tertiary, Higher or Postsecondary Education

These three words, namely, "tertiary, higher, or postsecondary" have been used interchangeably throughout this thesis. Each indicates that a student has completed all his high school requirements and has advanced to the next level of education. There is no hierarchy attached to these words and the assumption is that they are indicative of the same level of education. The word "postsecondary" has been used in the Californian context and with its American spelling, since it appears frequently in books, journals and articles in that State. Since the main source of reference for this study has been derived from the California Postsecondary Education Commission, it seemed natural to preserve its use and spelling in the form used most often in California.

3.6 Comparative Studies in Education

Since the fundamental concepts underlying comparative studies in education are used in this study, the need arises for a brief explanatory note.

Many years ago, in 1902, Sir Michael Sadler firmly rejected the idea of direct institutional borrowing from other countries when he stated:

"The real value of the comparative study of institutions lies, not in the discovery of devices and appliances which can be transferred from one country to another but in realising what is the spirit which has made a foreign institution great, and then in finding means to cultivate that spirit at home " (Sadler, 1902 : 56).

Noah and Eckstein refer in their writings to a well-known authority in the field of comparative education, namely, Nicholas Hans, and they quote him as follows:

"It (i.e. Comparative Education) permits us not only to compare existing systems but to envisage reform best suited to new social and economic conditions Comparative Education quite resolutely looks into the future with a firm intent of reform" (Noah and Eckstein, 1970 : 48).

From the quotations above one can realise that the primary objective in this comparative study of the tertiary education systems in California and the RSA, is one of reform and adaptation with a view to improvement. As Sadler has stated above, it is also likely that if one endeavours in a sympathetic spirit to understand the real working of a foreign system of education, one should in turn find oneself better able to enter into the spirit and tradition of one's own national education.

3.7 An Eclectic Approach

Why should one try to re-invent the wheel? Such wasteful effort merely replicates that which exists already and does not make rational use of the findings and labours of others.

Since California has already done a great deal of research, during the last thirty years, on the concepts of "articulation", "transfer", and "mobility", it seems unwise to repeat all those efforts. In this instance an eclectic approach - or selecting ideas from various sources - is less costly and more meaningful. Once the ideas have been identified, the research done on them can be utilised. Thereafter the adaptation of those ideas for use in a different environment can be undertaken.

4. ASSUMPTIONS UNDERLYING THIS RESEARCH

The main assumption underlying this Report is that the system of tertiary

education in California has developed and refined the concepts of "master planning", "articulation", "transfer", and "student mobility" to a very advanced stage therefore valuable lessons can be learned from the successes which have been achieved. This basic assumption is corroborated by authoritative opinions and research data and is not merely based on speculation.

Another fundamental assumption is that since success has been achieved in California, it would be beneficial to examine those concepts within the context of tertiary education in the RSA with a view to prudent adaptation.

Underlying these assumptions is the view that the two systems, namely, in California and the RSA, have some similarities and some differences, yet the principles involved in the provision of a flexible, high standard of education at this level will nonetheless be equally applicable to either California or the RSA.

4.1 Similarities

California

RSA

Population: 28 m. in 1988

32 m. in 1988

Ethnic mix: Diverse - White, Japanese, Chinese, Asian Indian, Filipino, Korean, Chicano, Latino, Vietnamese, American Indian, Black

Diverse - White, Indian, Coloured, Black (many tribal divisions), Chinese, and others

Tertiary Education: Sophisticated, diverse, highly developed

Sophisticated, diverse, fairly well-developed

Economy: Industrial, agricultural, information industry, "high-tech"

Mineral-based, agricultural, increasingly industrialised

Aspirations: Highly sophisticated money and educ. status, internationalism

1st World, money and educ. status, becoming more sophisticated, wider trade links

4.2 Differences

California

RSA

Area: Smaller than RSA

Larger than California

Wealth: Immensely wealthy - based on dollar strength

Weaker than California despite mineral wealth

Std. of living: Very high for most

Low for vast majority

Mobility: Move frequently (both job and abode and education)

Not very mobile, moves less likely

Education: Easily available up to high level - more money provided

Low level for vast majority - less money available

The similarities which emerge indicate that the ethnic mix and the sophistication of the tertiary education systems of California and the RSA are not too far removed for possible adaptation and implementation of selected ideas.

5. THE RESEARCH HYPOTHESIS

The central theoretical postulation has been formulated on the basis of an identified need in the RSA for greater movement or flexibility between tertiary education sectors. Furthermore it has been assumed that this need may partially be met by the adaptation of parts of the system provided in California.

The fundamental hypothesis is therefore the following:

Since the tripartite tertiary education system in California appears to be successful and effective, and furthermore since the system offers a good measure of student mobility and other advantages, the system contains elements which are worth examining and adapting for possible implementation in other systems.

A secondary hypothesis underlying this study may be summed up as follows:

The 1960 Master Plan for Higher Education in California has proved successful and worthy of emulation in certain respects. Educators in the RSA can therefore benefit by an examination thereof with a view to the adaptation of some of its soundest principles - in addition to "articulation" and "transfer" - in order to formulate the basis for a total strategy or master plan for tertiary education in the RSA. Furthermore an analysis of a number of the aspects of the Master Plan in California such as funding, examining, and control of standards, which have contributed toward its successes, will prove useful in the development of plans for the improvement of tertiary education in the RSA.

6. OBJECTIVES OF THIS PROJECT

At the conclusion of this thesis the reader will have been made aware of the following aspects of tertiary education:

- * The importance of articulation and transfer within the system in California
- * The advantages and disadvantages attaching to such a system
- * The necessity for a comprehensive master plan for all aspects of tertiary education

- * The rigidity of the sectors in the RSA and the lack of mobility
- * The lack of a co-ordinated master plan for tertiary education in the RSA
- * The possibility of improvements in the system in the RSA illustrated by a model
- * The need for a greater awareness of constructive change in other parts of the world
- * The need to consider adaptation of useful ideas from elsewhere in order to achieve greater flexibility in the RSA
- * The necessity for an approach which is not bound by the past and which accommodates student aspirations and capabilities

6.1 Research Design

The execution of this project in California was hindered by a number of factors which included the following:

- * Lack of money owing to the poor exchange rate of the Rand against the US dollar
- * Prejudice against researchers from the RSA and limited access to some campuses and staff
- * Inability to visit far-flung campuses because of the costs of car-hire and travel
- * Inability to get students and staff to complete questionnaires owing to anti-RSA pressure
- * Inability to purchase appropriate books and

journals and other materials owing to high costs

Within the RSA a number of inhibiting factors were also present:

- * Lack of data on student transfer patterns and an unwillingness to divulge them even when they exist
- * Vested interests and longstanding traditions which have kept apart the three basic sectors of tertiary education
- * Prevailing ignorance about the possibilities which do exist for articulation and transfer
- * Limited time available for such a daunting task - four months spent in California used up available leave and left no time or money for movement within the RSA in order to collect data

The inhibiting factors mentioned above have resulted in a research design which is partly explanatory, partly descriptive, and partly predictive. The work has been based almost entirely on highly reliable data-information sources such as the publications of the CPEC whose validity cannot be doubted.

6.2 Methodology

Owing to the factors mentioned above, the methodology has been unsophisticated and has basically entailed an exhaustive examination of every available book, journal or article on articulation and transfer in California and in the RSA.

After the identification of the most appropriate material it has been summarised and sifted in order to finally arrive at those parts or quotations which help to achieve the objectives mentioned above.

Another method which bore useful results was a series of visits to

carefully identified repositories of information. These included the CPEC central offices and library in Sacramento, the head office of the California Community Colleges (CCC) also in Sacramento, the statewide offices of the California State University (CSU) in Long Beach, and the systemwide administrative centre of the University of California (UC) situated in Berkeley. These visits resulted in a large number of publications (including books) being provided free-of-charge. These items formed the basis of the examination which followed.

Since opportunities in the RSA were very limited, a decision was made to limit data collection to the Western Cape, Natal and the Transvaal on the assumption that these areas would prove fairly typical of the rest of the country. The data collected from these sources has been verified by the heads of the units where the data was derived.

The data-information was gathered by means of questionnaires and further verified by personal interviews with as many as possible of the persons involved.

The representativeness of the sources is not relevant since such small numbers of people had actually experienced "transfer" that they could easily be traced (i.e. those in the Western Cape) and asked to provide direct information.

7. ADVANTAGES OF ARTICULATION AND TRANSFER

Fundamental to this whole study has been an awareness of the fact that people cannot easily be regimented and that they remain essentially individualistic in their approach to tertiary education.

It is a fact that many students change their minds during a programme and wish to alter direction, that students dislike a particular approach to a programme and that disillusionment sets in. It is a fact that personal circumstances change owing to a parental change of job and that a move from one institution to another, even in mid-stride, is often necessitated. It is a fact that some students grow to dislike an institution and the teaching staff and therefore wish to attend another

institution. Some students deliberately choose to move to another city in order to be exposed to a new disciplinary approach or in order to experience a different environment. This could also be viewed as a maturation process of the student concerned.

Such mobility of abode and regular change of institution is all too common in California hence the fact that an essential tenet of its Master Plan is that of "articulation" and "transfer".

The student population at tertiary level in the RSA will undoubtedly become more mobile in all senses of the word, and the provision of greater "articulation" and "transfer" between sectors and institutions will anticipate such changes and accommodate many of them.

After the provision of a logical articulation system linked to the accreditation of appropriate parts of a programme, a student in the RSA will be able to move more freely from province to province and from sector to sector. The great advantage of such a system is that when a student discovers that he/she is not really suited to a programme or institution then the change that needs to be made will not be as traumatic since it will be able to be made with a good measure of accreditation.

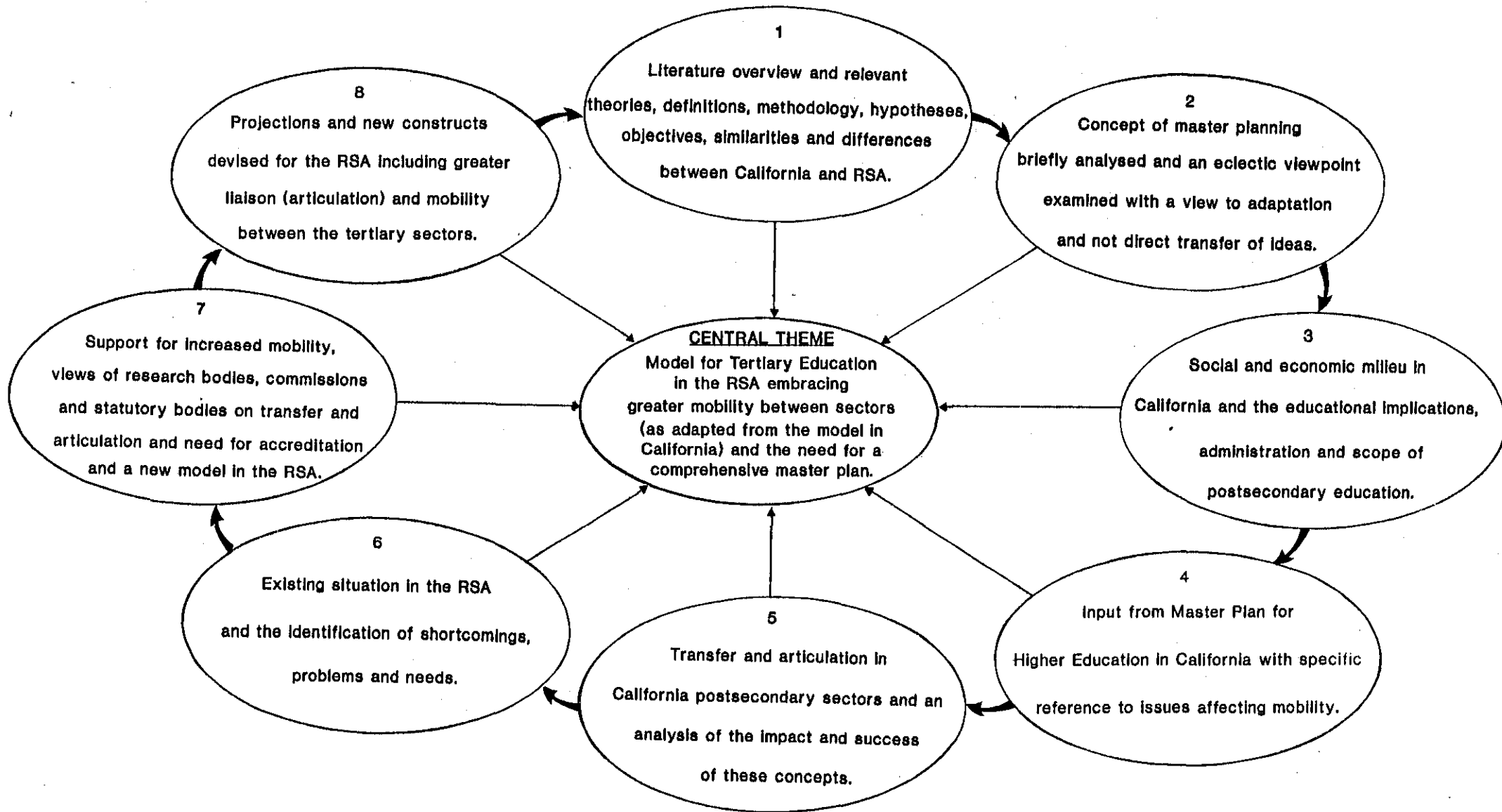
8. DIAGRAMMATIC REPRESENTATION OF RESEARCH CONSTRUCT

In order to summarise this chapter the following diagram indicates how the thesis is constructed and how each individual chapter links up with the whole concept.

This diagram therefore takes the place of a review of this chapter which would otherwise have been provided at this stage.

DIAGRAM 1:

DIAGRAMMATIC REPRESENTATION OF RESEARCH CONSTRUCT



CHAPTER TWO

THE ADMINISTRATION AND SCOPE OF POSTSECONDARY EDUCATION IN CALIFORNIA

FOREWORD

The system of tertiary education in California is substantially an unknown entity to the majority of educators in Southern Africa. For this reason it has been deemed essential to provide an introductory chapter which summarises the main administrative arrangements in that State and provides a background for an analysis of transfer and articulation in California.

The fact which emerges most clearly from this chapter and from the ensuing chapters on California, is the powerful influence which this vast system of higher education has exercised on many other States in the United States. So large and powerful is the system in California that its influence has extended to many nations in the Pacific Rim and further afield. The importance and significance of the California system has been a major contributory factor in its selection as a basis for this study as has its highly developed model of transfer and articulation amongst the three basic types of institution at the tertiary level.

1. EXISTING STRUCTURES AND THEIR EVOLUTION

Postsecondary education in California is provided by the three public segments - the University of California (9 institutions), the California State University (19 institutions), and the California Community Colleges (106 institutions) - and an array of private colleges, universities, professional institutions, and technical and vocational institutions. Each of the public segments has a governing body that is responsible in some degree for statewide policy direction and management with the UC's Board of Regents having the greatest authority and the Board of Governors of the California CCs the least. In addition there are two relatively small State institutions, the California Maritime Academy and the Hastings College of Law, which have their own boards of directors.

The private institutions have their own voluntary associations but operate under their individual governing boards or, in the case of proprietary institutions, business organisations. Although commonly considered to be a single "segment" of postsecondary education, the private institutions might more usefully be divided among at least three or more segments. The Private Postsecondary Education Division of the State Department and the Council for Private Postsecondary Education share responsibility for the minimal supervision of private institutions that the State has undertaken.

Both the public and private institutions fall within the scope of the California Postsecondary Education Commission's responsibility, although that agency is principally concerned with the public institutions as a consequence of the manner in which its statutory functions and responsibilities have been prescribed. State financial aid for students attending both public and private institutions is administered by the Student Aid Commission, an independent agency with no direct link to the CPEC or the institutional governing boards (Commission, August 1987 : 68).

1.1 The Public Institutions

1.1.1 University of California (UC)

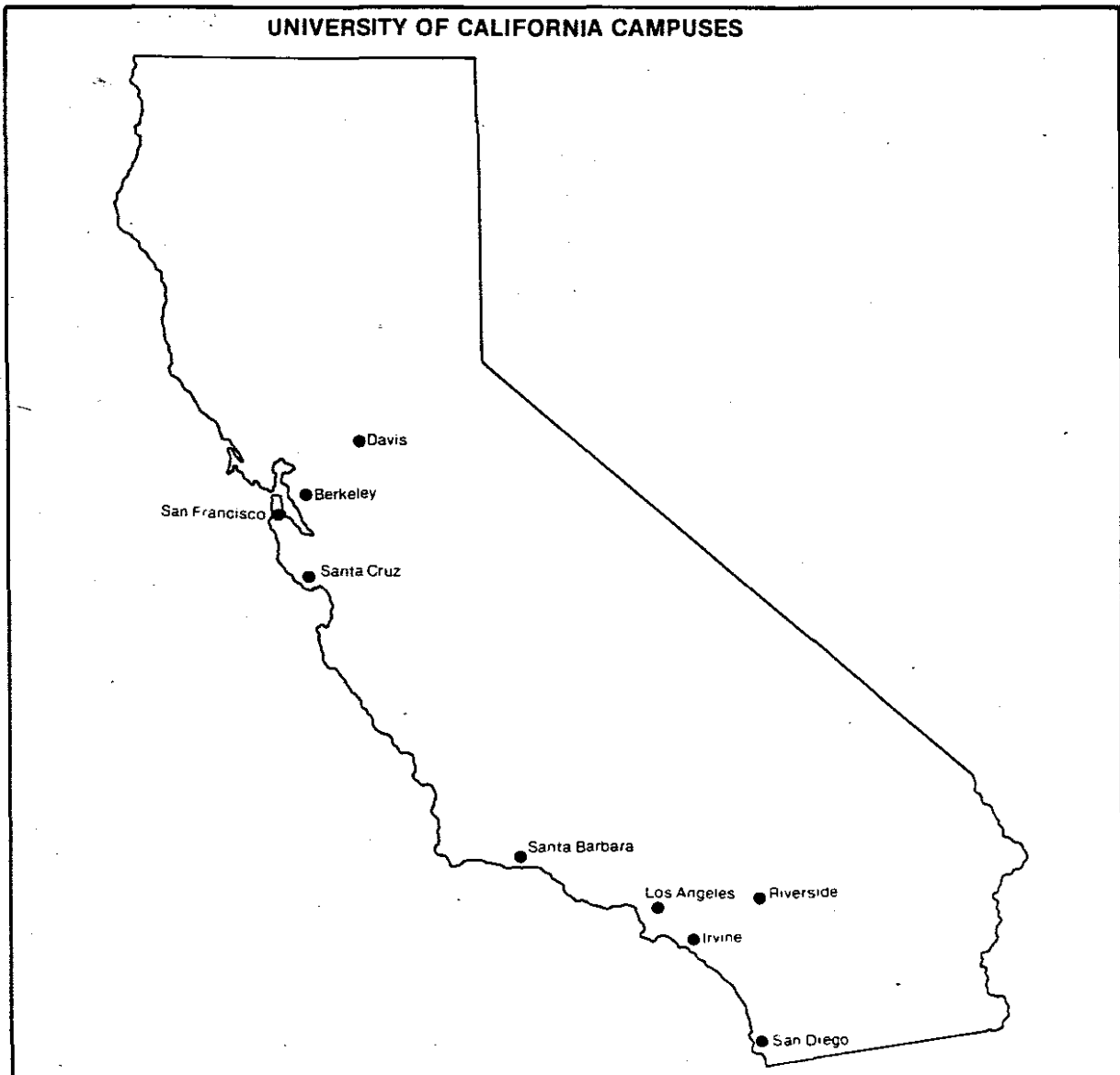
The UC is governed by its Board of Regents, which acts as a board of directors of a public corporation. The Board currently consists of 30 members: 22 appointed by the Governor of California for 12-year terms; one student member appointed by the Regents to a one-year term; and seven ex officio members, including the Governor, Lieutenant Governor, Speaker of the Assembly, Superintendent of Public Instruction, the President and Vice-President of the Alumni Association of the University, and the President of the University.

The State Constitution grants to the corporation full powers of organisation and government, subject only to such legislative control as may be necessary to ensure compliance with the terms of the endowments of the University and the security of its funds. The Governor is officially the President of the Board of Regents, but in practice the presiding

officer is the chairman, elected from among its members for a one-year term.

The Board, in its standing orders, has delegated a broad range of authority and responsibility to the President of the University and has delegated authority in academic matters to the teaching staff, although the Regents may withdraw this delegation of power whenever they choose. The campus chancellors are responsible for the operation of the nine individual campuses except as provided in the Regents' standing orders and except for activities that the Regents have designated as "Universitywide." In Figure 1 below the location of each of the nine campuses is clearly indicated.

FIGURE 1:



SOURCE : CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

The membership of the Academic Senate includes all the staff traditionally involved with academic matters. The senate of each campus operates as a legislative body that meets from three to six times a year and as a system of committees. The Assembly of the Academic Senate and its committees are the universitywide senate body. The Assembly, which meets three times a year, is made up of the chairmen of the nine campus senates, chairmen of the major universitywide committees, and 35 teaching staff members appointed or elected in proportion to the number of members on each campus (Commission, August 1987 : 68-70).

1.1.2 California State University (CSU)

The CSU began as a number of state normal colleges with local governing boards. In 1920, the local boards were abolished and the colleges placed under the jurisdiction of the State Department of Education and the Superintendent of Public Instruction. In 1935, they were renamed state colleges, but it was not until 1961 that they were re-organised under their own governing board and not until 1972 that they became the California State University and Colleges. Their title was shortened to CSU in 1981.

The CSU is governed by a Board of Trustees that has 24 members: 16 appointed by the Governor and confirmed by the Senate; 5 ex officio members, including the Governor, Lieutenant Governor, Assembly Speaker, Superintendent of Public Instruction, and the Chancellor of the University; and one student member, one teaching staff member, and one alumni representative. Other than the ex officio members, all serve eight-year terms except the student, teaching staff and alumni members, who serve two-year terms. The Board of Trustees has broad statutory authority with respect to the management and administration of the CSU, and as a State board it is governed by statutes that apply generally to all State agencies, departments, and boards unless expressly exempted. Like the Board of Regents, the trustees work through a number of standing committees which reflect the principal powers of the Board.

The Board of Trustees has delegated much of its authority to the Chancellor of the State University, who in turn has delegated much authority to the nineteen campus presidents. The location of these campuses is indicated below in Figure 2.

FIGURE 2 :



SOURCE : CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

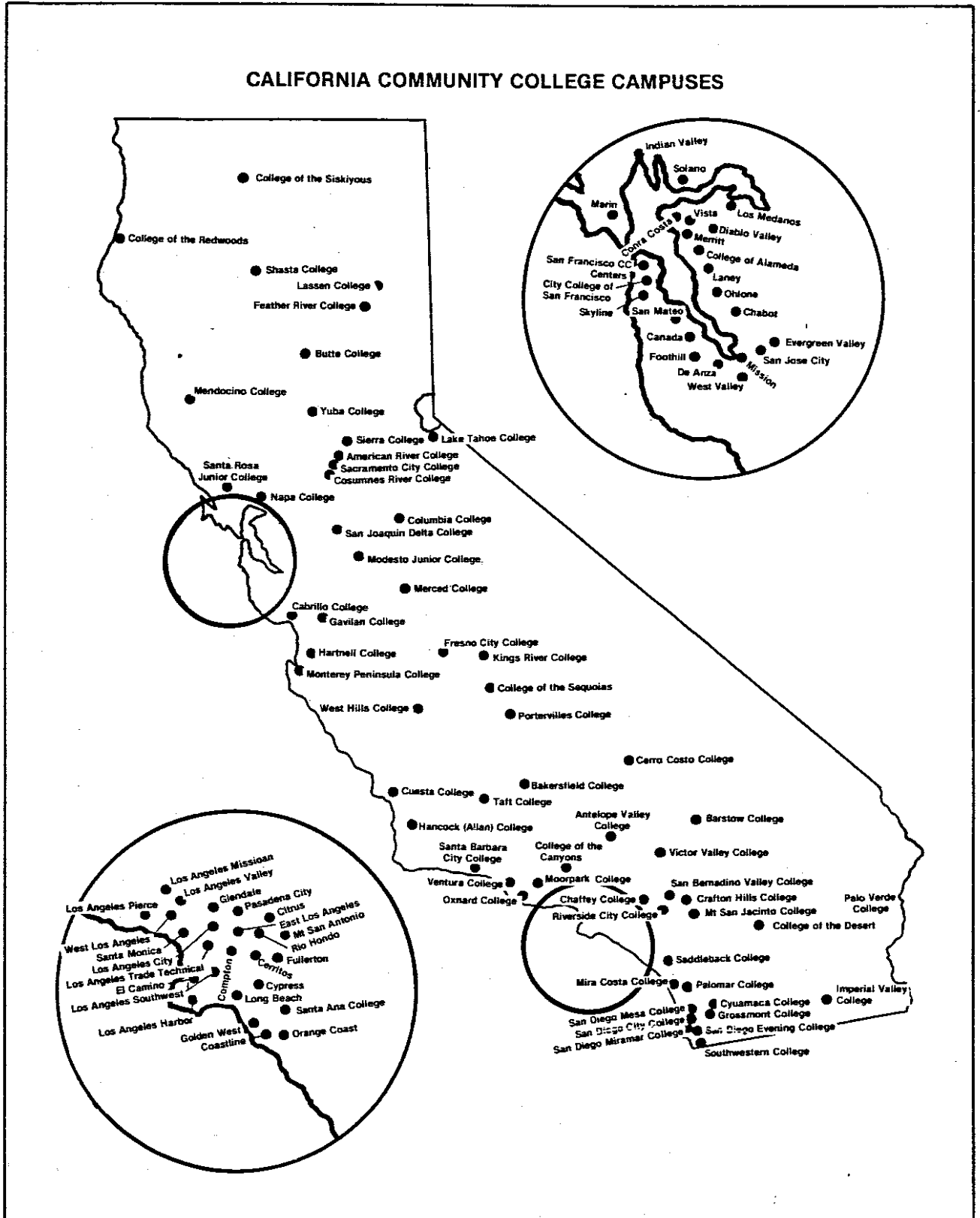
The Chancellor is responsible for developing the annual support and capital outlay budgets for the system, administering the personnel system, and overseeing the management of the campuses and statewide programmes. Campus presidents have considerable fiscal authority and have been delegated authority to hire and promote teaching and administrative staff.

The CSU Statewide Academic Senate advises the Board on academic matters and budget support for the campuses. If the Statewide Senate does not exercise as much authority as the UC Academic Senate, that probably reflects the historical differences between the two segments. Since the CSU senates were formed fairly recently (about 1961) and with strong senates on some campuses and weak senates on others, the CSU Academic Senate has not been able to develop the degree of unity and acceptance enjoyed by the UC Academic Senate (Commission, August 1987 : 70-71).

1.1.3 California Community Colleges (CCCs)

The CC system has often been characterised as one of "shared control" with responsibility for the 106 colleges divided between the districts at the local level and the Board of Governors at the State level. At the local level, the CCs are organised into 70 CC districts, each with a locally elected governing board. At present, there are 52 single-college districts and 18 districts that operate from two to nine colleges each. District boards consist of five or seven members elected to four-year (staggered) terms, and one nonvoting student member. The location of the 106 CC campuses is indicated below in Figure 3.

FIGURE 3 :



SOURCE : CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

The district boards review and approve all district instructional programmes and services, employ and dismiss all district employees. They also approve district and campus budgets, conduct collective bargaining with teaching and other staff, determine salaries and benefits for all employees, and establish academic standards consistent with minimum standards established by the Board of Governors.

At State level, the Board of Governors consists of 15 members of whom 13 are appointed by the Governor to represent the general public. These members, subject to confirmation by the State, serve four-year terms. One extra member is appointed to represent the teaching staff and serves a two-year term while the fifteenth member is a student who serves for one year.

Like those of the district boards, the power and duties of the Board of Governors, are spelled out in great detail in statute and include the following: approves state-funded programmes and courses; approves district capital outlay budgets; approves district academic and facility master plans; approves the formation of new districts; and establishes standards for teaching credentials, and similar policy matters.

The districts are administered by chancellors or superintendents who are appointed by their district boards. The statewide office is administered by the Chancellor who is appointed by the Board of Governors. There is no formal link between the Board of Governors and the district governing boards. Thus the Board of Governors operates more as a coordinating agency than as a governing body for the CCs.

The Education Code authorises each district governing board to establish a teaching staff senate or council, and their powers and duties are largely a matter of district discretion. A statewide Academic Senate was formed in 1969 with membership being limited to full-time teaching staff (Commission, August 1987 : 71-72).

1.1.4 Other State Institutions

The Hastings College of Law has been affiliated with the UC since 1878 and

is designated by statute as a law department of the University, but it is governed by its own Board of Directors and is operated independently of the UC in nearly all respects. The other independent public institution, the California Maritime Academy (CMA), also has its own Board of Governors, which consists of seven appointments by the Governor, three lay members, two educators, and two people from the maritime industry. By statute it is authorised to manage the Academy without consulting the Department except in matters regarding tuition charges. The Trustees of the CSU are authorised by statute to provide certain services to the CMA Board of Governors and to serve as a Board of Visitors to discuss policies and concepts common to CSU and CMA, but this authority does not affect "the exclusive authority of the board of governors to administer the academy" (Education Code 89003, 1985 : 4) (Commission, August 1987 : 73).

1.2 Private Institutional Co-ordination

Private postsecondary education in California includes 181 accredited degree-granting institutions, 194 approved or authorised degree-granting institutions, two colleges of theory, 17 state-licensed hospitals, and 2240 other accredited and non-accredited institutions and courses.

Sixty-two of the independent, accredited, degree-granting colleges and universities are members of the Association of Independent California Colleges and Universities (AICCU), a voluntary association that serves as an advocate for the institutions in Sacramento and keeps its members informed about public policies and programmes of interest to them. The AICCU has a board of Directors consisting of two representatives for each institution and an 18-member Executive Committee. There is also an AICCU Research Foundation that conducts educational, informational, and research activities in support of the Association.

Many of the approved (but non-credited) degree-granting institutions are members of the California Association of State Approved Colleges and Universities, and a larger number of proprietary institutions are members of the California Association of Private Postsecondary Schools, both of which provide representation in Sacramento. Other organisations and

associations are the Association of Reporter Training Schools, the California Barber College Association, the California Association of Schools of Cosmetology, the Independent Law Schools Association, and the Correspondence Accredited School Association (Commission, August 1987 : 73).

1.3 Statewide Co-ordination

Responsibility for co-ordinating public and private postsecondary education in California and for providing independent policy analysis and recommendations to the Governor and the Legislature has been assigned to the California Postsecondary Education Commission (CPEC). The Commission has 15 members, nine representing the general public and six representing the principal boards and organisations concerned with postsecondary education. Three of the public members are appointed by the Governor, three by the Senate Rules Committee, and three by the Speaker of the Assembly. The public members serve six-year terms, the AICCU representative a three-year term, and the others serve at the pleasure of the boards which they represent.

The Commission is an advisory body charged by statute "to assure the effective utilisation of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs" (Education Code 66900, 1985). Among its specific responsibilities are: preparation and annual updating of a five-year state plan for postsecondary education; advising the Legislature and the Governor as to the need for and location of new campuses; periodic review of educational programmes of the public institutions; development of criteria for evaluating the effectiveness of postsecondary education; development of a comprehensive data base for postsecondary education; biennial reporting on the employment of ethnic minorities and women by the UC, the CSU, and the CCs; and reporting annually on the financial condition of independent institutions. The recommendations of the CPEC are "a primary consideration in developing state policy and funding for postsecondary education" (Education Code 66900, 1985).

The CPEC's authority is vested primarily in its role as advisor to the Legislature and the Governor and the extent of that authority depends on the degree to which its advice is followed. However, it also serves as a buffer between the public institutions and the Legislature and the Governor, so that its authority is also dependent in part on the degree to which it is perceived to be maintaining the orderly evolution of the public institutions, including the resolution of intersegmental conflicts. When compared with the state postsecondary education boards in other states, the CPEC is among those with relatively limited powers.

Within the State Department of Education, there are also a Division of Private Postsecondary Education and a Council for Private Postsecondary Educational Institutions. The Council has 15 members and is directed to "provide leadership and direction in the continuing development of private postsecondary education ..." (Education Code 94304, 1985), but has not done so. The Division of Private Postsecondary Education serves as staff for the Council and is directed to publish an annual listing of all private postsecondary institutions which are authorized to operate in California. Minimum standards required of institutions for such authorization are listed in the Education Code (Commission, August 1987 : 74-75).

1.4 The Role of the Legislature and the Governor

The Governor and the Legislature exercise a great deal of power with respect to the three segments of postsecondary education, primarily through the annual appropriation of State support for current operations and capital construction. In regard to support for current operations, their power is largely limited to determining the level of support for each segment, for the UC and CC (district), and to a lesser extent the CSU, may spend the State support as they please within the bounds of their accepted missions. Yet by threatening to reduce the annual appropriation for one of the segments or by withholding approval of proposed augmentation, either the Governor or the Legislature can influence decisions of many kinds within each segment. Through the continuing process of fiscal review and analysis performed by the Department of Finance and the Legislative Analyst, they can also influence those decisions in many ways.

The Governor and the Legislature also derive authority from their appointments to the segmental governing boards and through legislation regarding the missions of the three segments. However, in practice, appointees commonly associate themselves more with what they perceive to be the long-term interests of the institutions they govern than with the short-term interests of those who appointed them. Except in times of crisis, the Governor and legislative leaders are seldom sufficiently well-informed and involved in the deliberations of the boards to exercise significant power through their membership on the boards.

Most importantly, the institutions are in a position to control and shape to their own interests much of the information regarding their operations which the Governor and the Legislature require in order to implement State policies. Although the CPEC and the Department of Finance and Legislative Analyst often serve as valuable independent sources of information, these agencies, too, must often be satisfied with only as much information as the institutions provide (Commission, August 1987 : 76).

1.5 California in Relation to Other States

California was one of the first states to attempt to control the evolution of its postsecondary education institutions during the period of rapid expansion in the 1950s and 1960s, largely because the size and cost of the public sector made such control essential. It was also one of the first large states to attempt to develop a statewide coordinating mechanism linking all levels of postsecondary education in both the public and private sectors.

However, while other large states have strengthened their coordinating agencies and in some cases converted them to central governing boards, California has maintained its relatively decentralised control structure for postsecondary education. The reasons for this approach are summarised thus by members of the Commission for the Review of the Master Plan staff:

"In part, this may be because the public institutions, as a result of their size and scope and achievements have become extremely powerful and resistant to change. In part, it may be because California, unlike most states, has both a strong Governor and a strong Legislature, and neither has wanted to create another centre of power that could more effectively challenge its authority" (Commission, August 1987 : 76).

2. REVIEW OF CHAPTER TWO

In order to acquaint readers who are not familiar with the system of higher education in California, the main agencies responsible for the three public sectors and the private sector, have been listed and described.

Since it is essential to understand where decision-making and policy formulation takes place within each sector in California, these functions have also been explained and the officers responsible for implementation of policy have also been detailed.

The author has not deemed it necessary, later in the thesis when the situation in the RSA is being described, to provide equivalent facts to those which have been set out in Chapter Two. It has been assumed that most educators in the RSA will already have a sound grasp of decision-making and policy formulation in this country.

The explanation of the influential role of the CPEC in California higher education is also essential in the context of this thesis, since a South African equivalent to the CPEC is advocated in a later chapter.

CHAPTER THREE

THE SOCIAL AND ECONOMIC MILIEU FOR HIGHER EDUCATION IN CALIFORNIA

FOREWORD

The social and economic forces in California which impinge upon, and greatly influence, education at the tertiary level, are probably not very familiar to most educators in the RSA. For this reason it was deemed necessary to describe briefly some of the essential elements which create the milieu in which the colleges and universities in California function.

It soon becomes clear that there are many fundamental differences in the social and economic environments in the RSA and in California. However, certain similarities also emerge - such as the diversity and mixing of ethnic groups - which indicate specific lessons which may well be of value to educators in the RSA who are also trying to resolve such issues.

The fact that the South African economy is not as large, as diversified and as sophisticated as that in California, does not in any way detract from the likelihood that eventually similar conditions may well prevail in the RSA. It therefore behoves educators, economists and experts in social behaviour, to take careful cognisance of the conditions prevailing in California and to learn more about the solutions which are being attempted since it is likely that similar problems will eventually also have to be solved in the RSA.

Attempts have been made to relate social and economic conditions to the tertiary education sectors in California and to indicate to what degree education and educators are affected by the extra-educational, social and economic events taking place in their local communities and at state level.

1. OVERVIEW OF CALIFORNIA

1.1 Urbanisation and Ethnic Diversity

Located on the west coast of the United States, California comprises only 4,4 percent of its total area and yet it is the most populous of the fifty states accounting in 1980 for 10,4 percent (nearly 24 million) of its population (CPEC, 1988 : 1).

California is also the most urbanised state in the United States - 95 percent of its population live in 21 metropolitan areas. The largest is Los Angeles - Long Beach - Anaheim which consisted of 7,5 million people in 1980, second only to metropolitan New York (Hodgkinson, 1986 : 1).

California's population has been ethnically diverse for more than a century and has been greatly affected by immigration. The sociologist Hodgkinson (1986 : 1) has stated that 15 percent of its population was born in another country and 55 percent was born in another state. The growth, in particularly the Hispanic population, has been so great that all factors seem to indicate that by the year 2000, or sooner, a majority of Californians will be ethnic minorities. The diversity of the population in this State is illustrated by listing the main minority groups: Japanese, Chinese, Asian Indian, Filipino, Korean, Chicano, Latino, Vietnamese, American Indian, and Black.

1.2 The Economy and an Information-Based Society

In 1985 California's \$511 billion "Gross State Product" made it the sixth largest economy in the world. It surpassed even the United Kingdom (\$474 billion) and was bettered only by the United States itself (\$8 404 billion), the Soviet Union (\$2 063 billion), Japan (\$1 366 billion), West Germany (\$668 billion) and France (\$527 billion) (CPEC, 1988-1 : 1-2).

Between 1971 and 1984 California's "Gross State Product" increased by an average of 11,4 percent per year. This high rate of economic productivity can be attributed to a number of reasons. These include its extremely advantageous geographic position as the gateway to the Pacific-rim nations (e.g. Japan, Soviet Union, Taiwan, Hong Kong, etc.) with whom trade has

been increasing rapidly, the diversity of California's economy in fields ranging from agriculture to heavy industry, its strong emphasis on the fastest growing high-technology and service industries, the economic difficulties experienced recently in the heavily industrialised states of the American East and northern Midwest, and California's massive and good quality higher education systems (CPEC, 1985-14 : 219).

Many social thinkers agree that the United States, and California in particular, is moving into a third great economic period, namely, the shift of its economy towards the service industries and especially those involving information services. This shift from an economy dominated by agriculture (first period) and by mass-production (second period) is well underway and growing. However, agriculture remains California's major business and "its wealth will continue to depend on such traditional industries as heavy manufacturing, transportation, aerospace, and oil ..."
(CPEC, 1985-14 : 53).

Various names have been coined for this extensive and revolutionary structural change in California's economy. It has been called the "high-tech revolution" and the "age of automation", but the term which is generally used is "information". The economist Hawken describes the effect of this revolution as follows:

"... today's microelectronics represent the extension of our mind into matter, and their primary economic value will be to reduce the amount of matter consumed. Because we are making mass more intelligent and informed, we will require less to maintain a high standard of living. Because we require less physical stuff, many people whose job it was to make that stuff will be thrown out of work. Millions of people are losing their jobs as the mass economy declines while millions of new jobs are being created as the informative economy emerges" (Hawken, 1983 : 78).

These changes have considerable implications for higher education and as Beverly Cronin has stated:

"America's economic base is shifting away from the traditional capital-intensive industries to the rapidly emerging knowledge-intensive industries. The 'sunset' industries such as steel, paper and automobiles require heavy investments in machinery. The 'sunrise' industries such as communications, computers, microelectronics, and other information technologies require instead a greater investment in people" (Cronin, 1983 : 258).

It has been argued by economists such as Hawken and Reich, and social commentators such as Toffler, that America's recent economic recession was only in part a cyclical adjustment. They believe that its major cause was the restructuring of the economy from mass-production industries to smaller, more flexible, innovative, and information-intensive companies (CPEC, 1985-14 : 55).

The so-called "high-tech" industries are currently attracting a great deal of attention internationally, in the United States, and in California. Judging by the attention given them in the media it would seem certain that computers, lasers, robotics, other electronic components, and biotechnology will be very much to the fore in the economic wave of the future. However, it is also clear that "high-tech" industries are only one part of the information-based economy.

It is interesting to note the comments made by Henry Levin (1984) of Stanford University on a list of the forty fastest-growing jobs between 1982 and 1995 as projected by the US Bureau of Labour Statistics in 1983. Levin notes that of the 40 jobs listed, only nine are in the "professional and technical" classification that generally require the greatest skills, and these nine account for only 21,1 percent of the jobs among all 40 categories.

Levin also states a view which is significant for higher education in California:

"In considering where the jobs will be and their educational requirements, we must avoid two fallacies that are reflected in popular discussions on the subject. First is the fallacy that equates 'high technology' industries with jobs that require high skill levels and advanced education. Second is the fallacy that assumes that the fastest growing job categories in terms of relative growth or percentage growth are also the ones that will provide the most new jobs in the future" (Levin, 1984 : 2).

Levin (1984) points out there is no evidence that most jobs within "high tech" industries will require large amounts of education; instead many employees of these firms will be fairly unskilled assemblers, operators, and clerical personnel. Moreover, he observes that while such occupations as engineers and computer scientists are projected for substantial growth (48,5 and 84,3 percent respectively, between 1982 and 1995), the great majority of new jobs will not lie in these areas.

Rumberger (1981 : 3), also from Stanford University's Institute for Research on Educational Finance and Governance, foresees these employment trends leading to a growing dichotomy between a highly educated elite and a much larger mass at the lower end of the socio-economic scale.

Examples of economic "deskilling" are common as technological advances permit automatic machinery to perform intricate tasks formerly undertaken by highly trained craftsmen. The danger therefore exists that society will become increasingly polarised between a small, highly skilled elite and the unskilled. However, it is worth noting that not all authorities in this field agree with these views. For example, Frank Newman (1984 : 6), who was president of the Education Commission of the States in 1985, points out that professional, technical, and managerial jobs rose from 17 percent of the workforce in 1950 to 27 percent in 1980, and he foresees no change in this trend. He also foresees the general educational level of the workforce increasing, rather than decreasing, and opportunities for retraining expanding rapidly during the next decade.

1.2.1 Implications for California Higher Education

California's trend towards an economy increasingly dependent on the production and dissemination of information and the prospect of job polarisation and "deskilling", has important implications for postsecondary education in California. Three are worthy of note:

1.2.1.1 Changes in Educational Technology

Widespread technological change in education is resulting from continuing technological change in society. The California Postsecondary Education Commission (CPEC, 1981) described the electronic opportunities then available to Californians for postsecondary education in its report Linking Californians for Learning. Additional advances in electronics during the next 15 years will bring even greater "uniqueness and diversity" of instruction. It is not only the professionals such as business managers, health specialists, and engineers who make most use of the new communication media for their continued learning, but also for the home bound, the institution bound, and even the until-now campus bound (CPEC, 1985-14). It is clear that recurrent recourse to education over the course of the adult years will increase and with it the diversity of demands for education. Whether or not the polarisation of the job market becomes a reality, educational technology will prove important in coping with this diversity.

1.2.1.2 Changes in Programme and Function

Since the trends in California's economy are towards technologically oriented service industries, a change is occurring which will make its economic vitality over the next 15 years more dependent on "mentality" than on muscle, and less dependent on the quantity of physical objects produced than on their efficiency, utility, and ingenuity. Workers in the future will be paid even less than today for their physical strength, compared with their knowledge and skill. It is for this reason that colleges and universities should continue to stress technological education and research. Very few people will be employed to design,

produce and operate the most advanced computers, but unless the United States devotes large amounts of its resources to such activities, and produces people who understand them, economic productivity and wealth will be generated elsewhere. Whichever view prevails with respect to the deskilling of the workforce, society's need for postsecondary education is broader than the job market (Levin and Rumberger, 1983 : 21).

It was stated in the CPEC (1984c : 13) report entitled, The Wealth of Knowledge that about a third of America's increase in productivity between 1929 and 1969 resulted from "advances in knowledge" and virtually all of that knowledge was produced directly in university laboratories or directly by university graduates in the private or governmental sectors. In the future, when economic growth will be even more heavily dependent on technological advances and skilled workers, higher education's role is likely to increase in importance, especially in scientific research efforts.

1.2.1.3 Changes in Institutional Funding and Control

There are some differences between the views of those in higher education and the business community regarding education's primary purposes. Whereas universities are concerned with teaching fundamental concepts, developing basic analytical skills and theoretical premises, and preserving and developing historical and cultural knowledge, corporate training efforts tend to be vocational, designed to equip staff with only those skills that are specifically relevant to the sponsoring company's requirements. These corporate efforts in 1985 constituted a \$40 billion investment, and most additional funds donated to postsecondary education are designated for activities which conform to corporate expectations of practical results (CPEC, 1985-14 : 63).

There are two basic views about the future role and influence of corporate donations in higher education. One view is that educational institutions will need funding so desperately that they will surrender some control over their operations by accepting restrictive conditions which are attached to donations. Linked to this is the fear that consulting and

research contracts will seriously compromise the independence and objectivity of teaching staff. Taken to its extreme, this view foresees a day when educational institutions will be little more than corporate training facilities.

Another view is that there is no need to fear a dilution or erosion of traditional academic purposes but that the new infusions of money should be seen as a way of securing closer involvement with the realities of contemporary economic life. Universities have proved to be very resilient and there are few indications that their role as the general repository of knowledge will be seriously compromised by private-sector donations. What may occur is a perception that closer ties between the theoretical and the technological world are needed since technology is all-pervasive.

1.3 Need for Conservation of Resources

In a 1980 Report, the Council on Environmental Quality and the Department of State warned the President and the American public about the likelihood of severe hardship facing the world by the end of the century:

"If present trends continue, the world in 2000 will be more crowded, more polluted, less stable ecologically, and more vulnerable to disruption than the world which we live in now. Serious stresses involving population, resources, and environment are clearly visible ahead. Despite greater material output, the world's people will be poorer in many ways than they are today" (Council, 1980 : 1).

In the California of the early 1990s, such apocalyptic visions seem distant, but serious environmental problems nevertheless exist such as air pollution in the south of the State, toxic-waste disposal, acid rain, ocean poisoning, and the availability and quality of fresh water. The issue of hunger has little effect on California, but its worldwide consequences for California agriculture and for university/college research could be highly significant in coming years (CPEC, 1985-14 : 71).

Some environmental analysts, for example, Julian Simon (1980), are not as pessimistic about the future. He points out that pollution is not increasing worldwide, but decreasing; that even though the price of energy is increasing and the supply decreasing, conservation is growing even faster. Simon further mentions that many increasingly scarce raw materials are being replaced by more efficient and abundant materials, such as the substitution of optical fibres for copper wire or plastics and ceramics for steel and aluminium; that overall food production has increased worldwide; and that the world's total amount of arable land has actually increased recently rather than declined.

Despite such differences among futurists in forecasting the state of the world in coming decades, there is no disagreement that the earth's limited natural resources will need to be better preserved and more wisely used in the future. Among all discussions of resource conservation, the topic of energy use occupies a prominent place.

The rapid increase in the price of petroleum in the 1970s encouraged reliance on other energy sources, principally coal and nuclear power, and led to major conservation efforts such as more fuel-efficient vehicles and a speed limit on the roads. If another energy crisis can be averted, the US Department of Energy forecast for the years 1990 and 2000 lead us to believe that America's energy supplies will be abundant throughout the remainder of the century, albeit at somewhat higher prices (CPEC, 1985-14 : 73).

California, it should be noted, relies far more heavily on petroleum, than the nation at large, as a source of energy (59,0 versus 43,5 percent). Oil is thus a major concern for California's future (CPEC, 1985-14 : 74).

The major imponderable is the future of nuclear power. Four of California's five public utilities have projected great increases in nuclear power generation during the next 15 years. However, all nuclear plant building has been delayed (California Energy Commission, 1984 : 3).

1.3.1 Implications for California Higher Education

Increased energy costs and limitations on other resources have clear

implications for college and university facilities. Campus design policies will have to be couched in terms of more efficient use of resources, retrofitting for energy conservation, and construction of more energy-efficient buildings. There is a challenge to California's colleges and universities to improve the state of knowledge about energy production and resource conservation. It is likely that further energy and resource research in California's academic institutions could help to reduce the threat of resource depletion in a number of problem areas such as:

- * Development of stronger, lighter, and more heat-resistant materials, such as carbon-carbon and metal-matrix composites, to replace strategic metals and alloys

- * Increased knowledge about synthetic fuel production processes and uses, particularly of grains and other biomass

- * Application of semi-conductor materials to photovoltaic systems that convert light directly into electricity

- * Increase worldwide reforestation and improved management of the world's tropical forests (National Science Foundation, 1982).

1.4 The Demographic and Social Landscape

One of the most easily identifiable social trends in California is the rapid change in its demographic landscape. Even more than in the rest of the nation, California's population is becoming older and more ethnically diverse. For example, the median age of Californians in 1980 was 29,9 years, but by the year 2000 it is expected to increase to 35,8 (California State Department of Finance, 1983). The number of senior citizens is expected to grow by 1,4 million people by the year 2000 and a few years into the new century, the elderly will rapidly become a greater proportion of the population as the baby-boom generation of the 1940s reaches retirement age.

Even more dramatic is the projected growth in California's Hispanic, Black, and Asian populations. Hispanic and non-white ethnic minorities currently constitute about 35 percent of the State's population. However, according to one study (The Centre, 1982) they will comprise between 41,8 and 45,2 percent in the year 2000 and half of the population by 2010 according to another study (Hayes-Bautista, Schinck, and Chapa (no date)). The number of Hispanics in California is growing rapidly and, by the year 2000, California's already diverse population is expected to include between 3,2 and 4,4 million more Hispanics, 1,5 to 1,6 million more Asians and other races, and from 500 000 to 600 000 more Blacks.

The implications of these demographic changes for California's higher education institutions will be far-reaching as will be the effect of changes in California's family structure, mobility, and formation, personal lifestyles and women's employment (CPEC, 1985-14 : 79).

Americans are the most transient of peoples and Californians among the most transient of Americans. According to the 1980 Census, 46,4 percent of Americans and 55,4 percent of Californians changed residences between 1975 and 1980 (Bureau of the Census, 1983 : 16). Unless unforeseen economic or social factors curb this mobility in the future, it is unlikely that these rates will decline. During the remainder of the 1980s and throughout the 1990s, California's college and university students are likely to be increasingly well-travelled, cosmopolitan, and varied in geographic background.

Nationally, divorce rates more than doubled in the years between 1965 and 1980 and today it is estimated that one out of every two marriages ends in divorce. Divorce rates in California are extremely high with 615 divorces per every 1000 marriages (Hodgkinson, 1986 : 3). According to Thornton and Freedman (1983 : 33), the increased divorce rate, and the tendency to bear children out of wedlock have combined to produce a social situation where more and more children are being raised in homes without a father present. They state that "if the current prevalence of female-headed families persists, it is estimated that 40 to 50 percent of all children will live in a fatherless family for some time before they reach 18" (Thornton and Freedman, 1983 : 33). This trend is especially true among Black

households and all households below the poverty line. An even more visible change in women's traditional roles over the last 30 years than their increased role as head of the household has been the employment of married women. In 1949, only 21 percent of married women were in the labour force; by 1982, the percentage had grown to 51. For those mothers with children under six, the increase has been particularly great - from 11 to 40 percent (CPEC, 1985-14 : 81). Thornton and Freedman observed a shift in attitude towards homemaking which has accompanied women's greater involvement in economic life:

"Traditional attitudes define the home as the locus for women's work and fulfilment ... but current attitudes support a much broader range of activities for women. Some Americans now expect rather than discourage outside employment for wives. Americans also increasingly believe that women should not only be able to pursue outside interests and careers, but also have equal access to education and good jobs, receive equal pay for equal work, and have the same opportunities as men for political office" (Thornton and Freedman, 1983 : 25).

The increase in the divorce rate has also forced millions of women onto the labour market in order to support their families, and many married women (with or without children) have come to believe that they can achieve greater personal fulfilment by working in order to elevate the standard of living of their families.

On the one hand it appears as if American society and California culture are becoming more open, pluralistic, egalitarian, and individually liberating - allowing individuals more flexibility in their personal lifestyles and living arrangements, and permitting greater economic and social opportunities to groups such as minorities and women. However, at the same time, Americans in general and Californians in particular, seem to be narrowing their perspective on the future and shortening the range

of their commitments. Thus some social commentators see the increased divorce rate as symptomatic of less willingness on the part of marital partners to perpetuate unhappy relationships, while some social workers have come to perceive the growth of child neglect and abuse as a sign of an emerging social attitude towards "disposable children" (CPEC, 1985-14 : 86).

Television is undoubtedly the dominant electronic medium of the new information age. Television sets can now be found in almost all American households while the number of television stations has expanded rapidly during the last 30 years. Neil Postman (1983) notes that by the time most young people reach the age of 18, they have watched an average of 21 000 hours of television yet they have been in school for only 13 000 hours. He concludes that American society is shifting to "a culture based on the electronic image" and he warns that television is a curriculum in its own right which embodies its own philosophy:

"...its axioms include that history is bunk, that hierarchies are arbitrary, that problems have no antecedents, that the future is not worth dwelling upon, that randomness is uncontrollable. I believe the word for these beliefs in philosophical discourse is nihilism."

"As I see it, the teachings of television are hostile to language and language development, hostile to vigorous intellectual activity, hostile to both science and history, hostile to social order, and hostile in a general way to conceptualisation. Television is a curriculum that stresses instancy, not constancy; discontinuity, not coherence; immediate, not deferred gratification; emotional not intellectual, response" (Postman, 1983 : 314).

As John Kenneth Galbraith (1967 : 4) observed: "We are becoming the servants in thought, as in action, of the machines we have created to

serve us." Even computers seem to contribute to society's drift towards immediacy, for they place a premium on instancy of result and on shortening the distance between input and output, with a consequent de-emphasis of the virtues of investment, reflection and detached observation (CPEC, 1985-14 : 87).

1.4.1 Implications for California Higher Education

The social trends discussed above have implications for colleges and universities too, namely:

- * The growth of California's ethnic diversity has produced increased demands for ethnically and culturally specialised programmes, and could produce changes in college admissions policies, remedial programmes, financial aid, and academic programme requirements to ensure that higher education remains available for disadvantaged minorities.

- * The aging of California's population points to likely demands for job-related continuing education and retraining and also for leisure-related general education for mature and retired adults in short-term formats, on part-time bases, at such times as evenings and weekends, and in nontraditional, off-campus locations.

- * Changes in women's roles have already had widespread impacts on higher education enrolments. The California Postsecondary Education Commission's (1983-6) report on shifts in popularity of academic disciplines, points out the dramatic shifts that occurred between 1976-77 and 1980-81 in the types of degrees that women earned in California. For example, a jump of 195,5

percent in engineering, 159.1 percent in computer science, and 120.2 percent in business and management (CPEC, 1985-14 :83).

The attitudinal trends referred to have a parallel in the secondary schools both in demands for "relevance" and in the "basic skills" movement that emphasises concrete and employable competence in preference to education for higher levels of analysis and synthesis. In higher education, these trends lead to similar vocationalism.

The CPEC report on Major Gains and Losses (1983-25) indicated that the degree programmes that gained ground between 1976-77 and 1980-81 were essentially occupational and designed to provide graduates with skills in specific areas that would be immediately marketable. Conversely, the areas which lost the graduates were generally characterised as fields in which the education acquired was less specific and less marketable. It is also evident that, while the number of women entering both business and technological fields is increasing rapidly, men's interest in the liberal arts appears to be declining even more rapidly than women's (CPEC, 1983-25).

While the trend towards vocationalism is understandable as a response to the need for productive employment, the long-term effects on society and its institutions have to be considered. Higher education's purposes have long included a commitment to the transmission of the cultural heritage, the development of personal discipline and moral responsibility, and the integration of literature, the arts, and the sciences into a coherent curriculum that encourages the use of reason, understanding, and objectivity. The recent trend towards job-specific preparation appears to be somewhat at cross-purposes with that fundamental aim.

It seems likely that external pressures on colleges and universities will mount - pressures to produce the engineers, computer scientists, technicians and business administrators to run the information society. Further pressures to solve environmental problems, and to adjust to demographic and lifestyle changes, will almost certainly also arise. When these pressures are combined with a nationwide uncertainty about

enrolments and a slowing of enrolment rates, an aging teaching staff and in some cases a loss of institutional dynamism and flexibility, then it seems likely that the declining student numbers will lead to a reduction in the numbers of higher education institutions. The most vulnerable will probably be the least selective of the liberal arts colleges and private junior colleges. Since the tuition costs among private and independent colleges and universities has risen far quicker than the rise in cost of living, many of them, especially those which offer instruction only in the liberal arts, will probably be forced to close.

2. REVIEW OF CHAPTER THREE

Educational institutions are largely shaped by the social, economic, demographic and other natural forces in the community and in the greater environment. For this reason it has been necessary to examine such factors in California since the South African reader is probably not well informed about such matters.

This chapter helps the reader to realise fully just how large the impact of social and economic forces on education can be, and it helps to emphasise to what extent the community determines what sort of education will be offered by colleges and universities.

Once again an exact equivalent chapter on the RSA has not been provided since readers in this country will understand many of the forces at work in the RSA.

The intention of this chapter has been to bring home to readers the extent to which a tertiary educational institution is interwoven with, and inextricably linked to the communities which it serves. The effect of local funding, drugs, television, ethnicity and job opportunity, on the sort of higher education provided is illustrated and helps to create a social milieu in which the need for mobility is clearly illustrated by the resultant model.

CHAPTER FOUR

MASTER PLAN FOR HIGHER EDUCATION IN CALIFORNIA

FOREWORD

The objective in this chapter is to identify the main factors that led to the promulgation of the Master Plan in California. It is also aimed at indicating why it is widely regarded by educators as a "modern" classic example of a thoroughly planned and carefully executed statewide plan for the upgrading and logical articulation of the various sectors in higher education into a coherent whole.

The fact that two central themes in this study namely, transfer and articulation, emerge as fundamental tenets in the Master Plan, is an important point and is indicative of the importance of this chapter to the development of these vital concepts. The centrality of "articulation" and "transfer" soon becomes evident as the Plan is described and questions relating to the Southern African situation inevitably arise.

The real intention of this résumé of the Master Plan is to raise issues relating to the successes achieved in creating effective mobility between the higher education sectors in California. The analysis of such issues will most likely precipitate an automatic consideration of the possible adaptation of the bridging techniques of the Master Plan to the situation in the RSA.

The dearth of a comprehensive master plan for the whole of tertiary education in the RSA has been instrumental in bringing about the inclusion of this chapter since few will deny that many valuable lessons can be learned from a careful examination of the California Master Plan.

1. THE GROUNDWORK FOR THE MASTER PLAN

When the historic Master Plan for Higher Education in California, 1960-1975 was developed and approved in 1959-60, master planning for state systems of higher education was not an institutionalised, continuing process in the United States. Although it was true that by this date California had undertaken a series of careful studies of higher education, these studies had not followed a particular schedule, and none of them had produced far-reaching changes in the State's system of higher education.

Prior to 1960, the Legislature, Governor and the two statewide boards that governed public colleges and universities, determined state policy for California higher education. The State Board of Education oversaw the seven state colleges and coordinated the 55 junior colleges which existed at that time, while the Regents of the University of California oversaw its four campuses at Berkeley, Los Angeles, Davis and San Francisco, and specialised facilities at Riverside and La Jolla. In 1945, these two boards created a Liaison Committee to assure coordination between them.

An examination of the earlier studies makes it clear that by the time the Master Plan study was authorised, the academic preparation existed for many of its important recommendations. The pressures for a durable framework within which California's system of higher education could develop in a relatively orderly way had been building in the Legislature and in educational circles. The Legislature's 1959 session had been marked by great activity in the field of higher education. Contributing to the growing concern about the need for orderly change was the growth occurring throughout the State. The population was increasing rapidly and was transforming California from a primarily agricultural state to a highly populous society with an increasingly complex and diverse economy.

In order to meet these pressing needs, the Legislature approved Assembly Concurrent Resolution 88 in 1959, requesting the Liaison Committee to prepare a Master Plan for Higher Education. All these actions stemmed from a growing consensus that "the time was propitious for a systematic review of policies that would guide California in the direction of an efficient

expansion of higher education services. The challenge was to meet the needs of the unprecedented numbers of students at high levels of quality without unnecessary duplication of effort" (CPEC, 1988-1 : 27).

2. THE MASTER PLAN

2.1 The Essence of the Plan

The very essence of the Plan was its series of decisions relating to the structure, function, and control of the segments - the University of California, the State Colleges (later called State Universities) and the Junior Colleges (later called Community Colleges). Arthur Coons, chairman of the 1960 Master Plan Survey Team, believed that the concerns of the State's legislative and educational leaders centred primarily on the future roles of the public segments and the independent/private sector, and also on how the public segments should be controlled and coordinated in order to avoid duplication and waste.

The following nine major elements of the Master Plan, as enunciated by the Master Plan Survey Team (1960), have greatly influenced, and are still influencing, the nature of higher education in California from 1960 up to the present:

1. The Plan established universal access to higher education in California as public policy by specifying a place somewhere in the system for all qualified and motivated students. Central to this recommendation was the "open door" role of the junior colleges, where students capable of benefiting from instruction could attend and later transfer to a four-year institution after demonstrating satisfactory performance.
2. The Plan assigned to each of the three segments differentiated functions or broad roles within which each was to strive for excellence:

* The University of California was to have particular emphasis on post-graduate and professional programmes, with exclusive jurisdiction in public higher education over instruction in law, and post-graduate instruction in medicine, dentistry and veterinary medicine. It was given sole authority in public higher education to award the doctoral degree but could agree to award it jointly with the State Colleges.

* The State Colleges - now known as State Universities - were to have as their primary function undergraduate and post-graduate instruction up to the master's degree. While the University of California was the primary, state-supported, academic research agency, the Master Plan authorised academic staff research at the State Colleges consistent with their primary function of instruction.

* Junior colleges - now known as community colleges - were allowed to offer instruction up to, but not beyond, the fourteenth grade level. They were to offer instruction in courses for transfer to four-year institutions, vocational and technical instruction, and general or liberal arts courses.

3. It recommended, and the Legislature established, a statutory coordinating body - the Coordinating Council for Higher Education. This differed from the voluntary coordination previously conducted by the segments through the Liaison Committee.

4. It proposed a governing board for the state colleges separate from the State Board of Education - a board now known as the Trustees of the California State University. Appointed members of the board serve eight-year terms and their performance over the years has proven the wisdom of providing a separate governing mechanism for the system. They have overseen major growth within the system and have worked closely with the State to provide greater flexibility in administering the affairs of the system.

5. It established different admission "pools" for the University and the state colleges. The University was to select students from the top 12,50 percent of the public high school "graduates" in California, while the state colleges were to draw their students from the top 33,33 percent. In addition, the Plan established standards for transfer students by requiring that those who had not been eligible for admission to the University or the state colleges upon completing high school were to complete essentially the first two years of junior college before transferring. All of these actions were designed to improve quality in the system, since each represented a tightening of admission standards.

6. It reaffirmed the principle that the University, the state colleges and the junior colleges were to be tuition-free for residents of the State.

7. It devoted a number of recommendations to strengthening the junior colleges and extending their coverage throughout the State. Those state colleges operating two-year programmes were to phase them out by 1964, and the University and the state colleges were to reduce their lower-division enrolments in relation to upper-division enrolments so that by 1975 the relationship would be 41 percent lower-division to 59 percent upper-division. Other policies to be emphasised would divert some 50 000 students to the junior colleges by 1975. Finally, no new state college or University campuses, other than those already authorised, were to be established until adequate junior college facilities were provided throughout the State.

8. It defined junior colleges for the first time as part of the higher education system, although it declared that they were also to be part of the public school system in order, for example, to continue receiving Federal funding for vocational education.

9. It assured representation of independent institutions on the new coordinating agency, and their representatives have remained effective members ever since. Moreover, the Plan called for the expansion of the

State Scholarship Programme for qualified applicants, a subsistence grants programme, and a Graduate Fellowship Programme - all proposals that would permit student choice of institution. Finally, the Plan rejected a "superboard" or single board to govern the University and the state colleges, because independent institutions would have been left out of the coordinating system (Master Plan Survey Team, 1960).

The Plan is regarded by the author as one of the most influential studies in the recent history of American higher education since there is much evidence which indicates how much of it has been used by many other States.

One shortcoming of the Plan was its failure to provide for a statewide community college board. However, the Board of Governors of the Community Colleges was subsequently established by the Legislature in 1967. Another shortcoming was the recommendation of an unrealistic form for the new Coordinating Council, namely, a 12-person board, wholly composed of segmental representatives. As established by the Legislature, the Council had 12 institutional representatives and three members of the general public. However, by the time the Council was replaced, these proportions had been adjusted to assure a public majority.

It is worth noting that the Plan's major provisions, such as differentiation of function, and the creation of the trustees, were not enacted into the State Constitution as originally proposed by the Survey Team. Instead, they were enacted into statute because of the reluctance of the Legislature to accept the loss of control that would have occurred had they been placed in the Constitution. However, these were relatively minor shortcomings, when viewed against the Plan's general success and the fact that the bulk of its 67 recommendations were adopted either by the Legislature or the segments (CPEC, 1988-1 : 30).

2.2. Subsequent Master Planning Efforts

The 1960 Master Plan ushered in a new era of periodic master planning for California higher education at state level. In one form or another the two

master planning cycles that have followed (1971-73 and 1985-88) have proceeded in the mould established by the 1960 Plan. In fact, the two subsequent studies have been in very large measure reviews of the Plan and have addressed the need to add to, or change portions of it.

3. THE MASTER PLAN RENEWED 1985-88

In September 1984 Senate Bill No 1570 was approved by the Legislature and the Governor and this Bill established the Commission for the Review of the Master Plan for Higher Education. The Commission was required to report, amongst other things, on the following:

"(1) California's postsecondary educational needs through the year 2000, with emphasis on the demography of student, societal, and employment needs in the next decade versus the projected supply of postsecondary education faculty.

(2) Basic and lower division instruction at the various postsecondary institutions, with an initial emphasis on the mission and function of the California Community Colleges ...

(3) Strategies to promote an increase in the access and success of students, particularly those underrepresented in postsecondary education, including adult education through graduate instruction ..." (California Legislature, 1984 : F2).

When the Commission completed its Report entitled, The Master Plan Renewed: Unity, Equity, Quality and Efficiency in California Postsecondary Education and handed it to the Governor in July, 1987, the Chairman wrote as follows in a letter addressed to the Governor:

"The Commission reaffirms the unique and timeless foundation for postsecondary education originally established in the 1960 Master Plan. Delineation

of mission and function among the public segments and protection against unhealthy intersegmental competition will help ensure the future success of California postsecondary education."

"Within this framework, our report contains recommended modifications to carry California postsecondary education into the 21st century. Changing demographics, need for a better educated citizenry, increased demand for more highly trained workers, and the evolution toward a global society are the basis of these recommendations."

"The reforms we propose are essential to meeting current and foreseeable future changes. In time, however, further changes in the educational system are likely to be necessary. We therefore recommend that early in the 21st century a new commission be established to develop a Master Plan for all California education, preschool through Ph.D., public and private" (Shansby, 1987 : 1).

Since the 33 Recommendations and the Supplementary Recommendations are not all relevant to this study, selective mention will only be made of the first eleven Recommendations.

In the introduction to its Report, the Commission refers to the increasing diversity of society in California and to the benefits and problems which that entails. However, the Commission believes that this diversity of the population is a great asset for the State and that the continued prosperity of American society may well depend on the diversity of its population (Commission, July 1987 : 3).

The Commission recommends changes that are directed towards the achievement of four goals:

*Unity, to assure that all elements of the system work together in pursuit of common educational goals;

*Equity, to assure that all Californians have unrestricted opportunity to fulfil their educational potential and aspirations;

*Quality, to assure that excellence characterises every aspect of the system; and

*Efficiency, to assure the most productive use of finite financial and human resources (Commission, July 1987 : 3-4).

The Commission has further stated that these goals cannot be imposed by the Legislature or the Governor. Instead, they must be accepted and internalised by the institutions, their teaching staffs, administrators, and especially by their governing boards (Commission, July 1987 : 4).

3.1 Towards a Unified Educational System

3.1.1 The Missing Link

The Report states quite categorically that the educational system in California is not unified. It consists rather of many diverse institutions, organised under separate governing boards, that are heavily interdependent and sometimes cooperative but which more often operate independently. While there is strength in this independence, the Report continues, the needs of an increasingly diverse California cannot be met without enhanced cooperation among all the educational institutions. An extract from the Report sums up the feeling of the Commissioners in this regard:

"Above all, there must be a policy consensus that from preschool to doctorate, public and private, we are one system ... If this diverse system is to function effectively, its segments must be linked together in a manner that reflects their essential unity. There must be a policy formulation linkage; there must be an operational linkage; and there must be an evaluation linkage" (Commission, July 1987 : 7).

The Commission firmly believes that voluntary coordination at the highest executive level is the best way to provide the missing link which will promote operational coordination in the system. An appropriate voluntary body, the California Education Round Table, consisting of the Superintendent of Public Instruction, the Chancellors of the California State University, the President of the University of California, the Chairman of the Association of Independent California Colleges and Universities, and the Director of the California Postsecondary Education Commission, has recently been formed. The Commission believes that with this membership and the will to succeed, this body should be able to effect a large measure of cooperation and collaboration among the segments. Therefore, the Commission recommends that:

"1. The California Education Round Table shall be recognised as the body responsible for providing the necessary operational linkage for the state's educational system" (Commission, July 1987 : 8).

3.1.2 Missions Within a Unified System

With a view to clarifying the missions of the various segments within a unified system the Commission recommends that:

"2. The mission of the public and accredited private segments shall be as follows:

* The public and private elementary and secondary schools shall be responsible for academic and general vocational instruction through the 12th Grade, including preparation for postsecondary instruction and general and academic preparation for their students' future participation in the labour market, and such adult instruction as the state is resolved to support."

* "The California Community Colleges shall offer academic and vocational instruction at the lower-division level for the great majority of 'college-age' and older students. In addition, they shall provide remedial instruction for students inadequately prepared for postsecondary education ..."

* "The California State University shall offer undergraduate and graduate instruction through the master's degree in the liberal arts and sciences and professional education, including teacher education, through the master's degree. The doctoral degree may be awarded jointly with the University of California or with a private institution of postsecondary education, provided it is approved by the California Postsecondary Education Commission ... The California State University shall have a particular responsibility ... for research in elementary and secondary instruction and for conducting research related to the instructional use of new technology ..."

* "The University of California shall offer undergraduate instruction and graduate instruction and professional education through the doctoral degree. It shall have exclusive jurisdiction in public higher education over instruction in the professions of law and over graduate instruction in the professions of medicine, dentistry, and veterinary medicine. It shall have sole authority among the public segments to award the doctoral degree in all fields of learning, except that it may agree with the California State University to award joint doctoral degrees subject to approval of the California Postsecondary Education

Commission. The University of California shall be the primary state-supported academic agency for research."

* "The independent, accredited degree-granting colleges, universities, and professional schools shall provide undergraduate and graduate instruction and research in accordance with their missions."

* "The private, accredited occupational schools shall provide instruction according to established accreditation standards."

* "All segments of education are responsible for ensuring that students who are willing and able to prepare themselves for advancement through the system have full and equal opportunity to do so ..." (Commission, July 1987 : 10-12).

3.1.3 A Unified Admissions and Transfer System

During the first 15 years of the Master Plan (i.e. 1960 to 1975), the lower-division enrolment policy of 40 percent was adhered to by the University of California (UC) and the California State University (CSU), and the Community Colleges (CCs) were able to offer strong, comprehensive transfer programmes. However, in the mid-1970's the number of high school "graduates" began to decline in California and elsewhere in the nation.

Both the UC and the CSU suffered some decline in undergraduate enrolment but were able to recover and continue to grow. The CCs also continued to grow for several years, but only with important changes in their enrolment composition.

As the total number of high school "graduates" continued to decline, the UC and the CSU attracted a larger percentage of those who were eligible

for admission as freshmen. As a consequence fewer of the high school leavers enrolled as full-time transfer students in the CCs. A downward spiral began and transfer programmes became less attractive as academic standards declined. The passage of Proposition 13 in 1978 brought about changes and a reduction in CC funding, course offerings were reduced and counselling and testing services curtailed.

The Commission summed up the situation thus:

"Now we are faced with the necessity of reversing this situation, of revitalising the CCs so that they can once again offer solid opportunities for students to progress through the system toward a baccalaureate degree. The Commission has recommended a number of actions directed at this objective: the intersegmentally-developed transfer core curriculum ... etc. But all of this will not succeed until and unless the CCs attract a larger proportion of baccalaureate-bound students, and this will require the active assistance of the UC and the CSU in changing the perception of the validity of the transfer option" (Commission, July 1987 : 13).

The Commission published The Challenge of Change - A Reassessment of the California Community Colleges in March 1986 in which the strong belief was expressed that the admissions policy agreed to in 1960 was correct then and is correct today. The Commission believes that the CCs have the physical capacity and, with the reforms that have been recommended by the Commission, will have the academic capacity to absorb a large increase in lower-division transfer enrolment at considerably less cost than the UC or the CSU.

While the CSU lower-division enrolment is presently close to 40 percent the UC equivalent is 46 percent and will therefore have to be reduced. The Commission came to the conclusion that all public segments of

postsecondary education must work together in planning and administering their admissions policies - that there must be a unified admissions and transfer system. The policies and requirements of each public segment, and especially the most selective segment (i.e. UC), have too great an impact on the others to permit each to operate autonomously. Thus, there must be a strong commitment to work in concert in order to make the admissions system and transfer programmes work (Commission, 1987 : 14). Therefore, the Commission's third recommendation repeated substantially the same admissions policy as the 1960 Master Plan with a few additional points referred to above. The Commission's views on this topic are emphatically stated:

"The right of qualified students to progress from a CC to a baccalaureate-level institution is fundamental to the objectives of the state's postsecondary education system. There must be no needless impediments to progress if this right is to have meaning and if the transfer programmes of the CCs are to be attractive to high school graduates regardless of their original eligibility for admission to the CSU or the UC ... Those who enrol in a CC must know that if they prepare themselves by successfully completing the transfer curriculum they can progress to the upper-division levels in a four-year university and, where capacity permits, at the public campus of their choice" (Commission, July 1987 : 16).

The Commission's fourth recommendation therefore emphasises the transfer function as a central institutional priority of all three public segments of postsecondary education.

3.1.4 Management and Administration in a Unified System

Whereas the CSU and the UC have strong governing structures, the Commission was of the opinion that the CCs have a weak central governing

body. The evolution of the colleges from predominantly locally-supported to state-supported institutions has been accompanied by diminishing local responsibility and increasing legislative intervention in their management and administration. It was clear that if the CCs are to carry out their responsibilities within the unified system, their management structure must be substantially strengthened. Therefore, the Commission recommended that:

"The Governor and Legislature shall create the California Community College system to be administered as a unified state-local system by the Board of Governors with broad policy-making and management responsibilities in both academic and financial matters. The Community Colleges shall be acknowledged to be postsecondary institutions and not part of the public school system" (Commission, July 1987 : 19).

While the Board of Governors will undoubtedly delegate many of the responsibilities already assumed by the local district boards, the districts will now be directly accountable to the Board for the implementation of statewide policy. The Commission believes that this step will mean that there will be one voice for the CCs in terms of statewide policy and appropriations, and the Legislature will be less actively involved in trying to resolve individual problems raised by special interest groups. The CC system will be able to speak with one authoritative voice, or so the Commission has stated, as it develops an equal partnership with the other public and private postsecondary segments (Commission, July 1987 : 19).

3.1.5 Academic Staff and Student Participation in Management and Control

The Commission's view is that the academic staff at colleges and universities have a major role to play through their senates in the academic administration of their campuses and segments. Their responsibility should relate to matters such as establishing and enforcing

academic standards, developing the curriculum, the policies for hiring, evaluation, and retention of colleagues, and other academic matters. This is already the practice at the UC; it is less true at the CSU and only marginally true in the CCs.

According to the Commission the students should also be allowed to participate in those aspects of campus and segmental administration that influence the achievements of their educational goals. Therefore, in Recommendation 6, the Commission proposed such delegation to the academic staff and to the students (Commission, July 1987 : 19-20).

3.2 Towards Greater Equity

The view is held by the members of the Commission that educational equity goes beyond the legal guarantee of access to education. It is an environment of fairness and responsiveness which is necessary for each person to fully reach his or her educational potential. The Commissioners agree that an equitable society is stronger because it draws on the talents of all its citizens.

3.2.1 A Guarantee of Equity

Educational equity has long been a major priority and a number of programmes and activities have been established to achieve it. Yet with few exceptions they have not yielded good results. The Commission states in its Report that institutional barriers such as academic staff and administrator attitudes, differential treatment, discriminatory curricula, and indifference must be addressed. Moreover, equity must be incorporated into every function of every educational institution, and leadership must come from the governing boards and from the California Education Round Table, which was originally formed for this purpose. In Recommendation 7 the Commission therefore confirmed the importance of educational equity and the necessity for ensuring that each institution should achieve greater equity (Commission, July 1987 : 21-22).

A further aspect of educational equity is the achievement of greater numbers of minorities and women on the campuses as students, and as academic and other staff. The Commission believes that the State should increase financial aid for post-graduate students, especially minority students and women. Recommendation 8 therefore stresses the necessity for the early identification, recruitment and training of minority and women undergraduate, graduate, and post-graduate students for academic and administrative positions and the appropriate funding thereof by the State (Commission, July 1987 : 22-23).

3.2.2 A Guarantee of Financial Assistance

The Commission stresses the significance of guaranteed future financial assistance when a student is considering enrolment. It can also be a strong incentive for high school students to follow college preparatory programmes. While it is true that State support for undergraduates has been increased since 1960, it is also true that it has tended to lag behind the actual costs of attending independent institutions. A dramatic change has also taken place in the form in which financial aid is provided to California students. Loans have risen to 50 percent of the total awards while grants have declined. However, the Commission believes that loans should not be the primary form of student aid and that there should be increased State support for student employment and grants.

In Recommendation 9 the Commission asks that all needy students who perform well, be provided with adequate financial support which shall be adjusted regularly to keep pace with changing costs (Commission, July 1987 : 24-25).

3.2.3 A Guarantee of Equity for Older, Part-time Students

The urbanisation of the State has led to a change in students. The average age of the graduating college senior is beyond 24, and the average age of the CC student is 30. More and more students need to work, while many former students are returning to CCs or four-year colleges for "updating".

The Commission has emphasised the centrality of the transfer function yet

one of the barriers to student progression is the "full-time" nature of education at the UC and, to a lesser degree, the CSU. Some 70 percent of CC students are employed at least 35 hours per week, but it is very difficult to combine full-time employment and study at the UC. The CSU system has improved on this, but students who work full-time during the day may find it difficult to take the classes they need in order to graduate.

The trend towards the older, part-time student who works and has a family, is clear. The CCs have been responsive to this need, but the need to adapt university programmes to accommodate those students who wish to pursue a baccalaureate degree is apparent. Therefore in Recommendation 10 the Commission charges the CSU and the UC with the responsibility of meeting the needs of such students (Commission, July 1987: 25-26).

3.2.4 A Guarantee of the Chance to Succeed

Graduation rates for the CSU are much lower than for similar institutions in other states, while in the CSU and the UC, graduation rates for Black, Hispanic, American Indian, and certain other underrepresented groups, are low. Both the UC and the CSU have especially low retention rates for special-action (minority) students. According to the Commission all these rates should be substantially improved.

The Commission Report refers to the fact that the authors of the 1960 Master Plan thought that the CCs would relieve the four-year institutions of the burden of remedial work. However, this has not proved true. Remediation has been necessary in the four-year institutions too. In addition, the English speaking ability of recent immigrants often must be improved before they can pursue a college degree. In Recommendation 11 the Commission therefore recommends that the segments shall seek to improve retention and graduation rates. It also recommends that remedial work be offered when necessary and under certain conditions with a view to the CSU and the UC eventually phasing out such work (Commission, July 1987 : 26-28).

4. PERIODIC EVALUATIONS

Judging by the experience of the last three decades, California seems to have acknowledged that periodic evaluations of its total system of higher education are necessary in order to validate its 1960 Master Plan, to endorse new policies as needed, and in particular to ensure the interrelationship of the various parts of the system. The author of the CPEC report Preparing for the Twenty-First Century (1988), Clive P. Condren, summarises the situation thus:

"These important linkages are what makes California's system of colleges and universities a system, but they rarely receive close attention in regular legislative hearings where attention is focused on individual bills, annual appropriations, and yearly programme augmentations. Thus into the foreseeable future, California will probably undertake major master planning projects in postsecondary education every 10 to 12 years, typically at the initiative of the Legislature or the Governor or both; and these reviews will involve the energies of higher education officials for not less than two years at a time" (Commission, 1988-1 : 40-41).

5. REVIEW OF CHAPTER FOUR

The intention throughout this chapter has been to summarise briefly the main points in the California Master Plan and to indicate also the sort of educational circumstances which prevailed in the late 1950s and early 1960s and which necessitated such a plan of action.

Once the reader grasps the comprehensiveness of the Plan and its all-pervasive influence on all sectors of higher education in California, the need for a similar tertiary education "plan" for the RSA becomes clear. The rationale behind the proposed RSA "plan" in a later chapter emerges as

one understands the functioning of the California strategy and the reasons for its creation in 1960 and its subsequent and regular updating.

The main reason behind the success of the student mobility pattern in California is illustrated in this chapter, namely, the fact that such movement of students is encouraged and sanctioned at the State level and that it is adequately funded and supported by the authorities in Sacramento.

This chapter also illustrates that it is not necessary to re-invent the wheel and that many fundamental principles, which have been established in California, may be utilised, after adaptation, in a total plan for all sectors of tertiary education in the RSA.

CHAPTER FIVE

ARTICULATION IN CALIFORNIA POSTSECONDARY EDUCATION

"Articulation - arranging in a connected sequence; fitting together; correlating; the way in which parts are joined together" (Webster's Dictionary, 1987).

FOREWORD

Since articulation between elements/components in a higher education system constitutes the main concept of this whole study, it is necessary to analyse it fully within the context (i.e. California) which nurtured it. This then is the rationale behind this chapter, namely, a fairly detailed statement on the implementation of articulation procedures during the 1980s with a view to utilising some of the concepts, in adapted form, in the South African context.

The regular and organised contact between the three main sectors of higher education in California contrasts strikingly with the lack of similar contact which exists in the RSA. This chapter therefore highlights the flow of students in California from one sector to another under controlled circumstances which are designed to promote upward mobility in all instances.

1. DEFINING AND QUALIFYING ARTICULATION

An appropriate definition of "articulation", which incorporates many of the principles involved, was published recently by the California Community Colleges' Board of Governors:

"Articulation is a planned process linking two or more educational systems together to help students make a smooth transition from one level to

another. In an instructional context, articulation is a systematic process which permits students to move from one course or programme level to another without experiencing a delay or duplication of learning. In an administrative and student services context, articulation is a programme of activities which helps students successfully make the transition into the college environment" (CCCs, 1987 : B-3).

Although this definition was aimed mainly at defining articulation between high schools and CCs it is nonetheless applicable to other situations too.

In his book on Articulation and Transfer Menaker quotes Leland Medsker's views on articulation: "the essence of articulation is joint efforts of individuals and institutions across a wide spectrum of activities: whether formal or informal, sponsored or voluntary, their endeavours facilitate the transfer of students from one school to another" (Menaker, 1975 : 1). Menaker also cites Frederick Kintzer who "sees articulation (as) ordering the continuous flow of students from one grade level or school to another ... in its broader sense, the interrelationships between schools and colleges, quasi-educational institutions, and other community organisations ... all activities that effect the movement of students" (Menaker, 1975 : 2). Menaker sums up the definitions of articulation thus: "These few concepts, taken together, form the irreducible fabric of articulation, best characterised by the processes which promote continuous, efficient, forward progress of students through the educational system" (Menaker, 1975 : 2).

One essential element of articulation is clearly that it entails the coordination of educational programmes and the processes and procedures whereby coordination is achieved.

A CPEC Report published in 1986 warns that the term "articulation" imparts a mechanistic connotation to what should be a very personal process: the interactions of individuals working together to ensure an integrated learning process for students (CPEC, 1986-10 : 3).

It should be noted that the use of the term "articulation" in an educational context is probably unique to the United States.

1.1 Changing Patterns in Articulation

Statewide efforts to coordinate the programmes and activities of California's public schools with those of its colleges and universities began as early as 1919. In that year the UC first met formally with representatives of the State's high schools and established the Committee on Affiliation with Secondary Schools. As California's other college and university systems developed, the need for effective coordination increased rapidly, and new organisations were needed to meet that need. The first Committee eventually became the Articulation Conference, which in turn evolved into the Articulation Council. Each of these new structures expanded the opportunities for the various systems to work together on issues of mutual concern.

By the 1980s many effective intersegmental programmes and activities had been established to develop and articulate curricula, improve instruction, increase opportunities for underrepresented students, and strengthen assessment practices.

In very recent years (1986-87) the California Articulation Council has been disestablished as a result of the creation in 1987 of the Intersegmental Coordinating Council (ICC) by the California Education Round Table. The Round Table has delegated to the ICC the responsibility for overseeing and coordinating the wide range of intersegmental programmes and activities undertaken by the five segments (the three public postsecondary segments plus the private segment plus the public school segment).

The ICC is composed of seventeen members appointed for two year terms. Each of the five segments is represented by two administrators, and each of the three academic senates (UC, CSU, CC) is represented by a member of the teaching staff. In addition, the CPEC has a representative and student organisations have appointed three representatives. The ICC has divided

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its activities into four related clusters one of which is for "Transfer and Articulation", and each of these clusters has a coordinating committee (ICC, 1987: 4). Since the Round Table is a voluntary organisation the ICC is in fact perpetuating the voluntary nature of most of the articulation agreements of the past.

1.2 Statewide versus Local Articulation

CPEC staff who wrote a Report in 1987 on transfer and articulation policies, found that mandated statewide articulation agreements tend to be either so narrow in scope that their usefulness is limited, or too general to be enforceable. Statewide transfer and articulation policies in California tend to be segment-specific, in that policies such as those governing the approval of CC courses for bachelor's degree credit are adopted separately by the UC and the CSU. However, all segments may be involved in statewide articulation activities of the former Articulation Council of California, (now superceded by the ICC), and the Joint Academic Senate Committee that has worked out statements of competencies to be expected of high school "graduates" enrolling in California's colleges and universities (CPEC, 1987-41 : 27).

Attempts by the California Legislature to mandate statewide policies and practices to ensure transfer student access, information, and acceptance of credit, have not generally been successful, at least in part because of the University's constitutional autonomy. Voluntary activities are continuing, especially in the area of curriculum development in order to establish some minimum common core courses for transfer, the Associate in Arts (AA) degree as the transfer degree, and common course numbers that supplement rather than replace an institution's own course number.

The voluntary, statewide Articulation Council which existed up until 1987 had somewhat variable success except as a forum for airing problems and suggesting solutions. Its voluntary status meant that the agreements which it reached were in most instances not ratified as policy by the boards or officials of the segments which were parties to the agreements (CPEC, 1987-41 : 27-28).

1.2.1 California Articulation Number System (CAN)

Each year about 45 000 CC students transfer to the UC and CSU campuses. It is not uncommon for a four-year campus to receive students for a Fall semester from more than 90 CCs. Although desirable, it is currently unrealistic for colleges to articulate a significant part of their curricula with all other institutions. Students who are attending college and have a transfer objective deserve to know the appropriate courses to take in order to meet the requirements at the receiving campuses. There should be accuracy and consistency in counselling and advising, irrespective of the source. The only thing which can ensure this is a comprehensive, understandable, and credible articulation system to accommodate the large numbers of students and the diversity of programmes (CAN, 1985 : 5).

In order to meet this need, the California Articulation Number (CAN) System was begun in 1982 as a pilot project. The System was designed to simplify the transfer process by increasing the articulation of courses between sending and receiving institutions and demystifying the numerous course numbering systems used throughout the State.

The concern over the complexities of transferring led to legislative action in 1983 when CPEC was requested to "develop a plan for a course numbering system to be used in public postsecondary educational institutions" (Senate Bill 851, 1983). As a result in January, 1985 the Commission recommended that the Legislature and the Governor fund the implementation of CAN (Articulation Council, 1986-87 : 41).

In the plan for implementation, the Commission recommended that each public segment and the private segment appoint representatives for a coordinating committee. It was also recommended that a timetable be proposed for the inclusion of CANs on all campuses of the UC, the CSU and the CCs, together with those independent institutions wishing to participate.

Agreements developed between campuses indicate that a receiving campus will accept, and use, a course from the sending campus in the same way which its own course is used. This articulation provides the foundation

for the CAN System. In the now defunct Articulation Council Handbook for 1986-87 the CAN System is described thus:

"It not only serves as a vehicle to increase communication, and thus articulation, but it is also a major factor in facilitating the transfer of students from two-year to four-year, four-year to two-year, and four-year to four-year campuses. CAN provides consistency in counselling and saves time for all" (Articulation Council, 1986-87 : 41).

The CAN System provides a cross-reference identification number for courses, based on articulation between campuses. In 1987, the System included only 108 semester and 53 quarter courses which had been identified as those lower-division, transferable courses commonly taught on all campuses. The basic premise is that identically numbered CAN courses are accepted "in lieu of each other."

While the courses are comparable, they are not necessarily identical. Campuses that meet the rigorous criteria to use CAN, agree to accept identically-numbered CAN courses, even though they may not have a direct articulation agreement on those courses. For example, if CSU Hayward, CSU Sacramento, CSU Long Beach, and UC Davis each had faculty (teaching staff) approved written articulation agreements with Diablo Valley College (DVC) to accept DVC's Introductory Cultural Anthropology course, then the DVC course would be accepted by all other campuses who have qualified and committed to participate in the System for that course (Articulation Council, 1986-87 : 41).

1.2.2 Requirements for State-wide Articulation

In order to qualify to participate and actually use CANs in catalogues and other publications, a campus must meet the following criteria:

"Two-year Institutions: Accredited public or private colleges offering associate degrees and baccalaureate-level transfer courses."

"Negotiate written, faculty-approved articulation agreements, on each course to be included in the CAN system, with 4 public four-year California colleges and/or universities to include at least one UC and at least one CSU campus."

"Four-Year Institutions: Accredited public or private institutions granting baccalaureate degrees."

"Negotiate written, faculty-approved articulation agreements, on each course to be included in the CAN system, with 4 four-year accredited institutions to include:

1. Articulation with at least one campus from the CSU system;
2. Articulation with at least one campus from the UC system;
3. Articulation may include one institution from the private/independent segment to meet the minimum of 4 schools" (CAN, 1985 : 6-7).

After complying with the above, each campus reports the articulated courses to the CAN Office in Sacramento. When the criteria have been met, the CAN Office will send a "Statement of Commitment" for campus approval. This statement indicates that a campus will accept identically-numbered courses in lieu of their own CAN courses.

The network of articulation agreements between four-year campuses and two-year and four-year campuses, northern and southern campuses, and region to region, strengthens the system. In addition, the process of gaining the teaching staff and administrative approval ensures quality control. The system builds on articulation in its present form and enhances the intersegmental processes, thereby eliminating the majority of the individual case-by-case decisions (Articulation Council, 1986-87 : 42).

1.3 Teaching Staff Roles in Articulation

Some 30 years ago when transfer and articulation became national concerns, registrars and admissions officers tended to be the key players in both processes. The two-year college teaching staff at that stage had relatively little to do with the articulation of their courses and programmes with those in the four-year institutions. The teaching staff and administrators in the four-year colleges made more or less unilateral decisions about which courses would be awarded baccalaureate-degree credit, satisfy graduation requirements, and be considered equivalent or prerequisite to courses offered by the institution granting the baccalaureate degree.

Changes since then have been in the direction of greater participation by teaching staff at all levels and in this regard California seems to be playing a prominent role among the states. The Academic Senate of the California CCs has been effective in securing places for the teaching staff in such bodies as the former Articulation Council and the new ICC and also in working on articulation matters with the statewide teaching staff senates of the UC and the CSU. These activities appear to be useful in improving relationships between teaching staff members in the three segments in a way that eases the transition of students from segment to segment (CPEC, 1987-41 : 29).

The role of California teaching staff in articulation matters appears to be stronger in the UC and CSU at this time than in the CCs, although CC teaching staff are gaining strength in curricular and instructional matters. Since the establishment of transfer centres on many campuses during the last few years, the role of the teaching staff in working with potential transfer students is a matter for renewed debate. There is uncertainty about the locus of responsibility for identifying and encouraging such students, giving them information about transfer options, helping them select courses that have been articulated, and monitoring their transition to a four-year college or university (CPEC, 1987-41 : 29).

1.4 Data Bases and Information Systems

Accurate, current information is essential to good transfer and articulation. California appears, from a CPEC study of transfer and articulation in 11 states (including California), to be ahead of many states in regard to the data in statewide and systemwide computers and the uses which are made of it. However, a shortcoming in California is the lack of a permanent base and this is a deterrent to its use in student flow or longitudinal studies (CPEC, 1987-41 : 33-34).

The UC and the CSU now make annual student performance reports to the CCs, but numbers of transfer students whose records they report differ from those in reports on student flow. The CCs' course data file is not yet suitable for use in Project ASSIST (see explanation in next paragraph) and for keeping track of articulation agreements, and while steps are being taken to improve its information systems to facilitate student tracking and transfer enrolment planning, such moves are both slow and costly.

In 1985 the California Legislature approved the implementation of an interactive, computerised transfer information system on selected CC and university campuses. ASSIST (referred to above) is an acronym for Articulation System Stimulating Interinstitutional Student Transfer. ASSIST is designed to provide:

- * Convenient access to accurate information about the variety of postsecondary transfer alternatives available to CC students;
- * A means by which students can determine the transferability of courses taken in a CC to any participating four-year institution;
- * A means by which students can assess their progress toward satisfying requirements for any articulated programme;
- * A means by which to identify specific courses that may be taken in lieu of requirements in any participating four-year institution.

ASSIST's computer capacity is sufficiently large to provide transfer and articulation information from all California colleges and universities, but at present it tends to be limited to the public universities to which the largest number of students from particular CCs transfer (CPEC Draft, April 1987 : 45-46).

1.5 Examples of Articulation Agreements

The UC and the California CCs have, for many years, worked together to establish articulation agreements which enable students, who are planning to transfer, to maintain continuity in their programmes. These agreements are of two types. One type determines the general transferability of CC courses to the University, and the other determines the acceptability of transfer courses in satisfying the specific requirements of the various academic programmes at each of the University campuses.

1.5.1 Transferability of Courses to the University of California

The UC Universitywide Office of Admissions and Outreach Services works with CC articulation officers to determine course transferability. During August the Director of the UC Office writes to each CC to request an update of the course list. Under this system, a thorough course-by-course review will be done every two years, with an evaluation of new or changed courses only during the intervening years.

Courses listed as transferable are accepted when students are admitted for unit credit in partial satisfaction of the degree requirements of the University. The UC accepts CC courses for unit credit which are comparable to courses it offers to its own freshman (first year) and sophomore (second year) students. Only rarely, and in precisely defined circumstances, will it accept courses that are not exactly like UC courses. These courses must have the same purpose, scope, and depth as those offered at the UC in order to satisfy the University's degree requirements (UC, 1986-87 : 20).

1.5.2 Acceptability of Transfer Courses for Degree Requirements at the University

Further articulation agreements determine how the transferable courses may be used in order to satisfy University graduation requirements - both breadth or college requirements and major or departmental requirements. These agreements enable students to work toward a specific University degree while enrolled at a CC.

Individual deans of colleges and schools at the UC determine the acceptability of transfer courses under their administrative jurisdiction to satisfy part of the degree requirements. Since there are many academic divisions throughout the University system, the campus Relations with Schools officers serve in a liaison capacity between the CC articulation officers and the University deans. The articulation officer at each CC works with one Relations with Schools officer (usually at the nearest UC campus), who handles all the necessary communications in obtaining articulation agreements with appropriate deans throughout the University system (UC, 1986-87 : 20).

1.5.3 Systemwide Articulation at the California State University

The CSU and the CCs have agreed upon policies and procedures which facilitate the movement of more than 45 000 transfer students annually into the CSU. For every freshman, two new transfer students enrol in the CSU, 75 percent of whom come from CCs.

The compatibility of the CSU lower-division requirement with the pattern of courses offered in CCs complies with the intent of the Master Plan for Higher Education in California. It is important that students intending to transfer are assured that normal progress toward a baccalaureate degree may be made while attending a CC. To this end, the CSU and the CCs have developed the following policies and guidelines for articulation agreements:

"Transferable Course Agreements - CCs and other regionally accredited institutions have the responsibility for designating their courses that are transferable to a CSU campus. Transferable courses, also referred to as baccalaureate level courses, may be used for elective credit at a CSU campus as established by Executive Order 167."

"General Education/Breadth Requirements - ... It leaves to each CSU campus the responsibility for developing the campus programme within the established framework. Executive Order 342 provides the structure for faculties of other regionally accredited colleges and universities, primarily CCs and the CSU, to determine the applicability of their courses to the CSU GE/Breadth requirements. A provision in this executive order allows the 'certification' of General Education courses. Of the minimum total of 48 semester units, no more than 39 semester units may be certified by any campus. In the case of certification by more than one campus, no more than 39 semester units need be accepted by the CSU campus granting the degree."

"The courses submitted to meet GE/Breadth requirements are reviewed by a subcommittee of the General Education/Breadth Advisory Committee consisting of four CSU faculty and three CCC faculty that will recommend to the Chancellor those courses it believes should be subject to challenge" (Articulation Council, 1986-87 : 19).

The Office of the Chancellor of the CSU is responsible for the on-going review of compliance with all CSU Executive Orders. The final decision for course acceptance for preparation of a major course is made by the appropriate teaching staff on each of the 19 CSU campuses.

1.5.4 Independent Colleges and Universities

As stated in an Articulation Council report in 1986, the numerous private colleges and universities in California are not supported by state tax revenues and vary greatly in nature of programme offered, size of student bodies, and number of transfer students. Each institution acts autonomously in setting transfer credit policies.

In the majority of these institutions, the responsibility for determining transfer credit is assigned to an official in the Admissions and/or Registrar's office. Each student's record is evaluated on an individual basis, according to guidelines usually supplied by the academic vice-president or dean to whom the Admissions/Registrar officer reports. Courses applicable to the major subject(s) are evaluated for credit by the department teaching staff or division deans.

Those institutions reporting formal articulation agreements have, for the most part, developed them recently with CC feeder schools within their geographic area. The agreements typically list transferable CC courses for lower-division credit, general education courses, and some transferable courses applicable to the major. In developing formal articulation agreements, institutions often use the UC/CC transfer course agreements as a basis for their own agreements.

In some independent institutions, transfer students are few in number, therefore, a formal articulation process is not necessary. Only one institution reported sufficient numbers of transfer students to warrant a full-time articulation officer (Articulation Council, 1986-87 : 23).

1.5.5 Community Colleges and the Articulation Process

California's CCs are diversified when it comes to the articulation process. Out of the 106 colleges, only two (Santa Monica and Santa Rosa) had full-time articulation officers in 1987. In the other colleges, the responsibility for articulation is assigned to a variety of offices including Offices of Instruction, Student Services, and Records/Admissions. Some articulation officers have 50 percent released time; many have far less than that (Articulation Council, 1986-87 : 29).

1.6 Articulating Career Education Programmes

For the purposes of the study which it made of this topic, the CPEC defined "career education" as:

"... organised learning experiences offered by schools and colleges that have sequence and continuity and lead to successive higher levels of employment on a particular career ladder" (CPEC 1987-48 : 4).

CPEC also uses the phrase "articulated career education programme" in a particular way and it is defined as:

"... a series of learning experiences that are organised so as to ensure that students pursuing formal education for a particular career field are able to move from one level of education or employment to the next higher level of a career ladder with a minimum amount of duplication or overlap in learning, loss of time in school, and disruption in employment" (CPEC 1987-48 : 4).

Assembly Bill 3639 (enacted into statute in 1986) directed the CPEC to study the status and feasibility of articulating high school and CC career education programmes ("2+2") (see Glossary of Terms) and extending them to a baccalaureate degree to be awarded by four-year institutions ("2+2+2") (see Glossary of Terms). It reported its findings to the Legislature in January 1988 and made recommendations about state funding for pilot articulated career education programmes. In the meantime the Bill supported the concept of articulated career education programmes by approving the use of federal vocational education funds for 21 projects to develop and implement high school-Community College articulation in a variety of career fields (CPEC, 1987-48 : 5).

Information from a statewide survey (1986-87 school year) of high school-Community College articulation programmes and practices was made available to the CPEC staff. It showed that some type of articulated career education programme was either currently offered, or was being planned in 46 vocational areas. Further analysis of information from the survey raised issues about the applicability to the baccalaureate degree of a number of courses and programmes that are presently articulated at the high school-Community College level.

1.6.1 Articulation Issues Raised by the Survey Data

One issue involves the awarding of college credit to high school students who enrol in vocational courses offered by CCs, sometimes at the high school site. The issue is the appropriateness of the course for college degree credit for students who may not meet course prerequisites in basic skills or academic subject matter, especially if these students want to use the credit in pursuing a baccalaureate degree. The CC Board of Governors has adopted new, stricter standards for degree credit courses, and it is not yet clear whether vocational courses taken by high school students will meet these standards.

Another issue is whether the present form of articulation is sound educational practice or simply the CC's response to a perceived weakening of high school vocational education programmes - a condition resulting partly from increased high school "graduation" requirements that make it difficult for students to enrol in vocational courses for high school credit.

Yet another issue is the nature of the career programmes being articulated at this time and their potential for articulation with baccalaureate degree programmes. Problem areas that are now being articulated by the largest number of colleges, but that hold little promise for articulation at the baccalaureate degree level, include automotive courses, some business options, drafting and welding. Electronics may be an area in which such articulation is most feasible, together with computer/information sciences, health occupations, early childhood education, and some areas of business (CPEC, 1987-48 : 10-11). Pertinent

to the question of extending career education programmes to the baccalaureate degree is the finding that high schools and CCs have tended to focus articulation efforts on vocations in which entry-level courses may be taught at either level - often for college credit or advanced placement - and that do not easily lend themselves to the development of career and related educational ladders. Emphasis is on the trade-industrial and business occupations, rather than human services and technologies, with the exception of electronics (CPEC, 1987-48 : 11).

Finally, what CCs reported in the survey was more often in the nature of course equivalencies than articulation of courses from one to the next higher level. In other words, CCs work with high schools in their geographic area to identify vocational courses that are taught at both levels and that have common objectives or outcomes in terms of expected competencies. Courses in typing/word processing and auto mechanics are examples, with high school students who complete them successfully receiving college credit or advanced placement if they enrol in the CC after "graduation". This "articulation" practice may result in acceleration to an associate degree, certification, or employment without a formal award, but it does not appear to support articulation to a baccalaureate degree.

1.6.2 Community College and University Articulation

Assembly Bill 3639 also called on the CPEC to involve the UC and the CSU and the independent colleges and universities in its study of the feasibility of extending career education programmes to the baccalaureate degree. This was done by securing representatives from these three sectors to serve on the advisory committee, together with those from the Chancellor's Office for the CCs and the State Department of Education.

1.6.2.1 The California State University

A CPEC survey of 48 CC catalogues yielded information about specific career education programmes that have been articulated with CSU campuses. It indicated 22 career-oriented fields while another 43 catalogues were less specific about such articulation. The 22 programmes include some in which at least a baccalaureate degree is required for entry-level

professional employment, for example, engineering and teaching, but most lead to some type of employment opportunities after either the associate or the baccalaureate degree. Among the 48 colleges, 42 described articulated programmes in business in their catalogues, as did 40 in nursing, 39 in engineering, 35 in theatre arts, 34 in criminal justice, 32 in computer science, and 24 in teaching (CPEC, 1987-48 : 16).

In summary, the CSU appears to be more ready than the UC or the independent institutions to begin developing extended articulation programmes that would include high school as well as CC courses and programmes, given the number and range of programmes that are already articulated and the flow of CC students into the CSU and their attainment of baccalaureate degrees. Problems remain in relation to reaching agreement on a common definition of what constitutes a baccalaureate-level course in the lower division and also of applying agreed-upon standards for associate degree credit courses to those offered historically in federally-supported vocational curricula. In addition, not all CC curricula can or should be articulated with baccalaureate-degree programmes. It is clear that some programmes which high schools and CCs are now articulating have little potential for extension to the baccalaureate degree since there are no equivalent courses or programmes in the CSU - most notably in automotive mechanics and related options. Some business options in which high schools and CCs have identified equivalent courses also appear to require the upgrading of outcomes and objectives if they are to be considered for baccalaureate or transfer credit - more particularly typing and word processing (CPEC, 1987-48 : 16,18).

Foreign language courses appear to offer a useful precedent or model, since they are taught at both the high school and college and university levels, with equivalent beginning courses being identified on the basis of student outcomes. According to the CPEC Report on "Articulating Career Education Programmes ..." the articulation agreements situation can be summarised in this way:

"Statewide and regional (north/south) activities that produced articulation agreements or models under the leadership of the long-time Articulation Council of California appear to have been replaced by more localised activities involving CCs and the campuses to which the largest numbers of their students transfer, at least in the technologies and professions. The major exceptions to this observation are engineering, with multi-campus and segment articulation activities persisting after termination of the Articulation Council as such, and home economics, where six State University campuses and one independent institution have entered into an agreement with regard to ten courses taught at the lower-division level, with four more State University campuses expected to join in the agreement for the purpose of acquiring California Articulation Numbers (CANs) (CPEC, 1987-48 : 18-19).

1.6.2.2 The University of California

Regarding articulated career programmes, the UC has indicated to the CPEC its interest in exploring the feasibility of developing such programmes with CCs in the areas of Administration of Justice, Agriculture, Architecture, Business Administration, Engineering, and Computer /Information Systems. At present these areas appear to be the ones where the University feels that it could contribute most in terms of articulated career programmes. However, the University believes that it will have to take into consideration: a) existing campus degree requirements for each of the areas cited, b) how these requirements can best be satisfied by students at the CCs, and c) how the proposed general education transfer core curriculum can be incorporated into each articulated career programme. Finally, the UC would expect that students entering such programmes will have satisfied all admission requirements and will have completed lower-division transferable course work in preparation for their intended upper-division programme at the UC (CPEC, 1987-48 : 19).

As far as the UC is concerned there are certain clear indicators which show that its involvement in articulated career programmes is likely to be very limited. CC students tend to be more likely to seek education related to job opportunities than freshmen enrolling in four-year institutions - particularly those entering the University and most independent institutions. With the exception of engineering, the University offers relatively few opportunities for specific career preparation at the undergraduate level. Numbers of campuses offering such programmes are limited, as are the numbers admitted to the programmes (CPEC, 1987-48 : 19).

According to the CPEC, the implication is not that the University should develop new or expand existing programmes that are associated with career preparation. Instead, the University may wish to assist CCs in making clearer the career opportunities that transfer students in the social sciences, languages and literature, and psychology, for example, may avail themselves of when they acquire a baccalaureate degree.

1.6.2.3 Independent Colleges and Universities

A study of the AICCU's membership roster reveals that 12 out of 62 (or about 20 percent) are heavily involved in career education programmes. The AICCU defines "career education" as one which leads students towards a specific career field which is not a profession requiring post-graduate education. These 12 institutions enrolled two-thirds of the 9 300 CC students transferring to the independent sector during the 1985-86 academic year. They have developed curricula which serve students with a wide variety of needs, from training in art and design to nursing and court reporting - in other words programmes which are oriented towards career preparation (CPEC, 1987-48 : 20).

The programmes offered by these 12 institutions are generally more closely articulated with the employment needs of private industry than they are with the public school system or CC curricula. For the most part, these colleges articulate with their local CCs and local high school vocational programmes on an "as needed" basis.

The only recent study of articulation agreements between California's independent colleges and the CCs or the public school sector was conducted for the Articulation Council in 1985-86. Unfortunately, the response from the 12 institutions was not good, therefore there is no comprehensive record of their articulation agreements (CPEC, 1987-48 : 20).

1.6.2.4 Articulation from High School to Colleges and Universities

The CPEC reported as follows in 1987 on the situation prevailing in California with regard to career education programmes and articulation:

"There appears to be relatively little activity in California at this time regarding the vertical extension to the baccalaureate level of existing types of high school-Community College linkages of career education programmes. In fact, conditions may be mediating against such a thrust, given the recent changes in freshman admission requirements for the public universities, recommendations from the Commission for the Review of the Master Plan for Higher Education (July 1987 : 16,31) and other groups for the development of a common core transfer curriculum, and increasing interest in distinguishing between associate degrees for transfer on the one hand and preparation for employment on the other" (CPEC, 1987-48 : 21).

The CPEC identifies six factors which appear to be responsible for the present lack of initiative in linking career education programmes at the three levels of education.

Firstly, the CC articulation efforts focused, until recently, largely on linkages with the UC and the CSU and tended to overlook links with high schools. Three reasons may account for this emphasis:

* First, the transfer function increased in importance following the preparation of the 1960 Master Plan and later the State's concerns about increasing the enrolment and persistence of underrepresented ethnic minority students in higher education - the latter at a time when numbers of CC transfer students to the public universities were decreasing significantly.

* Second, the CC student population has been changing - it is older, more part-time, with an increasing amount of previous postsecondary education, as well as more diversified ethnically, with a concomitant reduction - at least proportionally - in the enrolment of recent high school "graduates".

* Third, faculties (teaching staffs) of the higher education segments began to work together on a regular basis on problems of course patterns to meet new CSU general education requirements, statements of competencies to be expected of high school graduates enrolling in higher education, and standards and definitions for college-level, degree-credit courses (CPEC, 1987-48 : 21).

Secondly, there is evidence in the survey information that CCs have begun again to engage in articulation activities with nearby high schools but not usually in the context of a continuum from high school through the CC to a baccalaureate degree. Two kinds of emphasis appear to be dominant in local articulation programmes: 1) articulation in regard to basic skills assessment and readiness for CC-level work, and 2) articulation of vocational courses and programmes - particularly course equivalencies and statements of vocational skill objectives. The availability of federal vocational education funds to support the development of articulated high school-CC career education programmes provided a strong incentive to these two levels to do so. However, the lack of special funds to involve four-year institutions in such projects has been a disincentive until now. Joint planning by the three levels of education might have been preferable in developing linkages to the baccalaureate degree. The lack of special funds to do so may have resulted in high school-CC vocational programme links that will be difficult to extend to the four-year colleges and universities.

Thirdly, another factor that may have inhibited the three-level articulation of career education programmes was the lack of participation of representatives of secondary education in the California Articulation Council in its latter years. The creation of the ICC with all segments being represented will no doubt help to resolve this problem.

Fourthly, a type of curriculum design that is conducive to articulation in career education is referred to as the "upside down" curriculum. In this arrangement employment-related skills courses are taught in the lower division and general education or breadth courses at the upper division level. Under this curriculum, high school students acquire strong preparation in the academic skills courses that are prerequisite to career-related courses, and they continue to build these academic skills as they progress through an articulated curriculum. California Polytechnic State Universities have been possibly the only public institutions in California to adopt this curricular approach ("upside-down") in their technical-professional programmes. However, for reasons that are not entirely clear, articulation with CCs did not work well in the past with this type of curricular organisation. Other CSU campuses have preferred the more traditional approach of requiring general education and academic skills courses in the lower-division, followed by career preparation in the upper-division - often in the same kinds of courses that CCs offer at the lower-division level.

Fifthly, an external option permits mature students to "assemble" courses and educational or work experiences from a variety of sources - including external examinations - in meeting requirements for a degree that is awarded by an agency or organisation which is authorised and accredited to do so. The Regents of the University of the State of New York (a non-campus entity) has been awarding such degrees for over a decade, most notably in business administration and nursing, and the Consortium of the CSU did so until recently. However, unlike such states as New York, California does not now have a state-supported external degree-programme option that is independent of a particular CSU or UC campus, now that the CSU Consortium has returned to a campus-based programme.

Sixthly, a final factor is the lack of clarity about the kind of baccalaureate degree to be awarded to students completing extended career education programmes. This lack of clarity is heightened if students use an attendance pattern that involves moving out temporarily for employment and moving up a career ladder from employment at a technical level to one involving supervision and management. Universities are understandably reluctant to award degrees in majors in which students have had little upper-division work at their institution, and the success of specially created degrees for such transfer students has been limited (CPEC, 1987-48 : 21-22).

In reviewing these six factors, the CPEC Report acknowledges that they may have inhibited the development of career education programmes that begin in high school and extend to the baccalaureate degree. However, according to the Report, none represent insurmountable barriers or problems, and some may become irrelevant as work is undertaken to develop such programmes in California's high schools, colleges and universities (CPEC, 1987-48 : 22).

1.6.3 Conclusions

At the conclusion of its Report, the CPEC had this to say about the feasibility of articulated career education programmes:

"The concept of a six-year articulated career education programme leading to a baccalaureate degree is relatively new and appears to be feasible, at least in selected fields in which CCs have reached articulation agreements with institutions that award the baccalaureate degree. However, with the notable exception of electronics, this kind of articulation appears more feasible as an extension of CC-university programmes to include high school preparation, rather than the extension of high school-CC programmes to the baccalaureate degree, as suggested in Assembly Bill 3639. A major reason for this conclusion is the need for stronger high

school preparation in mathematics, science, and communication skills for students who continue their career education in a CC and beyond than was required in the past of vocationally oriented students ... Thus the Commission concludes that AB3639 did not anticipate the development of six-year programmes of "vocational education", instead, a continuum of basic skill, academic, and career-oriented courses that would begin no later than the junior year in high school and enable students to continue to a baccalaureate degree without insurmountable barriers and hurdles" (CPEC, 1987-48 : 25).

2. REVIEW OF CHAPTER FIVE

The implementation of "articulation" between the three main sectors in California emerged as one of the fundamental tenets of the 1960 Master Plan. For this reason it has been necessary to indicate clearly how it has been applied during the last thirty years, and more particularly during the 1980s.

One of the theses of this study has been the assumption that greater articulation between the three basic sectors of tertiary education in the RSA would be beneficial. In order to support this assumption it has been necessary, in this chapter, to provide an analysis of the ways in which such linking of sectors and institutions takes place in California and also to describe the reasoning behind their actions.

The analysis of articulation in California lays a foundation for an attempt, in a later chapter, at an integrated and articulated model for the RSA, albeit only at a basic level and without the provision of detail.

This chapter therefore contrasts strikingly with the equivalent chapter on the RSA since one is sophisticated, detailed and functioning while the other is unrefined, basic, tentative and experimental.

CHAPTER SIX

TRANSFER IN CALIFORNIA POSTSECONDARY EDUCATION

"The transfer function shall be recognised by the Governor, Legislature, and governing boards as a central institutional priority of all three public segments of postsecondary education" (Commission, July 1987 : 16).

FOREWORD

As in the case of articulation in the previous chapter, the concept of transfer of students between higher education institutions in California, is of primary concern in this study. For this reason a thorough examination of transfer procedures and requirements provides a basis for use in later chapters on South Africa.

Since a fundamental thesis in this study is the view that certain elements of "transfer" are adaptable to the situation in the RSA, it is clear that this chapter is intended to inform the reader fully about this term/concept and what it entails. Any proposals made in the context of tertiary education in the RSA will then be able to be reviewed in a balanced way by using the "classic" model in California in order to evaluate the merits thereof.

This chapter provides the perspective on "transfer" which is needed to comprehend the value which such bridging between institutions can have and to emphasise the importance of the lessons which can be gleaned from the California experience.

1. DEFINING AND QUALIFYING TRANSFER

Any definition of "transfer" must inevitably be linked to "articulation" since they are separate but related issues. In very simple terms "transfer" could be described as the process of admitting applicants to institutions with advanced standing (successes at lower (entry) levels of postsecondary education are acknowledged and the student admitted to a higher level).

The term "transfer" lends itself more to explanation and description than to definition since it is more often used in California and many other parts of the United States than in other parts of the world. In fact, the whole concept of "transfer" is seldom encountered in educational systems outside the United States and certainly not in the way in which it is used within the California system.

1.1 The Importance of Transfer in California

Thirty years has passed since the 1960 Master Plan was adopted, in which CC transfer was a cornerstone in the State's attempt to provide access to postsecondary education up to the baccalaureate degree for all who could profit from education beyond the high school.

This transfer principle has remained constant since 1960 and has been reaffirmed on many occasions including the statements published in 1987 by the Commission for the Review of the Master Plan for Higher Education. The CC transfer function is essential to this commitment by the State since very large numbers of students begin their baccalaureate-degree programmes in these institutions.

Support of the transfer function implies a commitment by the State to provide adequate funding for the CCs to ensure high quality of instruction and services and sufficient course offerings to prepare transfer students for admission to the upper divisions of universities or colleges. This commitment need not detract from the importance of other CC functions, but

the importance of transfer needs to be emphasised since changing demographics indicate that this function has fluctuated during the last fifteen years. This affirmation of the transfer function in no way implies that CCs should merely be feeder institutions. Instead, it focuses on the need for CCs to continue to be recognised as postsecondary education institutions (CPEC, 1985-15 : 39).

1.2 Issues and Problems in Transfer

No one segment of education bears sole responsibility for transfer issues or problems. All four segments (as well as the public schools) are partners in assuring the smooth flow of students through the system to whatever level they are motivated, and academically able, to achieve. Success or failure depends on the cooperation of all segments.

Although the decline in the number of CC students who transfer to the UC and the CSU has abated, problems remain, such as the underrepresentation of Blacks and Hispanics in transfers from the CCs, that require attention at the State level, rather than ad hoc adjustments in institutional practice.

In a 1985 Report: Reaffirming California's Commitment to Transfer, the CPEC views the question of numbers of transfer students in this way:

"There is nothing intrinsically good about increased numbers or higher rates of transfer from CCs to the University and the State University, nor are decreasing numbers necessarily indicative of failure of the transfer function. Changes in numbers are simply one indication that changes are occurring in the CCs and in their relationships with secondary schools and four-year colleges and universities that often reflect societal changes" (CPEC, 1985-15 : 40).

At the present time, there is no widely accepted norm by which to compute a transfer rate. Furthermore, student data that might define the actual size and characteristics of the "pool" of potential student transfers are not normally found in the CC student data base.

The identification of potential transfer students remains a problem. Much work needs to be done on the development of effective methods for identifying such students, especially those from certain ethnic groups who do not have transfer in mind, or those who are not ready for college-level work, when they first enrol in a CC.

CCs will remain open-door institutions. However, they need to convey to high schools the necessity for "graduates" to be better prepared to undertake college-level work as CC freshmen, especially if they expect to transfer after two years to a four-year college or university. CCs must offer a consistently high quality of lower division work in order to prepare students to transfer and to compete successfully with native students (those who enrolled at the senior institution from the outset) in a wide range of programmes in both the public and independent institutions which award a baccalaureate degree. CCs also play an essential role in helping students with serious academic deficiencies to become eligible for admission to the UC and the CSU with advanced standing.

The ability of the most popular urban campuses of the UC and the CSU to enrol larger numbers of undergraduate students is questionable because of the nature of their facilities and the specialised interests of their teaching and research staff. For this reason it is the responsibility of the CCs to ensure, as a major priority, that courses needed by their students in order to meet campus and programme transfer requirements are offered on a regular basis. Ability to transfer should not be limited by the lack of availability of CC courses. Enrolment limitations (impacted courses) on some campuses make it impossible for some transfer students to enrol on a campus and in a programme for which they have completed all requirements in a CC. However, such students will be able to enrol somewhere in the segment to which they apply if they are willing to move

to another part of the state while they are enrolled. Teaching staff on the UC and CSU campuses continue to have autonomy in establishing subject-matter requirements that may differ from campus to campus, thus creating some hardships for CC transfer students who must be redirected. Better intersegmental articulation and information sharing will reduce but not eliminate such hardships (CPEC, 1985-15 : 41-42).

The CPEC 1985 review of transfer matters sums up the question of certain issues and problems thus:

"Issues and problems are easily confused in an area as complex as the CC transfer function ..

.. several areas of controversy have been identified in which problems relating to transfer still exist but basic principles are not an issue at this time"

"High school subject-matter or grade-point requirements for CC admission are also not an issue now, in that none are being proposed. However, the increasing gap between the preparation of CC and university-bound high school students is a problem for CC students preparing to transfer to institutions where competition for grades among students with very strong high school preparation is intensifying""Faculty autonomy is also not an issue, whether in the CC, the UC, or the CSU. However, transfer student problems arise when articulation agreements are missing, outdated, or simply ignored" (CPEC, 1985-15 : 42-43).

1.3 Transfer Student Persistence and Performance

Because of the significant role played by the CCs in providing lower-division instruction for the large majority of recent high school "graduates" attending colleges, the flow of students from high school to

community college and through a four-year college to a baccalaureate degree in California may be described as a two-stage process. Any assessment of the success and quality of the CC transfer function needs to be linked to the nature of this flow in terms of student persistence and performance (CPEC, 1985-15 : 45).

In stage one, the patterns of flow from high school into the three public segments and to the independent colleges and universities, have to be examined. Within the four-year segments, success is measured by how well they prepare their first-time freshmen for transition to upper-division status as reflected by persistence during the lower-division and the academic performance of those who persist into the upper-division. In the CCs, at least four sub-groups of first-time freshmen need to be assessed. These are, namely, those eligible to enrol as freshmen in the UC on the basis of their high school record, those eligible to enrol in the CSU as freshmen, and those who are ineligible because of minor subject deficiencies from high school and those with major deficiencies in preparation or level of performance. The persistence and quality of preparation of each group for upper-division work must be assessed in examining the CC transfer function. Whatever factors have to be considered when accounting for the varied success of these sub-groups, one common measure of success is the number who transfer and their subsequent persistence and performance in four-year institutions (CPEC, 1985-15 : 45).

Stage two of the student-flow assessment involves the movement of freshmen, who enrolled at a four-year institution from the outset, and CC transfer students through the upper-division to the baccalaureate degree. The rates of attrition from the various sub-groups based on institution of origin as freshmen, basis for admission, sex, and ethnicity, are also important. The level of performance of the sub-groups and of those who persist to the baccalaureate degree, and the time taken to achieve the degree, constitute aspects which are also of interest.

Another significant indicator is a comparison between the performance of the native students (those who enrol initially) at four-year institutions

and the transfer students from CCs. Answers to such comparisons and questions help provide a context for evaluating the transfer function as it was initiated in the 1960 Master Plan (CPEC, 1985-15 : 45-46).

1.4 Trends in Transfer Students

The transfer function reached its peak by the mid-1970s when numbers of transfer students to the UC and the CSU were at their highest level since the 1960 period. Thereafter the numbers decreased until about the mid-1980s when there was an upward trend once again. Two major reasons for the decline were changes in the characteristics of CC students and a shift in priority among the CC functions that resulted from these changes in student population.

The resurgence of interest in the transfer function was just prior to the establishment in 1984 of the Commission for the Review of the Master Plan for Higher Education. This was opportune since the Commission once again emphasised the critical importance of the transfer concept to the success of California's tripartite, interdependent system of public higher education.

The CPEC publishes annual reports on transfer statistics. The latest of these reports (1988-15) indicates the trends during the last two decades:

TABLE 1: NUMBER OF COMMUNITY COLLEGE STUDENTS WHO TRANSFERRED TO THE UNIVERSITY OF CALIFORNIA, THE CALIFORNIA STATE UNIVERSITY, AND REGIONALLY ACCREDITED INDEPENDENT INSTITUTIONS, TOGETHER WITH NUMBER OF FIRST-TIME FRESHMEN IN THE UNIVERSITY, THE STATE UNIVERSITY, AND THE COMMUNITY COLLEGES FROM CALIFORNIA HIGH SCHOOLS, 1965 - 1987

Year	<u>Community College Transfer Students</u>			<u>First-Time Freshmen</u>				
	<u>Fall Term</u>	<u>Full Year</u>		<u>Fall Term Only</u>				
	<u>UC</u>	<u>CSU</u>	<u>Indepen- dent</u>	<u>UC</u>	<u>CSU</u>	<u>UC</u>	<u>CSU</u>	<u>CCC</u>
1965	2,948	14,603			-	-	14,023	-
1966	3,761	19,295			-	12,341	15,574	-
1967	3,702	22,059			-	13,072	16,082	-
1968	3,785	26,596			-	11,665	18,844	-
1969	4,458	28,207			43,963	12,066	17,539	-
1970	5,166	29,059			49,245	13,233	18,984	-
1971	6,154	32,546			52,989	13,637	19,306	-
1972	7,165	34,619			53,820	14,358	22,094	-
1973	8,193	33,089			51,335	15,011	22,210	-
1974	7,813	32,646			51,144	14,915	22,886	119,652
1975	8,002	35,537			52,917	15,460	23,239	126,688
1976	7,123	32,653			51,230	14,935	23,498	120,702
1977	6,392	34,001			51,159	14,820	23,867	123,561
1978	6,193	31,609			47,430	15,850	24,668	117,510
1979	5,649	30,428			46,326	16,534	25,703	117,269
1980	5,428	30,490			46,649	16,340	25,470	116,518
1981	4,778	30,026			45,283	16,580	23,500	109,556
1982	5,137	29,824			45,400	16,897	24,016	113,815
1983	5,305	30,274			45,726	18,323	23,250	99,359
1984	5,257	30,134			45,476	19,202	22,959	93,521
1985	4,931	29,682		6,574	45,469	19,388	22,959	82,877
1986	4,858	27,761	6,512	6,754	43,666	19,616	25,525	90,348
1987	5,465	28,252	8,086	-	-			

SOURCE: CALIFORNIA POSTSECONDARY EDUCATION COMMISSION, 1988-15 : 5

The number of CC transfer students who entered the University with advanced standing increased by 12,5 percent or 607 students between Fall 1986 and Fall 1987, to 5 465 which was the largest number since 1979. Although smaller than the number who transferred each year between 1971 and 1979, it represents a substantial increase over recent years at a time when the number of high school "graduates" and the percentage of such "graduates" enrolling in CCs are both low. Sixteen CCs now account for 51 percent of the total students who transferred to the University in Fall 1987 with each sending more than 100 students. At the other end of the scale, 46 CCs had fewer than 25 students transfer to the UC in Fall 1987 (CPEC, 1988-15 : 4-5,10).

The number of CC students who transferred to the CSU in Fall 1987 increased 1,8 percent or by 491 students to a total of 28 252. While smaller than the number who transferred in Fall 1985 and each Fall back as far as 1970, it marks the end of a recent three-year decline. CC students who transfer to the CSU tend to enrol at the campus that is closest to their CC unless none is within commuting distance. Students who transfer to the University tend to do the same, but the University has far fewer campuses to which they can commute. Thus within the major geographic regions of California, increases of transfer students to some impacted University campuses have been accompanied by decreases in transfer to nearby CSU campuses (CPEC, 1988-15 : 10,13).

As far as the independent colleges and universities are concerned their statistics are not always complete and the totals have to be estimated. Forty-eight institutions reported a total of 8 086 new transfer students from CCs in Fall 1987, to which might be added about 700 students who transferred to five institutions which reported in 1986 but not yet in 1987 when these statistics were prepared. Thus the increase between 1986 and 1987 appears to be about 25 percent. National University accounts for a major part of the difference between the last few years, with an increase of 68 percent. Twenty-two CCs had more than 100 students transfer to independent colleges and universities that reported in Fall 1987 (CPEC, 1985-15 : 16,18).

1.5 Ethnicity and Performance of Transfer Students

1.5.1 Ethnicity

The ethnic distributions of the total groups of CC transfer students are set forth in Table 2 and the trends can be clearly seen:

TABLE 2: ETHNIC DISTRIBUTION OF COMMUNITY COLLEGE TRANSFER STUDENTS TO THE UNIVERSITY OF CALIFORNIA AND THE CALIFORNIA STATE UNIVERSITY, FALL 1980 - FALL 1987, IN PERCENTAGES

Transfer To	Year	Ethnicity						No Response	Total
		White	Hispanic	Black	Asian	Filipino	Amer. Indian		
UC	1980	77.1%	7.4	3.7%	9.6%	1.1%	1.1%	10.0%	5,356
	1981	75.5	8.1	4.0	10.2	1.2	1.0	9.9	4,778
	1982	74.8	8.3	3.8	11.1	1.3	0.7	3.6	5,137
	1983	73.0	8.9	4.2	12.0	1.0	0.9	3.3	5,305
	1984	72.5	9.6	3.3	12.2	1.5	0.9	3.0	5,257
	1985	70.7	10.8	3.3	12.6	1.7	0.9	2.4	4,931
	1986	69.5	10.0	3.9	13.7	2.0	0.9	4.4	4,858
	1987	68.7	10.4	3.6	14.0	2.3	1.0	3.6	5,465
CSU	1980	75.1	10.0	6.1	6.1	1.2	1.5	37.2	30,527
	1981	71.2	8.4	6.4	7.1	1.3	5.6	16.3	30,026
	1982	73.7	9.1	5.9	8.5	1.4	1.4	5.6	29,824
	1983	72.0	9.7	6.6	9.3	1.5	0.9	6.2	30,274
	1984	71.7	9.7	6.4	9.5	1.6	1.1	4.6	30,134
	1985	71.0	10.0	5.8	9.9	1.9	1.4	4.4	29,682
	1986	70.1	10.6	5.5	10.4	2.1	1.3	4.1	27,761
	1987	69.0	11.2	5.7	10.6	2.2	1.3	4.6	28,252

1.5.2 Performance and Graduation of Transfer Students

Both the UC and the CSU publish comprehensive reports on transfer student performance that are sent to each CC and which draw attention to the academic performance of CC transfer students, and the relative proportions of baccalaureate degrees awarded to "native" and transfer students. During the Fall 1986 enrolments at the University it is interesting to note the following highlights:

"1. 87 percent of the CC transfer students enrolled in Fall 1986 were regularly admitted in accordance with provisions for admission with advanced standing."

"2. Of those regularly admitted, 90 percent completed the first year after transfer, compared to 86 percent of the smaller group of 'special action' admits."

"3. The CC grade-point average for regularly admitted students was 3,2 and the average for the other group was 3,0."

"4. The University grade-point average for the first year after transfer was 2,8 or 0,43 point below the CC average for those regularly admitted, and 2,5 or 0,45 below the CC average for the other group (A grade-point differential of less than 0,5 for the first year after transfer indicates performance above the level generally expected of such students and places few transfer students in academic jeopardy, given the high averages with which they transferred)" (CPEC, 1988-15 : 23).

The percentage of degrees awarded by discipline during 1982-83 and 1985-86 in both the UC and the CSU are shown below in the two tables. These tables illustrate the relative importance of the CC transfer function in producing university graduates at the baccalaureate level.

Table 3 shows that the percentage of degrees awarded by the University to "native" and CC transfer students has increased between 1982-83 and 1985-86 to 50 and 22 from 45 and 21 percent, respectively, while the percentage awarded to other transfer students decreased by six percentage points from 34 to 28. The latter change may be a result of the priority in admission with advanced standing that the University has been giving recently to CC transfer students (CPEC, 1988-15 : 23).

TABLE 3: BACCALAUREATE DEGREES AWARDED BY THE UNIVERSITY OF CALIFORNIA BY TYPE OF STUDENT AND DISCIPLINE, 1982-83 AND 1985-86

Discipline	Type of Student*							
	1982-83				1985-86			
	Total Number	Native	CC Transfer	Other Transfer	Total Number	Native	CC Transfer	Other Transfer
Agriculture	525	50%	19%	31%	453	65%	14%	21%
Business and Management	946	54	22	24	1,040	55	24	21
Communication	451	50	16	34	401	61	16	23
Computer and Informations Science	562	43	24	33	645	48	27	25
Education	122	51	23	26	74	47	23	30
Engineering and Related Technologies	2,066	53	22	25	1,831	59	24	17
Foreign Languages	409	41	21	38	422	45	24	31
Health Sciences	433	24	8	68	308	24	6	70
Letters	1,281	35	23	42	1,415	42	24	34
Gen. Studies	291	34	37	29	374	45	34	21
Life Sciences	2,431	51	20	29	2,662	56	18	26
Mathematics	536	45	21	34	885	52	23	25
Multi-Inter-disciplinary Studies	1,679	48	18	34	1,654	56	17	27
Physical Sciences	768	42	26	32	808	45	28	27
Psychology	1,592	47	20	33	1,702	51	22	27
Social Sc.	4,606	44	20	36	5,234	49	21	30
Visual and Perf. Arts	1,264	30	27	43	1,080	35	29	36
Other	1,368	38	22	40	1,109	39	26	35
Total	21,328	45	21	34	22,097	50	22	28

*Row for each year adds to 100 percent.

The State University awarded 50 percent of its baccalaureate degrees to CC transfer students in 1985-86, 22 percent to students who began their work on the campus that awarded them the degree (so-called "native" students), and 28 percent to students who transferred from another CSU campus or an institution other than a CC.

The importance of the CC transfer student cohort of the CSU's upper division is demonstrated by the high percentage of the CSU's degrees which these students earn. They are receiving degrees in career-orientated fields such as agriculture, business, education, and engineering, as well as in the liberal arts and sciences that may lead to teaching careers even though they are not reflected as career-orientated in the display below:

TABLE 4: BACCALAUREATE DEGREES AWARDED BY THE CALIFORNIA STATE UNIVERSITY BY TYPE OF STUDENT AND DISCIPLINE, 1982-83 AND 1985-86.

<u>Discipline</u>	<i>Type of student*</i>							
	1982-83				1985-86			
	<u>Total</u> <u>Number</u>	<u>Native</u>	<u>CC</u> <u>Trans.</u>	<u>Other</u> <u>Trans.</u>	<u>Total</u> <u>Number</u>	<u>Native</u>	<u>CC</u> <u>Trans.</u>	<u>Other</u> <u>Trans.</u>
Agriculture	1,020	25%	52%	23%	877	24%	53%	23%
Business & Management	11,523	20	52	28	11,856	23	54	23
Commun.	2,241	21	47	31	2,541	26	48	26
Computer & Information Sciences	881	20	42	38	1,694	19	45	36
Education	2,066	19	55	26	1,827	21	52	27
Engineering & related Technologies	4,051	21	44	35	4,667	25	47	28
Foreign Languages	398	19	43	38	376	21	40	39
Health Sc.	2,377	16	52	32	2,007	18	51	31
Letters	1,337	18	32	35	1,569	22	48	30
Gen. Studies	2,377	17	53	30	2,564	15	56	29
Life Studies	1,318	27	40	33	1,292	29	37	34
Mathematics	425	28	36	36	606	20	40	40
Multi-Interdisciplinary Studies	366	13	43	44	318	16	42	42
Physical Sciences	780	21	41	38	801	20	44	36
Psychology	2,222	14	53	33	2,190	16	52	32
Social Sc.	3,509	18	50	32	3,304	16	54	30
Visual & Perf. Arts	2,169	19	47	34	1,923	20	49	31
Other	3,972	21	52	27	3,880	24	53	23
Total	42,959	20	50	30	44,292	22	50	28

*Row for each year adds to 100 percent.

1.6 The Transfer Centre Project

In the early 1980s, a number of educational groups expressed concern about the number of students, especially minority students, transferring to four-year institutions. By the mid-eighties, the number of students pursuing transfer courses had fallen to a level that made it difficult for many CCs to offer appropriate coursework and maintain competitive standards and support for transfer programmes.

No single factor was responsible for the decline in number of transfer students but certain changes appear to have contributed to the trend including: 1) smaller numbers of students completing high school; 2) a great tendency by recent high school leavers to enrol in four-year colleges as freshmen; and 3) uneven communication between four-year institutions and CCs regarding compatibility of course work, preparation needed for transfer, and admission into specific programmes and campuses.

In 1984, the UC, the CSU and the CCs included in their 1985 budget requests for funding to establish transfer support programmes. Under the leadership of the CPEC, the three public segments formed an intersegmental planning committee (Inter-Act) in order to develop a joint proposal. The Transfer Centres were conceived as a comprehensive programme of services intended to identify and assist potential transfer students, particularly underrepresented minority students (Intersegmental Report, 1987 : 1-2).

1.6.1 Selection of Transfer Centre Pilots

As one of its first actions, Inter-Act established a means of determining which colleges would receive centre funding. Eventually 18 grants were awarded to 20 CCs (one District received one grant for its three colleges). The CSU awarded grants to 14 of its campuses, which were named as partners in the funded CC proposals, and the UC divided its funds among its eight undergraduate campuses. Several independent colleges and universities, named as partners in the proposed review process, are also participating, although they do not receive State funding (Intersegmental Report, 1987 : 3).

1.6.2 Programme Description

The Transfer Centre Programme is organised on a regional basis with each CC centre involving as participants a UC campus, a CSU campus, and an independent college. Each segment has responsibility for carrying out certain activities which are essential to the operation of the Centres.

The role of CC staff is: to identify and encourage students, particularly underrepresented students, to transfer; to advise students about the admissions and application process; to provide academic advisement; to involve CC staff and faculty in activities of the Centre; and to coordinate visits by representatives of four-year institutions.

The primary role of the four-year institutions is to provide regular on-site assistance and information to prospective transfer students that will facilitate the transfer process. Representatives typically advise students about admission requirements, application procedures, transferability of courses and applicability of credit toward the major or general education requirements, and special university programmes.

Additionally, staff coordinate workshops and other activities that involve university faculty (teaching staff) and other staff (Intersegmental Report, 1987 : 5).

1.6.3 Transfer Rates of Community College Students.

The question arises now whether the transfer centres have increased the number of students transferring to four-year institutions? Given the time needed to implement this project fully, some positive impact can only be expected during the next few years. However, the question of the numbers of students transferring, needs to be put into perspective.

Much of the public discussion of the transfer issue has focused only on the absolute numbers of transfers year by year. The significance of these numbers cannot be understood without placing them alongside CC enrolment numbers, credit enrolment, full-time enrolment, and college-going rates of

high school graduates, among others. We need to know the number of students who enter CCs with the intention and the potential to transfer before we can intelligently assess whether the centres are succeeding or failing in their efforts.

It is interesting to note the following data provided by the Intersegmental Report:

"Since the mid-1970s, absolute numbers of transfers from CCs to CSU and UC have fallen steadily; in the case of CSU by about 15%, and for UC about 40%."

"For a percentage of total CC credit enrolment, transfers to UC and CSU fell by more than 50% between 1972 and 1981. However, as a percentage of full-time credit enrolment, between 1973 and 1981, the rates have fallen by only about two percentage points, from 19.5% to 17%."

"Finally, as a percentage of high school graduates entering CCs, rates of transfer have hardly fallen at all since the early 1970s, and in fact, have risen for the past two years." (i.e. 1985 and 1986) "What these data indicate is not that we should ignore the falling absolute numbers, but that we need better assessment of the makeup of the pool of potential transfers. With enrolment as large and as diverse as that of CCs, our efforts must be better focused to serve the needs of specific populations"
(Intersegmental Report, 1987 : 5-6).

1.6.4 Summary and Future Directions

One of the greatest challenges facing all participating institutions is how best to utilise limited resources to identify and encourage

underrepresented students to transfer. Frequent and personal contacts are essential to establish and maintain student interest in transfer. However, such contacts require more time than the staff of the four-year institutions currently have available.

During 1988 the UC has worked to advance two aspects of the transfer effort. The first is faculty (teaching staff) programmes. Campuses have expanded present structures that provide for exchanging views between CC and UC faculty. In addition, the University is expanding efforts to redirect freshmen applicants to CCs since the number of qualified freshmen to the UC exceeds available spaces at most campuses. The University has encouraged such students to attend a CC and then apply for transfer later. In certain areas, the University has offered priority admission to these students provided they meet certain conditions. Such programmes therefore increase the contingent of CC students interested in transfer.

The CSU has taken several steps to improve and enhance the transfer of CC students. It developed CC Performance Reports that annually provide to each CC information about the academic performance of its transfers to the CSU. A transfer video encouraging students to transfer, was developed and distributed to all CCs. The CSU has also computerised a list of all courses certified by the CCs that meet CSU general education requirements.

For the future, Inter-Act recommends expansion of the Transfer Centre Programme to all CCs. At the colleges where it now exists, it serves as a visible and active focus of transfer efforts and it is helping to restore the transfer function as a "second chance" option, encouraging many students to earn a baccalaureate degree, who otherwise could not do so.

The concluding words of the Intersegmental Report sum up the significance of this programme:

"The Transfer Centre model, as it is being implemented in California differs in two major ways from efforts in other states. First, the concept of a 'centre' with its own physical location and organisation status is a novel

approach, and secondly, the intersegmental cooperation throughout all system levels - from systemwide offices to local campuses - is exemplary. In the coming year (i.e. 1988), the segments will build on this full potential: enlarging the contingent of transfer-bound students; emphasising the presence of minorities in this group, and strengthening academic quality of transfer programmes through faculty-to-faculty projects and a variety of other efforts" (Intersegmental Report, 1987 : 8).

2. REVIEW OF CHAPTER SIX

The intention behind this chapter has been an attempt at showing what happens to students in California after "transfer" has taken place and to summarise their success in the institution and/or sector to which they transferred.

If students can transfer happily and successfully in California, as this chapter reveals, then it is reasonable to assume that, should a pattern for transfer be established in the RSA, it could also meet with a good measure of success if the right conditions are created.

This chapter is essentially a continuation of Chapter Five since "transfer" and "articulation" are complementary and it merely provides more detailed information of transfer requirements and processes. The detail it provides is probably more than is required in order to illustrate the principle of transfer. However, it is necessary that the act of transfer should be thoroughly explored and explained since it comprises one of the elements which the author is presuming to be of value in tertiary education in the RSA.

This chapter also concludes the presentation of a substantial amount of information on California which has prepared the way for an examination of the possibilities of utilising and adapting some of these ideas in the RSA.

CHAPTER SEVEN

ARTICULATION AND TRANSFER IN TERTIARY EDUCATION IN SOUTH AFRICA

FOREWORD

Certain assumptions have been made during the second part of this thesis which relate to tertiary education in Southern Africa. For example, it has been assumed that the reader is well-informed about the social, economic and educational structure of the RSA and that a fairly detailed analysis of these aspects, as was provided in the case of California, is not required. It has also been assumed that the reader will be informed about the functioning of the three main tertiary education sectors and that the main issue in this second part will be the applicability of certain principles, as enunciated in California, to the scene in the RSA.

For the above reasons, little time is spent on fundamental details and most of the emphasis is laid on the question of "articulation", "transfer" and "master planning" in the Southern African context and the need for greater provision thereof.

This section on the RSA has been designated "experimental" and should be viewed as a first attempt to create a framework for possible future use. The models proposed are very basic and need a great deal of refining and detailing before implementation. As was stated at the outset of this study, (see Preface), the intention is to stimulate thought in the direction of "articulation" and to stir the thoughts of decision-makers at local, regional and national level.

1. SETTING THE SCENE

1.1 Social and economic milieu

Located at the southern tip of the vast African continent, the Republic of South Africa comprises only 3,40 percent of Africa's total land mass while

its population of about 33 million, accounts for 5,50 percent of Africa's approximately 666 million peoples (Encyclopaedia Britannica, 1990 : 554-755).

South Africa is also the most urbanised part of the whole continent and is by far the most sophisticated and developed country in Africa. It is generally regarded as the powerhouse of Africa since its technological expertise and educational achievements are well-documented and have been established over many years.

The ethnic mix in South Africa and the complexities of Black tribal life and the minorities such as the Asians, Europeans, Malays, and Chinese, have resulted in a diverse kaleidoscope of colours, languages, cultures, traditions and religions.

South Africa is known as one of the richest countries in the world for usable mineral deposits. It is number one in the world for a large number of minerals and possesses most strategically important minerals.

When these facts are seen against the backdrop of South Africa's relatively high literacy rate and earning capacity per capita, compared with other parts of Africa, then one can comprehend its leadership role in the continent. This role is further endorsed by South Africa's well-equipped and mobile army which is arguably one of the most powerful in Africa.

While it is true that its educational history is relatively brief and is mainly limited to this century, it is also worth noting that South Africa's established lead in mining and mineral technology, in the conversion of coal to petrol, and in certain medical fields, is indicative of the standards in research which have been attained during this period.

1.2 Educational background

During the 20th Century the dominant force in tertiary education has been the universities. They have traditionally dictated the terms which apply to entering students and their credentials and thus it was that the matriculation exemption under the auspices of the Joint Matriculation

Board became entrenched as a university entrance requirement.

The other institutions of tertiary and post-school education, namely, the colleges of education and the technical colleges (and their successors), were established with specific vocational aims in mind and were regarded as different from the universities in purpose and in standards.

Because of the differences which existed between the three types of institution there was little or no articulation between them and transfer of students seldom took place and was most certainly the exception. Those students who aspired to a university degree after having completed a qualification at a college of education or at a technical college, simply entered the first year of the university (if they could gain entrance!) and proceeded through the full degree programme. Cases of limited accreditation being allowed are rare and not well documented and the few examples of transfer between institutions which are only rumoured to have taken place, are recorded in places which are not easily accessible to researchers.

The first 75 years of tertiary education in South Africa (i.e. roughly 1900 to 1975) could therefore be summed up, in terms of articulation and transfer, as being unfruitful. The associations between some universities and colleges of education which have long existed in order to promote the preparation of various kinds of teachers, can only be construed as partial articulation, since the purpose of those alliances was not expressly to promote either transfers or accreditation.

The underlying philosophy relating to transfer and articulation in the case of California and of South Africa is fundamentally different. Whereas the three public sectors in postsecondary education in California are closely linked/articulated and transfer has taken place freely and regularly since 1960, the universities, technikons and colleges of education in the RSA, function independently of each other and do not generally promote transfer of students between institutions. Where such transfer does occur it is usually in cases of misfits or failures (who nonetheless have ability) who are unsuited to the particular type of education offered at one of the three institutions.

Whereas accreditation takes place daily in California between various colleges and universities, and is reciprocal, it occurs very seldom in South Africa for students who move from a technikon or college of education to a university. Students who move from a university in South Africa to a technikon can achieve accreditation in respect of relevant subjects fairly easily up to the margin allowed and such limited movement of students does take place each year.

Articulation between some universities and technikons exists in the form of agreements relating to the education of teachers (leading to the award of a diploma) and the education of pharmacists and optometrists (leading to a degree). Such agreements have statutory authority but do not lead to the transfer of education students (even though they are university students) to other university programmes because of the Senior Certificate entrance requirement, while in the case of pharmacy and optometry, students can transfer to other programmes since they are already university students with full status (matriculation exemption).

These introductory remarks inevitably lead to the question: would greater articulation between institutions and more frequent transfer of students be beneficial to tertiary education in South Africa? This question is prompted partly by the rigidity of the separation into three separate entities, namely, the universities, technikons, and colleges of education, and partly by the successes which have been achieved by the system in California.

An eclectic approach provides a reasonable basis for a stance on such an issue. The thrust of this study is therefore an attempt to adapt that which is sound in the postsecondary system in California to the very different historical, social, economic and political circumstances prevailing in South Africa.

2. POINTS OF DEPARTURE

2.1 The Van Wyk de Vries Report

The first appropriate point of departure in more recent times is the Main

Report of the Commission of Inquiry into Universities (1974) and its references to articulation (co-operation or linkage) and transfer between the various institutions in tertiary education.

In Chapter VII of this Report (the so-called Van Wyk de Vries Report) mention is made of other educational institutions and their relationship with the universities and the point is made in Para. 13.3 "that no university should try to escape its wider function in the field of tertiary education and attempt to establish a place for itself in complete isolation" (RP 25, 1974 : 166).

In the same Chapter, one of the universities is quoted as saying in Para. 13.9:

"(1) Some credit is at present given by some universities to students who have successfully completed appropriate courses at technical colleges, but we feel that there is need for an extension of this system. This may be achieved by upgrading certain technical colleges courses so that credit can be given by the university without a lowering of standard"
(RP 25, 1974 : 175).

Later in Para. 15.1 it is reiterated that closer co-operation between the universities and the colleges for advanced technical education (CATEs, subsequently technikons) is advocated and this leads to the plea "that bridges should be established between the university and the CATE (technikon) so that it will be easier for a student to transfer from one to the other, with maximum recognition of studies already completed" (RP 25, 1974 : 190).

It is also noteworthy that the Commission was forcibly struck by the rigidity within the field of tertiary education (Para. 15.2) and how carefully the universities were guarding their autonomy and seeking to isolate themselves from outside interference. The Commission was of the opinion that such rigidity should be broken down in the interests of

higher education and replaced by flexible co-operation and interaction.

In Para. 15.3b the Commission recommended that there should be a joint committee of the Universities Advisory Committee and the Association of CATEs (the present day equivalent would be the Universities and Technikons Advisory Council (AUT)). One of the important matters which the joint committee should consider would be:

"the reciprocal granting of credits; the easier transfer of students from one institution to another; the development of a system whereby one institution would require a pass in a subject at the other institution as a condition for the awarding of a degree or diploma" (RP 25, 1974 : 192).

In Para. 15.3(c) the Commission further concluded that liaison bodies between each CATE (technikon) and a specific university or universities should be established and once again it advocated the following:

"Bridges between the universities and the CATE (technikon) concerned should be designed to allow for two-way traffic The reciprocal recognition of qualifications should be carefully considered, as well as the granting of credits. Where necessary, the standard of practical scientific training provided by the CATE (technikon) should be raised to a higher level, which would not only facilitate the building of bridges but would also serve to enhance the status of the awards made by the CATE (technikon)" (RP 25, 1974 : 193).

The rationale behind the initiatives towards greater co-operation between the universities and the CATEs (technikons) is summed up in Paragraphs 15.4 and 15.5 respectively:

"(d) the necessity of preventing waste of high-grade trained manpower resulting from the absence of bridges between the university and the CATE (technikon)" (RP 25, 1974 : 194)

"(b) Why should interaction not be built up in the course of time between a university and a CATE (technikon), with the university in certain cases awarding degrees on the strength of studies completed at a CATE (technikon)?" (RP 25, 1974 : 195).

Under the heading "Colleges for the Training of Teachers" the Commission raises the issue of the school leaving stage and asks the question:

"to what extent should the doors of the university be opened to persons who have not obtained matriculation exemption and are therefore not really 'university material'?" (RP 25, 1974 : 206).

In sum then the Commission's findings and recommendations in its Chapter VII revolve around the creation of effective machinery which will ensure a flexible system with convenient bridges and means of transition. The Commission further refers to the rigidity which exists (as it was in the early 1970s) due to the artificial demarcation of territory, ceilings to training, and forced artificial horizontal dividing lines and barriers and states that these should give way to flexible, constructive and close co-operation and interaction between the various sectors in tertiary education (RP 25, 1974 : 211). The Recommendation which is most relevant to this study is that referring to:

"3(b) the creation of easy means of transition for students from one institution to another, and the reciprocal granting of credits and recognition of qualifications" (RP 25, 1974 : 224).

The first point of departure is therefore the fact that a distinguished and authoritative Commission under the auspices of the Department of National Education (DNE) presented certain recommendations relating to transfer and articulation to the nation as early as 1974. While it is true that only some of the Recommendations from the Van Wyk de Vries Report were implemented, careful cognisance must necessarily be taken of the views expressed and also of the considerable changes which have occurred in tertiary education since 1974. One of the most significant changes which has taken place has been the emergence of the technikons (former CATEs) in 1979 and the impact which the growth and development of this sector has had on the tertiary education scene during the last decade. The technikons must inevitably be considered "principal players" on the stage of transfer and articulation and their role in the transition which is taking place will have to be analysed.

2.2 The Human Sciences Research Council (HSRC) Investigation into Education

In October 1981 the Government released the HSRC Report and it is interesting to note that in Chapter Three reference is made to certain shortcomings in education management. One of the important problems which is identified relates to the question of transfer.:

"(f) The mobility and transferability of students between tertiary institutions is a matter that requires attention" (HSRC, 1981 : 89).

This statement, which was made after an exhaustive, thorough study by a large body of educationists, therefore provides a second point of departure since it updates the views expressed in the Van Wyk de Vries Report.

2.3 The Interim Education Working Party

In November 1982 a Report by an Interim Education Working Party under the auspices of the DNE considered aspects of the HSRC Report. Once again reference is made to the concept of "horizontal mobility" in Para. 4.2

which refers to the general assumptions in the design of the proposed educational structure:

"(d) Greater horizontal mobility within the educational structure is an aim" (RSA, 1982 : 15).

In Para. 4.5.4 the term horizontal flow is defined in the following way:

"This refers to a change of field of study or level of difficulty. After horizontal flow has taken place, the learner moves vertically at a different level of difficulty in his field of study, in a different field of study or subject or at a different educational institution, reaching a point of withdrawal with the minimum if any loss of years of study" (RSA, 1982 : 18).

These references further emphasise the fact that there is acknowledgement of the need for greater mobility within the tertiary education sector.

2.4 The Issues Involved

One of the main reasons why mobility, in the form of transfer between institutions and accreditation of partially completed programmes or individual subjects, does not readily take place is because the concept of three distinct, separate streams of tertiary education has emerged over the years. This has led to the entrenchment of universities (academic, professional, scientific research orientation), technikons (applied, practical, technology fields) and colleges of education (preparation for primary school teachers) into their respective institutional functions without any questioning of this rigid division and specialisation which takes place.

It is a fact that many students are not certain whether they want to prepare to become, for example, a doctor or a dentist or an attorney at a university, a technician or a technologist at a technikon, or a primary teacher at a college of education. There are certainly common

elements in all three institutions which are transferable or for which credits could be given. There are many good reasons why articulation between these three sectors could lead to various forms of accreditation and greater mobility, such as that which occurs in California. Surely it is time to bring the three sectors together in order to evaluate the present system and create the means for students who decide to change programmes to be able to adapt easily and quickly to a different institution? At present such students usually have to start again at day one of the new programme at the institution to which they have moved.

It is logical to assume that all students, whether at a university, technikon or college of education, need to communicate well in both oral and written form. Such a common element could be adapted to provide easy accreditation between institutions without detracting from the specialist knowledge required by various programmes such as communication for engineers or the writing of an engineering report, or communication skills for public relations trainees?

It is also logical to assume that in various branches of engineering at universities and technikons there are common elements which are very similar despite the difference of intensity and emphasis which exists between the institutions. Surely greater articulation in this regard, which could include a measure of interchange of teaching staff where appropriate, would lead to greater understanding, would break down the rigidity of the system, and would lead to greater mobility where a student was clearly not at the right institution.

Greater mobility is discouraged at present even when a student is not at the right institution because of the great cost involved in repeating a number of subjects and because of the years which will be lost by such a transfer.

Further evidence of the need for greater articulation and mobility is provided by an extract from "A Philosophy for Technikon Education" (NATED 02-118) in 1988 which has the authority of the State behind it since it is an official publication:

"There is no absolute dividing line between technology and science. This means, among other things, that there can be cross-flow mechanisms between technikon and university with the necessary reciprocal recognition of qualifications" (RSA, 1988 : 23).

This statement could indeed be construed as an encouragement of such articulation and as a sanctioning of the sorts of agreements which exist between the three public segments of higher education in California.

During an address given at the Annual Congress of the Education Association of South Africa in January 1989, Professor A.L. Le Roux, the Rector of the Edgewood College of Education, referred to the question of a national investigation into different models for colleges of education. He stated that a number of issues should be considered including "Mobility between tertiary institutions viz. movement of students between colleges, universities and technikons" (Le Roux, 1989 : 10).

In April, 1989 a Committee of University Principals (CUP) Newsletter printed the following viewpoint in a section entitled "University Rationalisation" under the subheading "Cooperation with other tertiary institutions":

".... Cooperation on a regional basis now exists on a considerable scale between universities, universities and technikons and even universities and training colleges. This cooperation is so extensive that university management are frequently unaware of the many contacts existing lower down on departmental level. The cooperation manifests itself in the acknowledgement of qualifications, exchange of teaching staff, joint offering of courses, networking of computers and the sharing of library collections and research equipment" (CUP, 1989 : 6).

While it is correct to refer to various types of co-operation taking place between the three main sectors in tertiary education, the reference to "the acknowledgement of qualifications" is somewhat exaggerated since there is limited evidence of frequent or full acknowledgement of either technikon or college of education qualifications by universities. However, the tone of the CUP viewpoint is positive and encouraging and implicit in its statement is an acceptance of the fact that such acknowledgements or accreditations can and do take place.

As recently as April 1990, a sub-committee of the Committee of Technikon Principals drew up a memorandum on "Qualification Structures". In this document, in a section on the "Nature and Structure of University Qualifications", reference was made to an official publication (NATED 02-116) in which a statement was made which provides undisputed support for greater movement of students between institutions:

"In die lig van die eenheid van die tersiêre onderwysstelsel moet die kwalifikasiestruktuur van universiteite die moontlikheid van horisontale beweging tussen tersiêre inrigtings in aanmerking neem. Daarmee word bedoel dat onderworpe aan universiteite se prerogatief om die inhoud van hul leergange te bepaal (soos in paragraaf 4 uiteengesit), kursusse by universiteite, teknikon, onderwyskolleges en ander tersiêre inrigtings so bymekaar moet aansluit, dat studente gedurende die loop van hul studie op bepaalde punte moet kan uittree en na 'n ander tipe inrigting moet kan oorskakel." (NASOP 02-116, 1989 : 10)

What does emerge from the preceding pages is a strong, authoritative foundation (starting in 1974 and continuing to the present) for the building of a structure of greater mobility in tertiary education, of more frequent transfers and of greater articulation amongst the educational institutions in the form of agreements and undertakings.

2.5 The Need for Increased Contact between Sectors

In May, 1985 a report entitled "The Development of Higher Education into the 1990s" was presented to the Parliament in England. It is interesting to note that reference was made to the question of planning and collaboration between the sectors of higher education:

"Planning should be conducted increasingly across the sectors of higher education Collaboration between institutions, across sectors as well as within them, has potential benefits in both quality and economy" (UK, 1985 : 38).

This extract from an important report in the United Kingdom presents further corroboration of the assumption that planning and collaboration between the universities, technikons and colleges of education in the RSA should be encouraged.

It simply does not make sense for the three sectors to function in comparative isolation with only sporadic formal contact and some informal contact at seminars and conferences. At national level, the wisdom of one brief, planned meeting each year between the Executive Committees of the CUP and the Committee of Technikon Principals (CTP), is not conducive to a regular interchange of ideas. Such meetings will probably not lead to the development of the sort of relationship which will promote proper articulation in fields other than teacher education, pharmacy and optometry which exist already.

While conceding that the AUT does provide a forum for fairly regular contact between the two main tertiary education sectors, it should also be stated that these two sectors are each represented by a very small number of representatives and that exchange of ideas is limited. The AUT also has a number of specific tasks which it has to perform and that limits the opportunity for general discussions during which topics such as articulation and transfer could possibly arise.

It should further be acknowledged that at local level more contact between

institutions in the three sectors does take place and that there is a good measure of understanding about the respective tasks of each sector. However, the ingrained resistance to any change of function in a sector, or any attempt to perform a task which is construed as the preserve of another sector, results in action against the offending institution. Thus the three totally separate entities become increasingly entrenched despite the need for rationalisation or more economic use of scarce equipment and resources at a regional and national level.

3. EXAMPLES OF ARTICULATION AND TRANSFER

The Western Cape, Natal and the Transvaal have been selected as areas which typify the sorts of transfer which already occur in South Africa at tertiary level despite the fact that the system does not encourage such transfers. There is evidence that the number of such transfers does not differ greatly from one part of the country to another.

The Western Cape has two large universities, one medium sized university and two fairly large technikons as well as ten colleges of education of various sizes. In Natal there are also three fairly large universities, three technikons and a number of colleges of education. An appropriate mix of institutions is therefore present and an examination of the "movement" of students between these institutions, of articulation agreements which exist and of the credits which are allowed when transfer does take place, presents corroboration of the statements made earlier that relatively little mobility between institutions exists.

3.1 The Cape Technikon and Mobility

3.1.1 Movement from University to Technikon

One form of mobility which takes place each year is the movement of students who have spent various periods at one of the local universities, or a university further afield, and who have decided to move to the Cape Technikon in order to enrol for one of the National Diplomas. Many of these students have achieved a number of subject successes at a university

which are similar to subjects which are offered at the Technikon. For this reason they may apply for exemptions from the equivalent Technikon subjects and this is generally granted up to a limit once the equivalency has been established.

The following tables indicate those students who have enrolled at the Technikon during the last three years and who achieved certain subject passes for which exemptions were granted:

TABLE 5:

TOTAL NUMBER OF UNIVERSITY STUDENTS APPLYING FOR EXEMPTION/ CREDITS AT THE CAPE TECHNIKON

YEARS AT UNIVERSITY	1987	1988	1989	Total
1 year	10	15	13	38
2 years	7	9	5	21
3 years	6	9	8	23
4 years	2	6	2	10
5 years	-	1	-	1
6 years	1	1	-	2
Total	26	41	28*	95

*Number of students on 1989-04-01 - it is likely that more students will move to the Technikon at the start of the second semester in July 1989.

SOURCE: RESEARCH CENTRE, CAPE TECHNIKON, 1989

TABLE 6:

UNIVERSITIES ATTENDED BY THOSE STUDENTS WHO TRANSFERRED TO THE CAPE
TECHNIKON

	1987	1988	1989	Total
University of Stellenbosch	13	18	12	43
University of Cape Town	8	11	13	32
University of South Africa	3	8	-	11
Randse Afrikaanse Universiteit	1	2	1	4
University of Port Elizabeth	-	1	1	2
University of Witwatersrand	1	-	-	1
Rhodes University	-	1	-	1
University of the OFS	-	-	1	1
Total	26	41	28	95

SOURCE: RESEARCH CENTRE, CAPE TECHNIKON, 1989

The 95 students who applied for subject exemptions do not necessarily represent the total number of students who transferred from universities to the Cape Technikon during the period January 1987 to April 1989 although it probably represents the vast majority of them. An interesting case is that of a student who enrolled at the Technikon for a period of three years after having completed a B.A.(Hons.) degree at the University of Stellenbosch. Furthermore this student did not apply for any exemptions/credits because the field of study at the Technikon was entirely different. Such examples of mobility are rare i.e. a long period at a university followed by a long period at a technikon. Generally the tendency amongst the few students who transfer to other institutions after having completed a qualification is the reverse, namely, a long spell at a technikon followed by a long spell at a university. This form of movement

(i.e. from technikon to university) is construed by some members of the public as "upward mobility" (i.e. an "upgrading") while the movement from a university to a technikon before completion of a degree is construed by some as a "downgrading" because of the perceived higher status of a university in most South African communities. Ironically, the movement of a student to a technikon after having completed a degree is regarded by many as a sensible step since the academic, theoretical degree is then complemented by an applied, more practical diploma and the combination of sound theory and sound practice is encouraged, particularly among work seekers.

3.1.2 Movement from Technikon to University

Another type of transfer occurs when members of the Technikon staff - generally the teaching staff - who have acquired technikon qualifications, decide to apply to a university for status or credits in order to enrol for a degree programme. In those cases which were investigated (i.e. all staff or students who moved from the Cape Technikon to, or who studied at, a university during the years 1987 to 1989) it was quite clear that the Technikon qualifications were not accorded either credits or status except in one or two exceptional cases which involved members of staff who were established researchers with good publications to their credit. In other words, an appropriate technikon qualification(s) plus research expertise plus adequate publications has generally led to the granting of status and limited credits at the Universities of Cape Town, Stellenbosch and the Western Cape for enrolment for advanced studies, namely, an Honours or a Masters degree.

According to the persons who applied to the various universities for status and/or credits, it is very much a question of each individual Head of Department being able to decide whether or not to consider the application and take it to the relevant Faculty Board for approval. For this reason many students adopt the "shopping around" procedure until they find a university department which is willing to consider their applications.

3.1.3 Movement of Students for Professional Registration

A third type of transfer takes place when students who have attended a technikon and who have attained both a National Diploma (ND) and a National Higher Diploma (NHD) apply to the South African Council for Professional Engineers (SACPE) for permission to attend a university in order to do the third and fourth years of the Engineering degree. An example of this is provided by a recent case of an outstanding student from the Cape Technikon who had gained a NHD in Civil Engineering and who had obtained SACPE's permission to register as an occasional (non-degree purposes) student at the University of Cape Town (UCT). This student followed this procedure in order to be accepted by SACPE for registration as a professional engineer and also because the Head of Department at UCT's School of Civil Engineering would only enrol such students for the third and fourth years if they had been recommended by SACPE.

Another example is provided by a student who had also completed a NHD in Civil Engineering and who was accepted at UCT for the third and fourth year programmes (non-degree purposes) after being recommended by SACPE. However, in this case the student's intention was eventually to register for an M.Sc. in Civil Engineering and this was the route he had to follow.

3.1.4 Paucity of Movement

From the evidence which was obtained during a thorough study at the Cape Technikon, it becomes clear that out of a total of more than 22 000 students over three years, only 95 have transferred from universities to the Technikon during the years 1987 to 1989. Furthermore only 12 cases of either staff or students can be traced which provide evidence of movement from the Cape Technikon to a university during this same period. While it is acknowledged that other students may well have moved to, or enrolled at, universities (especially the University of South Africa) in order to continue studying, it is not possible to trace such cases and it is reasonable to assume that such students do not comprise more than a very limited number.

The deduction can be made from this analysis that relatively little movement from the Cape Technikon to universities takes place at any level of study. It is also evident that very few credits are given to technikon students although status is occasionally granted to mature persons with considerable research experience.

While movement from universities to the Cape Technikon takes place more frequently it is still not that regular (about 0,43 per cent over 3 years) and it usually results from a student's failure to achieve the standards required by the university or to adapt to the university approach. Both of these reasons have a negative connotation and are not conducive to increased mobility.

A period of 16 years has elapsed since the Van Wyk de Vries Report recommended greater articulation and mobility between tertiary institutions. However, relatively little progress has taken place during this period except for the examples of co-operation in pharmacy, teacher education and optometry which have been referred to. This lack of mobility does highlight the rigidity of the compartmentalisation within the tertiary education sector. It also emphasises the jealous guarding of "standards" and "leadership" by the universities and their monopoly of the status which is accorded to tertiary education institutions by the public.

3.2 The Peninsula Technikon and Mobility

Further evidence of the limited number of transfers from tertiary education institutions to the Peninsula Technikon during the period 1987-1989 is provided by the following table:

TABLE 7:

MOVEMENT OF STUDENTS TO THE TECHNIKON PENINSULA DURING 1987-1989

UNIVERSITIES		37
University of the Western Cape	22	
University of Cape Town	8	
University of Stellenbosch	4	
UNISA	2	
University of the Witwatersrand	1	
TECHNIKONS		30
Technikon Northern Transvaal	17	
Cape Technikon	8	
Technikon Mangosuthu	4	
Technikon Witwatersrand	1	
COLLEGES		8
Athlone Training College	3	
Nico Malan Nursing College	2	
Sarleh Dillie Nursing College	2	
OFS Nursing College	1	
OTHER		18
TOTAL NUMBER OF STUDENTS		93

SOURCE: REGISTRAR'S OFFICE, TECHNIKON PENINSULA, 1989

3.3 The Technikon Natal and Mobility

Although more detailed information in regard to the transfer of students from other tertiary institutions to the Technikon Natal is not available, the statistics provided below in Table 8 indicate that a limited number of transfers do take place each year.

An analysis of the data reveals that between 5 and 8 per cent of the students who enrolled for the first time at the Technikon Natal during the years 1987 - 1989, transferred from another tertiary education institution. This further corroborates the evidence provided in the preceding brief statement on the situation in the Western Cape. Since the Technikon Natal, situated in Durban and enrolling students mainly from the east coast (Natal and Zululand) areas, also enrolls relatively small numbers of students from other institutions, it seems likely that the percentage of transfer enrolments at other technikons in other parts of the country will not be significantly different.

The table below indicates the numbers of students transferring from different types of institutions:

TABLE 8:

TECHNIKON NATAL - FIRST-TIME ENTERING AND TRANSFER ENROLLED STUDENTS BY ACTIVITY IN THE PREVIOUS YEAR FOR THE YEAR ENDED 31 DECEMBER 1987, 1988 AND 1989 (TECHNIKON ONLY)

Predominant Activity in the Previous Year	1987		1988		1989	
	First-time Entering	Transfer	First-time Entering	Transfer	First-time Entering	Transfer
1. University	-	103	-	69		105
2. College of Educ.	-	2	-	2		7
3. Technikon	-	57	-	62		65
4. College of Nursing	-	1	-	2		6
5. Technical College	19	4	32	1	26	8
6. National Service	181	23	210	15	201	21
7. Labour Force	165	94	259	83	224	97
8. Standard 10 Pupil	1112	-	1201	4	1238	9
9. Other	229	84	291	55	234	55
10. T O T A L	1776	368	1993	293	1923	373

SOURCE: INFORMATION SERVICES, COMPUTER CENTRE, TECHNIKON NATAL, 1989

3.4 The Colleges of Education and Mobility

A number of longstanding teacher training agreements exist between various colleges of education and universities in parts of the RSA. A section of these agreements provides for the movement of students, usually after completion of a teachers' qualification, to a university which allows them a measure of accreditation for selected subjects.

Such mobility can be illustrated by referring to two examples of agreements between the Pretoria College of Education, the Onderwyskollege Pretoria, the authority controlling the Colleges, and the Universities of South Africa (UNISA) and Pretoria.

In Sections 8.4 and 9.4 of the Pretoria College of Education agreement, reference is made to the "Mutual recognition of subjects passed" and it is summed up briefly as follows: "Subjects passed may be mutually recognised by the College and the University" (TPA, 1980 : 14, 16). The agreement is similar in the case of the Onderwyskollege Pretoria except that its agreement is with the University of Pretoria (UP).

This formalised association with UNISA and UP, which exists at both these institutions, does at least allow a student to gain some degree credits while studying at a college of education. Further articulation with UP and UNISA, in these particular arrangements with two Colleges, is provided by means of a Bachelor of Primary Education (either Junior or Senior Primary Work) which is offered at the Colleges on behalf of UNISA or the University of Pretoria.

Since the Colleges deal with teacher education they are linked to the Faculty of Education at UNISA or UP and standards relating to syllabuses and examinations are determined by the Universities in order to ensure the accreditation which is provided for those students who are not registered for degree courses.

In the case of both Colleges, university equivalence in the Higher Diplomas in Education are allowed at the discretion of the two

Universities on the following basis: a two-year College major (e.g. English, Afrikaans, Education, History, Biology or Biblical Studies) is regarded as equivalent to one year at a university and a four year College Major is regarded as equivalent to two years at a university.

The same two for one accreditation principle applies once again in the four year Courses for Secondary Schools offered by the Colleges. On completion of one of these four diplomas it is possible to gain credit for up to five subjects towards a degree (Pretoria College, 1989 : 6).

These examples do illustrate the point that provision is made for articulation between certain colleges of education and certain universities and that limited accreditation is very definitely provided. However, the exact extent of the mobility which does take place between these institutions is difficult to determine.

3.5 Possible Options

One option which is open to the technikons in their struggle for recognition and acknowledgement, is to "sit it out" and gradually attain more status as the community almost grudgingly accords greater recognition to its qualifications and achievements. If this option is followed it could result in long delays (10-15 years) before genuine articulation and transfer between selected programmes in technikons and universities could take place.

Another option would be for the local universities, technikons and colleges of education to meet and discuss what common ground exists for any articulation agreements. They could also consider what possibilities exist for all three institutions to transfer selected students, after carefully devised requirements had been met. This option would at least encourage the building of bridges between sectors and institutions and promote a greater measure of mobility without loss of standards.

Yet another option would be to establish an Articulation Council, as occurred in California during the implementation of the Master Plan. Such a Council would co-ordinate voluntary articulation agreements in chosen

fields and could exist at a regional and/or national level. However, such action would seem impractical until a willingness is expressed, particularly by the universities, to negotiate such agreements and to acknowledge the products of the technikons and their expertise more fully. Such a step would also hasten the enhancement of the technikons' status and result in a more balanced tertiary educational sector.

4. A DUAL SYSTEM

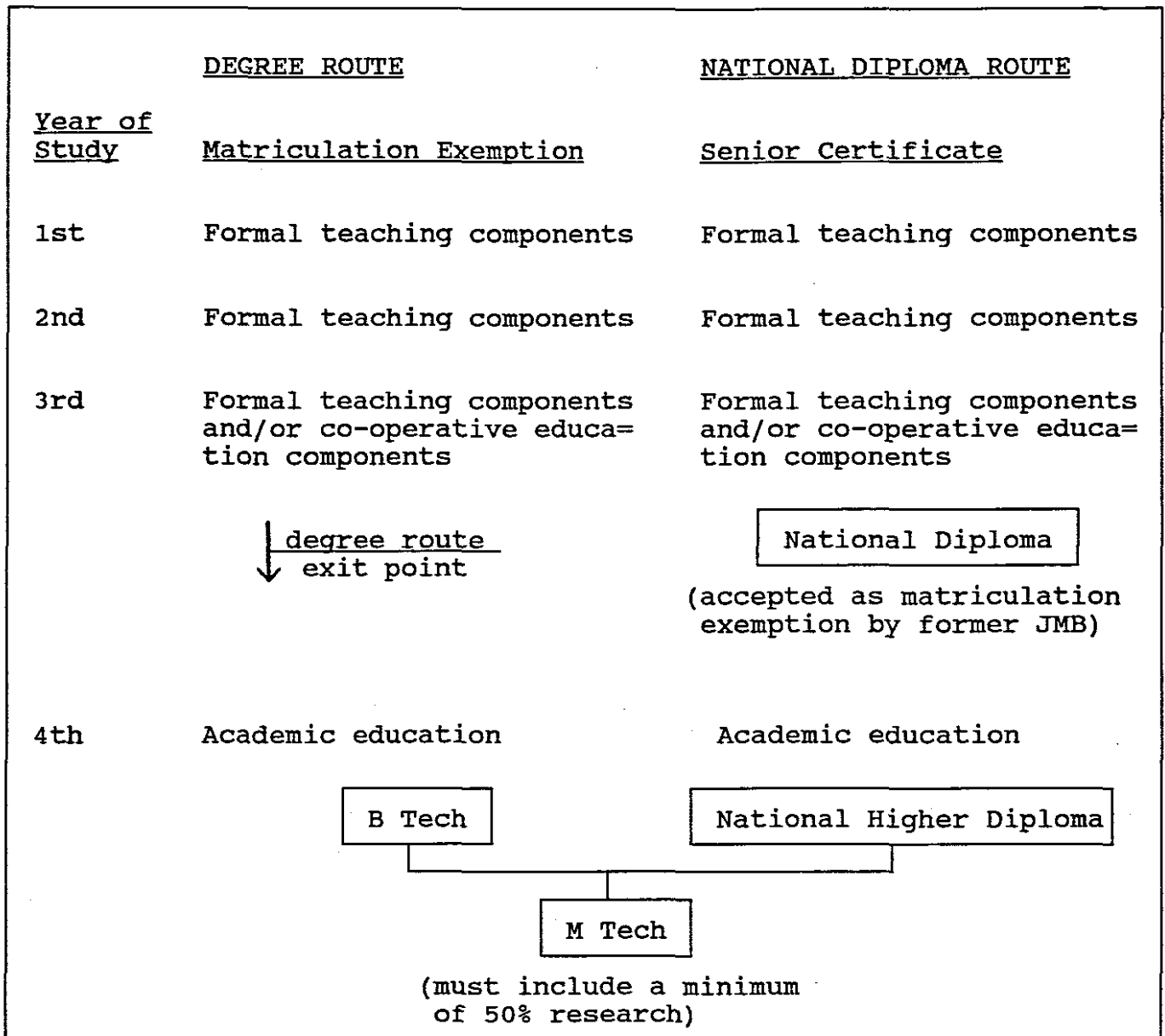
4.1 The Technikons in Transition

During 1988 the Committee of Technikon Principals (CTP) drew up a memorandum relating to a modified structure for technikon qualifications. The subcommittee which prepared the memorandum made certain recommendations based on three different options. The second option included certain views which make greater articulation and transfer between technikons and universities more feasible.

Option 2 provides for the continuation of the existing system of national diplomas and higher diplomas at third and fourth year levels at technikons but also provides a dual system which makes provision for the introduction at the fourth year level of a B Tech (Baccalaureus Technologiae) for those students who enter a technikon with a matriculation exemption (CTP, 1988 : 8-9). The structure would be as follows:

DIAGRAM 2:

DEGREE OPTION AT TECHNIKONS



SOURCE: COMMITTEE OF TECHNIKON PRINCIPALS, 1988 : 10

This option would include the possibility of completing the fourth year in one year (full-time) or in two years (part-time). Movement from the National Diploma Route with a NHD to the M Tech degree (Magister Technologiae) will be possible for meritorious students in this option but additional subject credits will have to be gained before M Tech registration and this would include exposure to research components at least equal in standard to those taken in the fourth year B Tech programme (CTP, 1988 : 10).

In this option provision is made for a second level degree, namely, the M Tech with a minimum of one year of study either full-time or part-time and a third level degree, namely, the D Tech (Doctor Technologiae) with a minimum of two years of study either full-time or part-time (CTP, 1988 : 10).

4.2 Feasibility of a Degree Option

A study of the feasibility of a degree option (B Tech), as considered above by a subcommittee of the CTP, has become urgent since sufficient reasons exist for the introduction of such a qualification.

One of the reasons stems from the public demand for a technikon degree option. This pressure has resulted from the status which degrees occupy in the community and from the lack of acceptance of, and acquaintance with, the technikon diploma structure. The view is often expressed by parents and business leaders that a technikon degree would help to promote a technikon's respectability and its acceptability in the community.

A further reason can be illustrated by figures (see Table 9) released by the Cape Technikon in April 1989 in which evidence is provided of a rapid rise per year in the numbers of first year students who gained a matriculation exemption and who passed their end-of-school examinations with an A,B or C aggregate. Figures provided in Table 10 by the Technikon Natal also indicate that more than half of the newly enrolled students in 1987 and 1989 obtained a full matriculation exemption while about 14 per cent of the total number enrolling in those years obtained an A, B or C aggregate.

Since the technikons have become more acceptable to parents during the last few years, a larger number of pupils, who have completed Std 10, has moved each year from well-known high schools with good reputations, to

the Cape Technikon. For the first time in its history the Cape Technikon has enrolled two first year students who achieved distinctions in all their matriculation examination subjects and this is indicative of the standing which the Technikon has achieved since such talented students have traditionally always enrolled from the outset at a university. This shift in the perceptions of the community lends further credibility to the concept of a B Tech and strengthens the contention that brighter technikon students must be challenged and offered greater upward mobility.

It is thus more than likely that many of the brighter students will not be satisfied with attaining only a 3-year diploma.

Certain deductions can be made from Tables 9 and 10 since the traditional, basic requirement for enrolment at a university has been, and still is, a matriculation exemption certificate. If large numbers of students at the Cape Technikon are entering with this certificate this means that they are "university material" and that many of them would have been able to enrol at a university from the outset. Once this fact is acknowledged then the feasibility of a B Tech degree is increased and the proposed "degree route" could be realised if such programmes are made more demanding and additional material is included which is more closely allied to traditional university programmes. In this way the applied and more practical nature of technikon programmes could be combined with an enriching and more demanding theoretical component which would be acceptable to university authorities and the education bodies and thus be considered worthy of the awarding of a degree.

TABLE 9:

CAPE TECHNIKON - SCHOLASTIC ACHIEVEMENT OF FIRST YEAR STUDENTS - 1988 & 1989

<u>Technikon School</u>	<u>% with matriculation exemption</u>		<u>% with A, B or C aggregate</u>	
	<u>1988</u>	<u>1989</u>	<u>1988</u>	<u>1989</u>
Physical Sciences	36,6	50,0	10,8	25,5
Life Sciences	51,1	62,3	17,4	34,2
Food & Clothing Technology	63,5	56,1	40,0	30,4
*Pharmacy	100,0	100,0	100,0	100,0
Management	34,9	63,5	22,3	41,1
Bus. Informatics	50,4	56,4	14,8	26,7
Secretarial Studies	32,0	33,1	14,0	18,0
Electrical Engin.	35,7	66,7	17,0	29,8
Mechanical Engin.	41,5	61,9	27,6	22,1
Civil Engineering	35,0	55,6	22,5	19,7
Architecture & Building	30,2	47,9	17,0	19,2
Applied Art	52,7	37,8	29,0	27,2
*Teacher Education	42,2	51,6	27,1	27,9
Communication & Languages	<u>55,6</u>	<u>62,0</u>	<u>26,7</u>	<u>47,4</u>
Total Technikon	<u>44,0</u>	<u>55,7</u>	<u>22,7</u>	<u>30,5</u>

*Includes university component

SOURCE: RESEARCH CENTRE, CAPE TECHNIKON, 1989

Notes on Table 9:

1. Of the 5700 first year applicants in 1989 who complied with the entrance requirements, 2603 were selected for enrolment. The percentage of students with a matriculation exemption increased by 26,6% while students with an A, B or C aggregate increased by 34,4%.

2. The percentage of students with an A, B or C symbol aggregate in the matriculation examinations is higher than that of some universities.

TABLE 10:

TECHNIKON NATAL - TYPE OF SCHOOL-LEAVING CERTIFICATE OF FIRST-TIME
PRE-DIPLOMATE STUDENTS FOR THE YEAR ENDED 31 DECEMBER 1987, 1988
AND 1989 TECHNIKON STUDENTS

	Headcount of First-time entering Pre-Diploma Students in each Category		
	1987	1988	1989
<i>SECONDARY EDUCATION</i>			
<i>COMPLETION CATEGORIES</i>			
1. Cert. issued by JMB for Full ME	899	716	926
2. Cert. issued by JMB for Cond. ME (sub-total)	11	43	46
2(a) Ord. Cond. Exemp. Cert.	8	36	17
2(b) Cert. of Cond. Exemp. based on Mature Age	1	4	17
2(c) Cert. of Cond. Exemp. for Foreigners	1	-	12
2(d) Cert. of Cond. Exemp. for Immigrants	1	-	-
3. SC other than the above	265	1120	879
4. NTC 3	3	6	7
5. Std 10 Practical	-	1	-
6. None of above	78	89	65
7. Unknown	520	-	-
8. T O T A L	1776	1975	1923

SOURCE: INFORMATION SERVICES, COMPUTER CENTRE, TECHNIKON NATAL, 1989

However, the question of the awarding of a degree at a technikon, as is being done by selected technikons (institutes of technology) in Taiwan and Australia, has not yet been thoroughly examined. It is likely that most universities, the Committee of University Principals (CUP), the AUT and other bodies, would have strong views on this topic and resistance to such a B.Tech. degree concept would undoubtedly be vociferous. Perhaps the initial path to travel would be the well-trodden one of co-operation between a university and a technikon during the training period with the university awarding the degree. By following this path a great deal of the expected reaction from the university fraternity could be averted although it would certainly impinge once again on the autonomy of technikons and perpetuate the concept of technikons being "lesser" than universities and increase their dependency on them.

4.2.1 A Non-University Awards Body

A possibility, which has already been examined on numerous occasions in the RSA, is to consider the creation of a Council for National Academic Awards (CNAA) type of body in order to be able to accredit certain non-university institutions such as technikons and award a B.Tech. degree.

The Certification Council for Technikon Education, which has recently been created in order to ensure the maintenance of standards amongst technikons, could possibly be changed in the future so that it could act as an accreditation body and even as a channel for the awarding of certain degrees.

The awarding of a charter to grant degrees to a non-university body has been successfully achieved in the United Kingdom, in Australia, in Taiwan and in other countries. However, the dominance of the universities in key committees and councils in the RSA will no doubt make such a step extremely difficult. Any attempt to enter the university-stronghold will certainly be keenly resisted, as indeed it was overseas.

The need for international recognition of qualifications awarded at technikons is pressing, since more students travel abroad than ever before. Acknowledgement and acceptance of technikon awards in other

countries will only be possible once the process of evaluation and accreditation of institutional integrity and standards has been completed. The precedent for the awarding of non-university degrees has been established overseas and the RSA will have to seriously consider following this pattern in order to meet the growing public demand for a less-academic degree.

5. AN ALTERNATE MODEL IN NAMIBIA

5.1 Concept of Community Colleges in Namibia

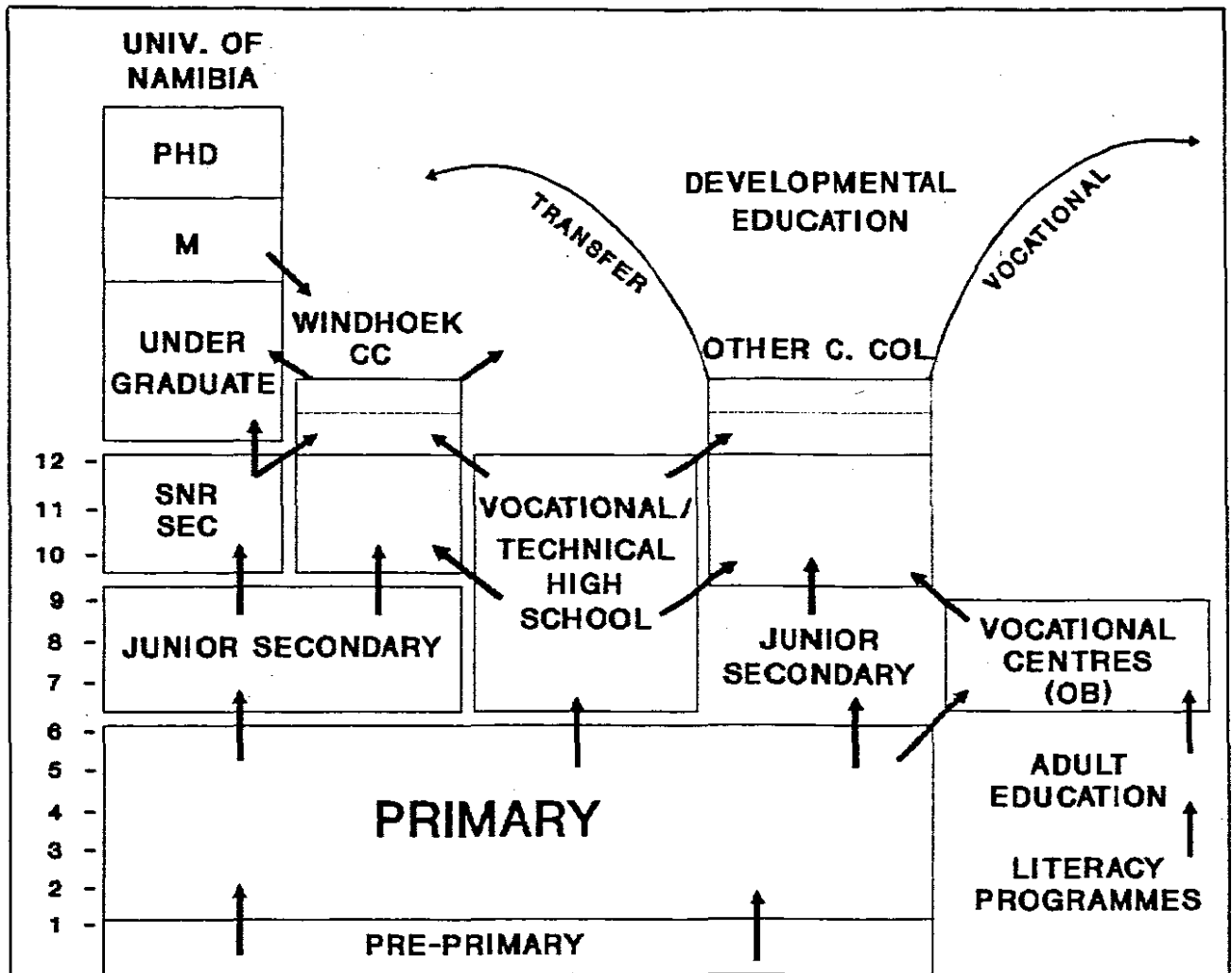
At a Workshop held in August, 1989 at the Academy in Windhoek, Namibia, the concept of community colleges (adopted from the American model) as an alternative for the Academy-model was analysed. An attempt was made to envisage a future Namibia and to create a new model for tertiary education which would introduce a good measure of articulation and transfer between community colleges and the University of Namibia.

It became clear at the Workshop that most delegates from the RSA, from Namibia and from the USA, favoured a system which allowed for student mobility and transfer at appropriate levels. Although this exercise was only the preliminary stage in the development of this concept, it serves to illustrate further that attempts are being made in Southern Africa to create more flexible systems at a tertiary level.

The following diagram illustrates the model proposed by the Academy in Windhoek:

DIAGRAM 3 :

TERTIARY EDUCATION IN A FUTURE NAMIBIA



The ability of qualified students to advance from instruction (in the school and out of school system), through lower-division instruction at an intermediate college, to upper-division instruction in a university, should be the heart of educational planning in order to ensure educational equity and a life-long learning opportunity.

Source: Workshop Programme, The Academy, 1989

6. REVIEW OF CHAPTER SEVEN

The bulk of this chapter is devoted to a chronological review of references to "mobility" in tertiary education in the RSA and to an analysis of some examples of articulation and transfer which do occur.

The tabling of excerpts from reports and references to the need for articulation, certainly provides corroboration of the dearth of mobility in the RSA and underlines the need to examine transfer possibilities more fully.

Having illustrated the amount of authoritative support which exists for greater articulation between sectors and institutions, it seems logical to proceed in the next chapter with the creation of a model for the future linking of tertiary education in the RSA into a more coherent whole.

CHAPTER EIGHT

A MODEL FOR TERTIARY EDUCATION IN THE RSA

FOREWORD

Although the ensuing attempts at articulation, or the linking of the three main tertiary education sectors in the RSA, are not very sophisticated, they do nonetheless represent a necessary striving to achieve greater mobility and accreditation. Whereas they have not been presented in great detail, they do, however, illustrate the rational use of the principles set out in the preceding chapters on California.

Quite clearly the author envisages a further publication in which these simple models will be taken to an advanced stage of refinement and detailing. These first steps nevertheless represent a "giant step" for the RSA where definite separation has characterised the three sectors, namely, universities, technikons, and colleges of education.

The author believes that some attempt is better than no attempt and has therefore ventured into the relatively unexplored "grey area" of articulation which fringes on each of the sectors. Until the vested interests and the bastions of the tertiary education segments are breached, any attempt at furthering articulation and transfer will be met with a measure of resistance - only a measure since most educators will concede the need for greater mobility.

1. IDENTIFICATION OF COMPONENTS

Prior to the creation of a model one first needs to identify and qualify those components or parts which will create a whole when linked in a logical manner.

Secondly, one needs to take careful cognisance of existing legislation, traditions, conventions, and opinions which will either have to be

amended, or removed, in order to create a climate which is more conducive to change.

Thirdly, one has to acknowledge that any new model can only prove worthwhile if the main users thereof, namely the students and their parents and the employers-to-be of the students, accept it and demand its implementation.

1.1 The Several Parts

The essential parts of a new model include the following:

- *Articulation agreements leading to transfer
- *Identification of certain programmes in all three sectors leading to modification
- *Amendment of legislation
- *Accreditation procedures
- *Creation of national and regional articulation councils
- *Creation of a non-university degree system
- *Appropriate information dispensed to the public
- *Consideration of relevant information relating to the economy, and to social, historical and religious factors
- *Removal of race barriers and the upgrading of deprived students

These parts can be articulated (linked) in order to form the following diagrammatic models, the second of which is a more detailed description of a part of the upper portion of the first:

ARTICULATED SYSTEM OF TERTIARY EDUCATION IN THE RSA

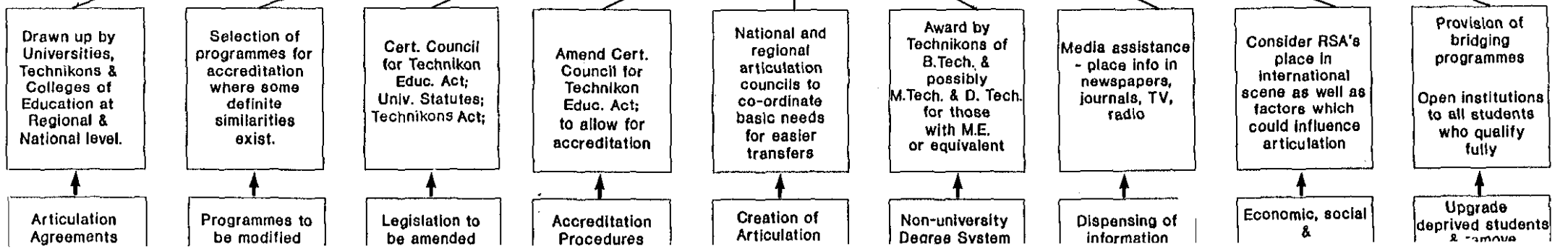
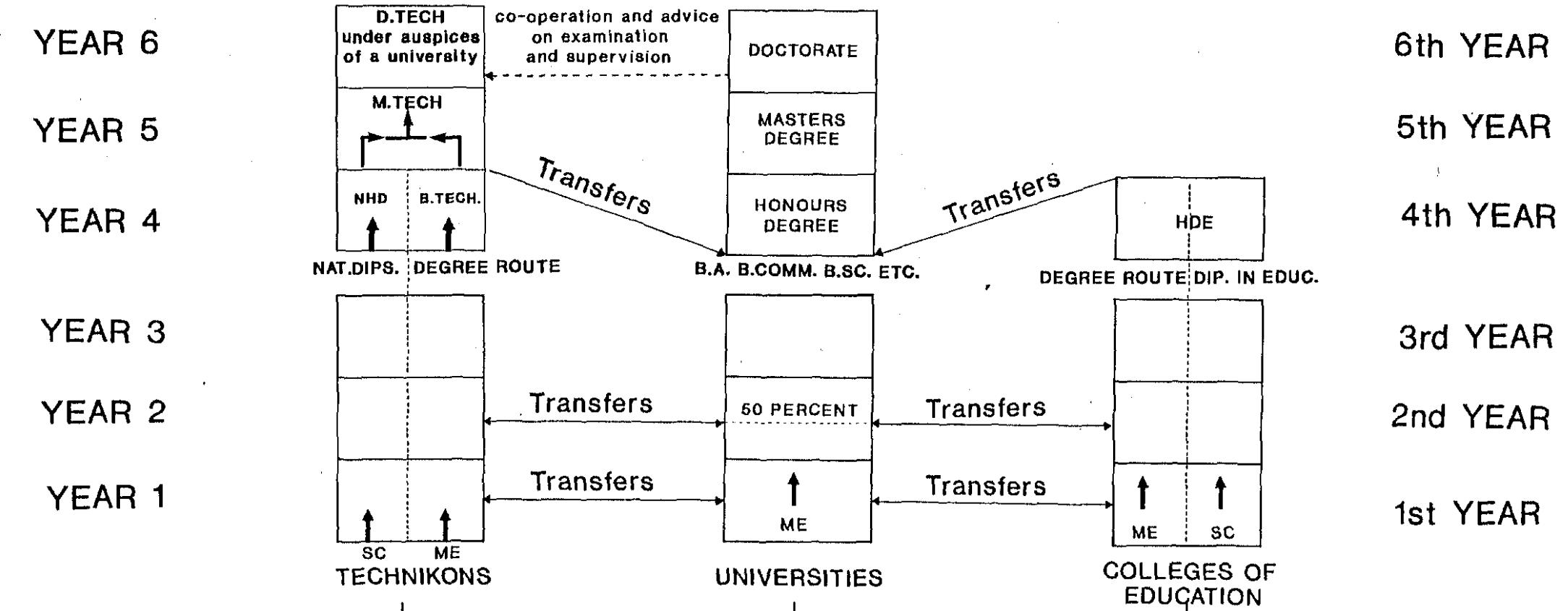
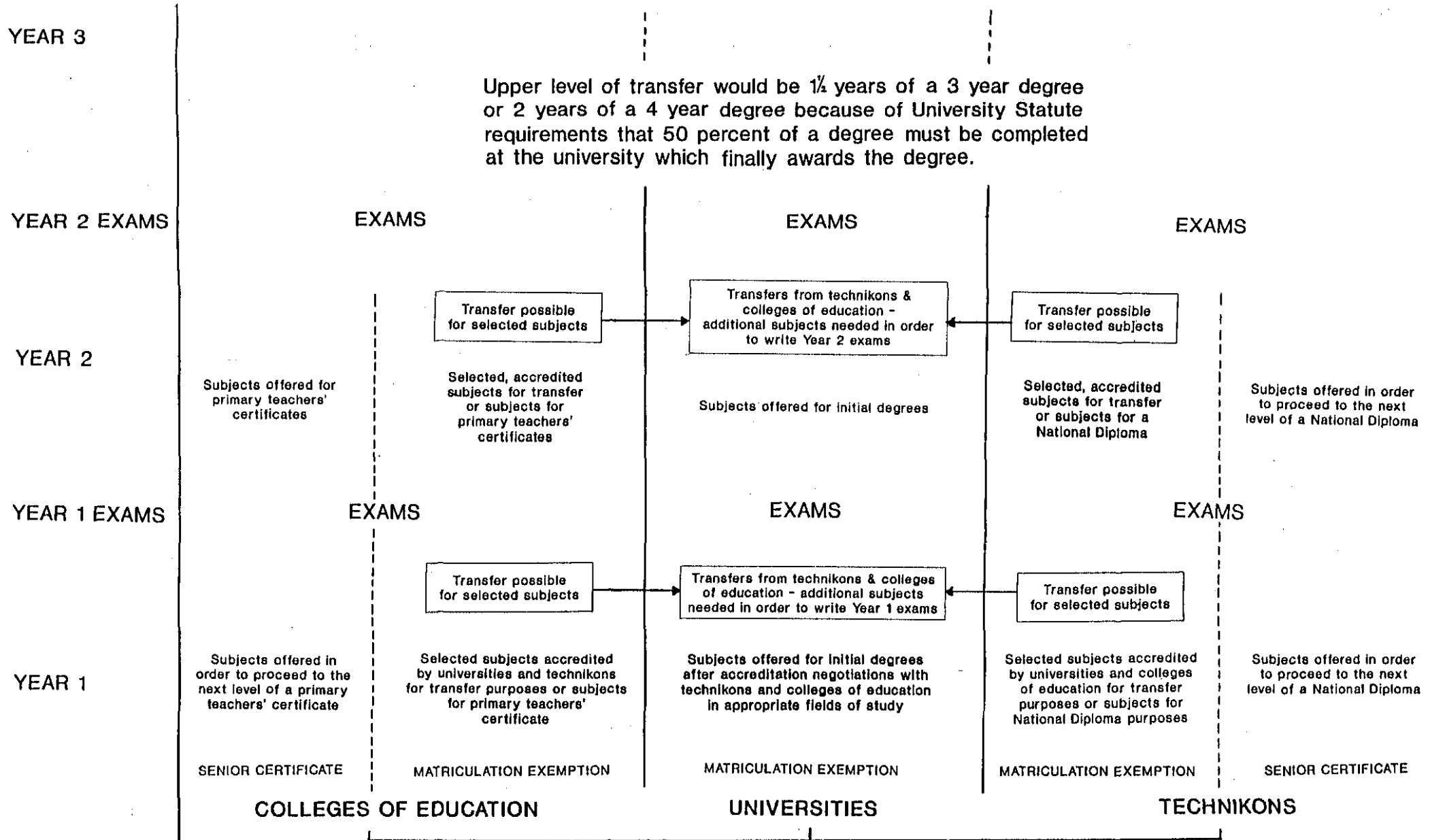


DIAGRAM 5 :

ARTICULATION AND TRANSFER AT TERTIARY LEVEL IN THE RSA



1.1.1 Articulation Agreements leading to Transfer

At the national level the CUP, the CTP and the Committee of Rectors of Colleges of Education would have to confer in order to identify those programmes, or parts thereof, which could possibly be used to develop better articulation.

Prior to any articulation agreements being concluded, it would be essential for all parties to seriously consider possible rationalisation steps amongst the sectors and at all levels. Such steps would require great sacrifices and a deviation, in some cases, from the traditional institutional roles.

The universities have certain expectations and requirements regarding theories, concepts and principles in programme offerings. Therefore in order for them to consider the possibility of accrediting modules completed by acceptable students (those with matriculation exemption) at technikons and colleges of education, representatives from the three sectors will have to confer until agreement on contents, standards and moderation of examinations has been achieved. Only then will it be possible to consider regional and/or national articulation agreements which will ensure limited transfers to the universities from the other sectors.

Since some movement from universities to technikons and colleges of education does take place quite readily each year, and credits are fairly easily acquired for successes achieved in appropriate offerings up to the level allowed, this facet of articulation seems to have been partly resolved.

The additional content and enrichment, which universities will most certainly require in order to grant credits in selected areas, will undoubtedly be costly in terms of staff, space and time. However, the flexibility and opportunities which will be presented to large numbers of students will mean that more individual needs will be catered for and it is likely that it would result in a reduction of student frustration when a wrong decision has been made or a shift of view takes place.

It is also unlikely that large numbers of students would transfer from technikons and colleges of education to universities since the first two sectors are strongly career-orientated. Most students who enter these institutions have a commitment to a particular career path and the likelihood of a transfer is therefore reduced.

Enriched and more demanding options with university transfer possibilities during the first 18-24 months, imply longer contact hours per week, a longer academic year at a technikon or college of education, and, inevitably, much higher fees. One of the benefits from such accreditation agreements would be that students at the two sectors would not feel "trapped" or "locked into" a system. They would be able to accomplish all that a technikon or college of education student normally does plus the added dimension which the transfer requirements would bring. This would provide greater challenges for both staff and students.

2. BASIS FOR A MASTER PLAN FOR THE RSA

2.1 Facts and Assumptions

Although comprehensive studies on the universities (early in 1988) and on some aspects of technikons (1988) were recently completed, the third sector namely, the colleges of education, has not recently been examined.

However, there has not been a study made of the whole tertiary education system with a view to greater co-ordination (articulation) and to recommendations which will affect all three of the public sectors as well as the fourth sector which consists of a number of independent/private institutions such as correspondence colleges and those offering tuition in a number of fields.

While it is understood that the students involved at the tertiary level are no longer subject to compulsory education requirements, and that greater freedom exists at this stage of education, there are nonetheless many traditions/conventions and entrenched views which are almost as binding as statutory requirements. These views include the claim by the

universities, and the status accorded them by the community, that they are the leaders in the field of tertiary education and that they have jurisdiction over academic standards.

There is a need to respect the independence/autonomy of the individual sectors and to tolerate their pre-occupation with the development and preservation of their own terrain. However, such independence should not be allowed to persist if it is at the expense of rationalisation and logical articulation and if it results in a reduction in economies of scale and if it limits other means of more effective functioning.

Lessons to be learned from other countries such as the United Kingdom (Robbins Report) and Australia (Martin Report), reveal that a total strategy for tertiary or higher education is by far the most logical and effective way of planning for the future. Since the California Master Plan has been a prime factor influencing this thesis, it is inevitable that many lessons can also be gleaned from this "classic" example of a carefully devised plan for the integration and linking of all sectors into a whole without sacrificing the individuality and ethos of each of the component parts.

Is it therefore possible to fuse the diverse and entrenched parts of the tertiary system in the RSA into a balanced whole without affecting the several parts too much or upsetting the delicate balance of their autonomy? The answer to this question is that if it could be done in the UK, in Australia, and in California, and in other countries, where similar situations prevailed, then it is also feasible in the RSA. However, as in the examples from overseas, it will require a willingness to make sacrifices on behalf of the total tertiary education system and in order to benefit the country as a whole. As occurred in the three systems referred to, a measure of intervention on the part of the State, will no doubt be required.

As long as the three (or four) sectors of tertiary education in the RSA continue to function in relative isolation, and without taking careful cognisance of the effect of their actions on the other sectors, it will not be possible to draw the sectors together in a balanced, total system

which will attempt to accommodate the aspirations of the students and the community.

A further divisive force within the sectors has been the sub-division of the three main sectors into ethnically separate entities which will have to be brought together if a composite master plan is to be devised. The breaking down of many of the ethnic barriers has been taking place during the last twenty years. The promulgation in 1984 of the National Policy for General Education Affairs Act resulted in a Department of National Education (DNE) which is responsible for certain general policy aspects (such as salaries and conditions of employment of staff, and norms and standards for syllabuses and examinations) across ethnic divisions, has served as an example of what is possible. However, the dividing of the functions of education at all levels into ethnically separate units known as "own affairs", contrasts with that of the "general affairs" DNE described above. The persistence of some aspects of ethnic separation does bring a greater measure of complexity into the concept of a master plan.

2.1.1 The California Example

A scrutiny of the 1960 California Master Plan reveals certain fundamental tenets which should be considered even if they are only incorporated into the RSA Plan as long term objectives:

- *California - universal access to tertiary education - provision of a place somewhere in the system for all qualified and motivated students

- *RSA - this is possible as a long term objective

- *California - three segments have differentiated functions with the university having the sole authority to award the doctoral degree

- *RSA - this has long existed and has become too entrenched

*California - State University is able to instruct up to the master's degree

*RSA - this is feasible for technikons (possibility of colleges of education?)

*California - Established a Co-ordinating Council for Higher Education

*RSA - despite existence of AUT this is necessary

*California - Established different admission "pools" for three sectors from high school leavers; standards established for transfer students

*RSA - matriculation exemption requirements result in something similar, although not as differentiated; standards for transfer would be essential

*California - Provided community colleges throughout the State

*RSA - this is not possible in the RSA but other institutions e.g. technical colleges, and/or colleges of education and some technikons, could perform a similar function

An examination of the 1987 California Master Plan Renewed reveals a reiteration of a number of the same principles as the earlier Plan. However, certain new dimensions were addressed such as:

*California - unity, all elements of the system working together in pursuit of common goals

RSA - unity, between segments, and common goals, needed

*California - equity, all Californians to have unrestricted opportunity to fulfil their potential and aspirations

RSA - equity, most needed element in order to provide more opportunity for some ethnic groups

*California - quality, excellence in every aspect of the system

RSA - quality, pursuit of excellence is a sound principle for all systems in the world

*California - efficiency, most productive use of limited financial and human resources

RSA - efficiency, this is a universal principle sought by systems everywhere

*California - population diversity, great asset for the State; future prosperity may depend on this diversity

RSA - population diversity, believed to be a problem because of cultural differences; may prove to be an asset if correctly channelled

*California - master planning projects every 10-12 years, periodic evaluations vital to ensure interrelationships between various parts

RSA - master planning projects, regarded as essential since not previously done; once a decade seems essential

These basic principles provide a foundation for a thorough investigation into the various segments of tertiary education in the RSA and suggest ways in which a master plan can be drawn up which could bring about a good measure of unification, rationalisation and co-ordination.

3. FINANCING TERTIARY EDUCATION

3.1 The California Way

The financing of higher education in California in recent years has been dominated by the efforts of the State to adapt funding mechanisms to major changes in taxation and spending policies brought about by the adoption of various electoral initiatives. The most significant of those initiatives being Proposition 13 of 1978 which limited property taxes, and Proposition 4 of 1979 limiting State appropriations.

The decade of the 1980s has seen substantial increases in student fees in all segments, agitation for, and the adoption of the State's policy endorsing moderation and predictability in fee increases, and a steady withdrawal of the federal presence in student financial aid (CPEC, 1988-1 : 43).

In the United States, colleges and universities rely on support from a multitude of sources, both public and private, including state and federal governments, student fees, alumni contributions, and private philanthropy. Within California's higher education sectors, the University of California (UC) has the most varied sources of financing because of its variety of instructional, research, and public service programmes. In a recent Report, the CPEC had this to say about the UC financing:

"Its two most important sources of funds are the state and federal governments; but state funding accounted for only 37 percent of its 1987 budget, exclusive of funding for its federally-supported energy laboratories; and substantial revenues accrue also from student fees, charges for various services such as medical care in its clinics and hospitals, and gifts and other contributions from private sources. But for the UC and the CSU, state financing supports the core academic enterprise, and all faculty (teaching) positions are funded on state money" (CPEC, 1988-1 : 44).

Compared with the University, the State University relies far more heavily on State funding. A much higher proportion of its funding stems from the State which reimburses the State University through the general fund for student fee revenues. Federal funds for student aid are of particular importance to the State University, and private funds are becoming increasingly important. Although the State University has not traditionally relied on private sources of support to the same extent as the University, it raised \$47 million from these sources in 1986-87 and it has begun a concerted effort to identify its alumni and raise funds from them. All the institutions, including the community colleges, are turning increasingly to private funds in order to support facilities or activities for which public support is inadequate (CPEC, 1988-1 : 44).

The Community Colleges' system of funding changed in 1978 after Proposition 13 was passed and it is now a State-determined system that is locally governed. The State determines almost all of the general revenues for the CC districts and provides these through general apportionments per units of ADA (average daily attendance). The district boards which receive these funds can shift these apportionments freely from one category of funding to another. This finance system for the CCs contrasts with the State's budget review process and programme classification system for the four-year segments. The CCs are faced with the dilemma of reconciling local authority over budgets with the State's insistence on controlling and monitoring its appropriations.

3.2 The South African Way

Whereas the colleges of education are directly linked for their finances to the provincial branches of the Department of Education and Culture of their respective "Own Affairs" sections, this pattern does not apply to the universities and technikons which are funded in a different way.

3.2.1 Universities

The very recent history of the subsidy formula for universities started at the end of 1982 when a report (SAPSE-110) appeared and a refined formula was put into operation at universities in 1984 (RSA, 1987 : 25).

This formula is funded by the Government and is expressed in terms of the concepts at present used in the South African Post-Secondary Education (SAPSE) information system since the formula and the SAPSE system have to be reconcilable.

The subsidy is calculated on a full-time equivalent (FTE) basis, and is based on half of the sum of the enrolled FTE students and the number of successful FTE students, weighted by study level in each case. The result of this calculation is referred to as subsidy students.

Two groups of students, namely, in the human sciences and in the natural sciences, are distinguished. A system of weighting at the upper degree levels ensures that greater emphasis is laid on post-graduate studies (RSA, 1987 : 26).

Provision is also made in the formula for the "small" university "set-up costs" by adding subsidy students to the subsidy. The formula is based on a student/lecturer ratio of 13:1 and provision is made for the number of research publications of a high standard produced by lecturers each year to be taken into consideration for subsidy purposes.

The refined subsidy formula allows for the replacement and renewal of fixed assets, and it also provides for the acquisition of new, fixed assets where there is an increase in the number of effective subsidy students (RSA, 1987 : 27).

3.2.2 Technikons

The general policy relating to a subsidy formula for the financing of technikons is set out in NATED 02-100 which is an official DNE publication:

"The development of this formula was first based on the premise that the structure of the subsidy formula for universities and the broad objectives pursued through the formula, should also apply to the subsidy formula for technikons"

"Secondly, the premise was accepted that the subsidy formula for universities should be regarded as an absolute measure for norms and standards for financing within the tertiary education sector and that the subsidy formula for technikons should consequently be developed relative to and gauged against the subsidy formula for universities" (RSA, 1987 : 43).

The formula for technikon financing is therefore substantially the same as that used by the universities and is described in the report SAPSE-131.

3.3 Lessons to be Learned

A brief analysis of the systems for financing tertiary education in California and in the RSA, reveals certain fundamental differences but does not point to any factors in California which might warrant their adaptation in the RSA.

Since the advent of the SAPSE information system and its linking to a subsidy formula for financing tertiary education, a good measure of order has been established within the system in the RSA. The SAPSE system was derived from its equivalent in the United States, and California also uses a formula which is similar to it. For this reason the California approach in its financing strategy does not seem to hold any particular advantage over the SAPSE system and is not specifically responsible for the successes achieved in that State.

The one point which emerges which warrants examination, is the involvement of people in California in the financing of a part of tertiary education at the local level by means of a property tax. This differs somewhat from the RSA where the SAPSE system stems from the Government and is distributed by the various Departments of Education. Perhaps the added dimension of local involvement in the funding of tertiary education would be worthy of consideration since it certainly brings home the point to the average property owner that he benefits directly and indirectly by having educational institutions in his vicinity.

A point of similarity is to be found in the increasing dependence in both California and the RSA on the financial contributions of industry and commerce and of the donations/endowments of private individuals.

4. MAINTENANCE OF QUALITY

4.1 The Approach in California

An extract from a 1988 publication by the CPEC entitled Preparing for the Twenty-First Century helps to set the scene in the US and in California:

"Undergraduate education has recently been the focus of intense scrutiny and debate, both at the national level and in California. Educational costs have been soaring; technology has been expanding; popular programmes in technology have become oversubscribed and increasingly specialised; and the relationship between education and professional life appears increasingly tenuous. Indeed, American pragmatism has been laying siege to its colleges' longstanding tradition of liberal education" (CPEC, 1988-1 : 121).

Since the 1983 publication of A Nation at Risk by the National Commission on Excellence in Education, which focused on the public (non-private) schools and pointed to the interdependence of these schools and postsecondary education, a number of reports have expressed concern about the generally poor preparation and performance of America's college and university students. Fundamental questions have been raised by educators, legislators, and others about the nature, quality, and cost of undergraduate education; the extent of student access and achievement; the need for better assessment and evaluative standards; and the role that colleges and universities should play in the well-being of the nation. (CPEC, 1988-1 : 121).

A recurrent theme in many recent reports has been the suggestion that some measure must be established to assess and to evaluate programme effectiveness. This emphasis on accountability and evaluation has been one far-reaching result of the national discussion which followed the publication of A Nation at Risk. A new element which has emerged is the interest in measuring student learning directly. Legislators in a number of states, including California, are interested in "outcomes assessment" as measured by testing graduating students. They have also shown interest in "value-added" measures derived by comparing the results of tests administered to first year students with those given to graduating seniors. As a next step, some legislators propose that some portion of an institutional budget be linked to the results of these new assessment measures, and some states have already implemented this value-added budgeting mechanism (CPEC, 1988-1 : 122).

It is worth noting that while such national concerns about quality and assessment, have recently arisen, California has long been concerned with these problems. Two of the approaches used in California include well-defined institutional accreditation by regional accrediting associations and programme review procedures.

4.1.1 Institutional Accreditation

Voluntary accreditation (i.e. non-governmental) is a distinctive feature of American higher education. It involves periodic peer reviews of institutions and such reviews are used as one means of improving effectiveness and quality. Throughout the US, six regional associations carry out accreditation of general collegiate and university institutions. Specialist institutions (e.g. for vocational education or Bible education) are evaluated by a number of national accrediting associations, while specialised accrediting agencies review certain specialised curricula offered by accredited institutions. A national association of institutions and accrediting associations - the Council on Postsecondary Accreditation - concerns itself with general standards and the co-ordination of matters relating to accreditation. Within the Federal Government's Department of Education, the Division of Eligibility and Agency Evaluation confers recognition on accrediting agencies which are eligible to certify

institutions, which are then eligible to enrol students who have received Federal student grants and loans (CPEC, 1988-1 : 124).

In California, the regional association which accredits secondary schools, colleges and universities is the Western Association of Schools and Colleges. At the higher education level it operates through two commissions, namely, the Accrediting Commission for Senior Colleges, and Universities, which accredits four-year institutions, and the Accrediting Commission for Community and Junior Colleges, which accredits two-year institutions (CPEC, 1988-1 : 124).

Accreditation is usually for a ten-year period, with a much shorter reassessment being done five years after the last accreditation visit. While the ultimate result of the application is the achievement of accreditation, a valuable outcome of the process is that a searching institutional self-study is completed which necessarily involves many of the campus constituencies in its preparation. It is likely that much of what is learned will promote institutional change and reassessment.

Like other regional accrediting associations, the Western Association has shown increased interest in student "outcomes assessment". Under new guidelines relating to the measurement of student competencies, the Association will presumably seek some evidence of institutional efforts to assess student competence as part of its accreditation review (CPEC, 1988-1 : 125).

The questions of institutional quality and licensure within the private education sector in California, are addressed through a complicated set of processes and procedures. However, the CPEC was required under State law to review and evaluate by 1 September 1989, the effectiveness of existing law and the implementation thereof by the State Department of Education. The results of this review have not yet been made available. The CPEC also had to review the existence of two similar but fundamentally different methods of licensure within public and private tertiary education. It was also to consider the multiplicity of jurisdictions now involved in licensing private institutions, the justification for the many methods of licensing degree-granting and vocational institutions, the rigor of the

State process, the need for some State funding of the licensing mechanisms, and the appropriateness of the current division of responsibility for licensure (CPEC, 1988-1 : 126). It is therefore clear that California is at least attempting to control the quality of licensure in its private tertiary education sector and that it is trying to ensure that such procedures are reviewed and updated regularly.

4.1.2 Institutional Programme Review

Evaluation of educational programmes on a regular basis has become almost a sine qua non throughout higher education. Programme review has at least three major goals, namely, to improve quality, assist in the allocation of resources, and aid academic planning processes. Such reviews often lead to curriculum adjustment, a change in direction or emphasis of programmes and teaching staff effort and activity.

At the University of California the responsibility for the content and quality of academic programmes and instruction has been delegated by the Regents to the teaching staff. Reviews take place regularly at five-year intervals (CPEC, 1988-1 : 123).

At the California State University, a formal requirement for qualitative review of existing programmes has existed since 1971. Review criteria and procedures are tailored to the needs, priorities and structures of each of the 19 campuses. Each campus has its own policies and procedures since there is no statewide model, but like the UC, reviews occur every five years. Usually a departmental self-study initiates the review process by addressing specific topics and questions and by questionnaires completed by students, teaching staff and alumni. After the self-study, external reviewers visit the campus to interview interested persons, including students, in order to review the self-study and comment on aspects of the programme. At some campuses, the comments of the external reviewers and the self-study form a basis for recommendations by the teaching staff committee to the responsible persons at the departmental and more senior level (CPEC, 1988-1 : 123).

An annual report on programme review in the State University is prepared

by the Office of the Chancellor and forwarded to the Trustees. This report outlines for each campus the special features of the campus review process and summarises the highlights and findings of the review for each programme examined. At large campuses such as Fresno, Long Beach, and San Diego, a number (10-15) of reviews are planned annually (CPEC, 1988-1 : 123).

4.2 The Situation in the RSA

4.2.1 The Universities and Accreditation

No formal accreditation procedures exist for universities in the RSA. The only "accreditation" visits which take place are carried out by certain professional bodies in specific disciplines (e.g. engineering and pharmacy). These visits result from the statutory right which such bodies have to help determine the academic standards in their disciplines prior to professional registration. Presumably it is believed that when a university is established it generates its own standards (aided in examination moderation by other universities), and that it is not in need of any further accreditation other than the initial, official approval and sanction to award degrees. Surely such an assumption is not legitimate especially in the light of a report published in 1985 by the Human Sciences Research Council entitled: Ondersoek na differensiële toelatingsvereistes tot tersiêre-onderwysinrigtings (Verslag WS-32, RGN).

In this report, evidence was presented which revealed a considerable disparity in the academic standards prevailing at various universities. Assuming the accuracy of that evidence, this would clearly point to the need for a national and/or regional accreditation system in the RSA in order to ensure regular institutional self-evaluation and provide the public with a measure of certainty regarding academic standards and institutional integrity.

Why should the universities in the RSA be less accountable than those in California and why should a form of accreditation not be introduced into the RSA? Why should the status of universities in the RSA be such that

they are not required to be subject to public scrutiny? While it is true that the AUT scrutinises certain procedures relating to the creation of new degree programmes, the establishment of departments, the subsidy formula, and other university matters, in order to advise the Minister of National Education on tertiary education policy, it is also true that the universities have not been required to account for their standards. The provision of a section in the university subsidy formula which relates to successful FTE students does indeed provide a measure of control and yet, at the same time, it encourages a greater "output" of students. However, if the universities themselves determine what that "output" will be, or in other words, if they control their own standards, then it does suggest a shortcoming in the system which could lead to a questioning of standards.

It therefore behoves the universities in the RSA to take cognisance of the accreditation mechanisms in California and it is reasonable to assume that if such mechanisms were introduced in the RSA they would bring about greater objectivity in the determination of academic standards.

4.2.2 The Technikons

The existence of a Certification Council for Technikon Education (SERTEC) does provide a statutory body whose primary purpose, at least initially, is to ensure equal (similar) standards at various technikons. The reason why SERTEC will probably be able to achieve considerable objectivity in its evaluation of each technikon and its standards, is because of the planned involvement of industry and commerce and of professional bodies in the evaluation process. This means that technikon standards will partially be evaluated by practitioners from outside the technikons and by the bodies which ensure the quality of professionals in various fields.

It seems logical for SERTEC to gradually shift in time, from an evaluator of standards and a certification body, to assume a new role, namely, that of an accrediting body for technikons. Should this happen, then the technikon procedure for the assurance of quality would closely resemble that of similar institutions (e.g. California Polytechnic State Universities at San Luis Obispo and at Pomona) in California where a full accreditation procedure applies.

4.2.3 The Colleges of Education

The colleges of education are brought into being by the State (originally the provincial education departments) and more recently the various sections of the Department of Education and Culture (DEC) and therefore are not subject to the types of accreditation procedures described in California.

In the case of White colleges, their standards are maintained by affiliation with a university which then helps with the moderation and examination of all subjects in order to provide greater objectivity in the evaluation process and in order to ensure acceptable standards.

4.2.4 Institutional Programme Review in the RSA

At a recent conference held in August 1989 in Bloemfontein, representatives from an array of tertiary education institutions, discussed a number of aspects of institutional self-evaluation, and this inevitably included the issue of programme reviews. This conference provided evidence of the serious consideration being given to such issues in universities, technikons and colleges of education and is indicative of the fact that self-evaluation and programme reviews are regarded by many as a high priority.

One important aspect which emerges from a brief examination of the situation in California is the involvement of students, lecturers, alumni and external reviewers in the evaluation of programmes. In the RSA, most evaluations do not include the alumni and people from outside the campus, thus it is that an opportunity of achieving greater objectivity is once again lost. Note should be taken of the need to involve those who can provide a business or community perspective which could bring new insights.

Another point which is worth noting in the procedure adopted by the CSU in California, is the annual report which is drawn up centrally which summarises the highlights and findings of the reviews of each programme. This procedure ensures that a certain amount of "follow-up" action is

taken and that some shortcomings are eliminated. It seems logical for the institutions in the RSA to follow suit although such a summary would, at present, have to be done regionally on a voluntary basis because of the very strong feelings regarding institutional autonomy which prevail in tertiary education. This once again illustrates the point that a pre-occupation with sectoral or institutional autonomy as exists in the RSA, can be a divisive force which at times may be more destructive than it is constructive. This point also draws attention, once again, to the issue of accountability of the sectors to the community which pays most, or all, of the bills.

5. SOUTH AFRICAN TERTIARY EDUCATION COMMISSION

5.1 The Way in California

The responsibility for co-ordinating public and private postsecondary education in California and for providing independent policy analysis and recommendations to the Governor and the Legislature has been assigned to the California Postsecondary Education Commission (CPEC).

The Commission is an advisory body charged by statute "to assure the effective utilisation of public, postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and to societal needs" (Education Code 66900, 1985).

5.2 The Way in the RSA

The AUT, the DNE and the "own affairs" departments, the almost defunct South African Council for Education (SACE), the HSRC and the Council for Scientific and Industrial Research, and other bodies, perform tasks which all add up to a total "package" which is similar to the tasks performed by the CPEC. However, the CPEC can function more independently, more objectively, and more effectively than the number of advisory bodies in the RSA mainly because the CPEC is one unit while in the RSA the efforts are less co-ordinated and because the several parts function separately.

Perhaps the answer in the RSA would be to create an equivalent to the CPEC, namely, a South African Tertiary Education Commission (SATEC). Such a Commission, although sponsored by the State, could hopefully retain a good measure of independence and objectivity while catering more fully for the needs of all three components of the tertiary education system (whereas the AUT only considers aspects of the university and technikon systems) including the private tertiary sector which is still a relatively unknown factor.

The SATEC could act as a buffer between the public institutions and the State. In this way its authority would be dependent on the degree to which it is perceived to be maintaining the orderly evolution of the public institutions, including the resolution of sectoral conflicts.

SATEC's specific responsibilities could include: preparation and annual updating of a five-year plan for all tertiary education; identification of the need for, and the location of, new campuses; periodic review of educational programmes of the public institutions; development of criteria for evaluating the effectiveness of tertiary education; further development and refinement of a comprehensive data base for tertiary education (SAPSE); reporting annually on the financial condition of independent institutions. It could also act as a clearinghouse for data. The recommendations of the SATEC could be a primary consideration for developing State policy and funding for tertiary education.

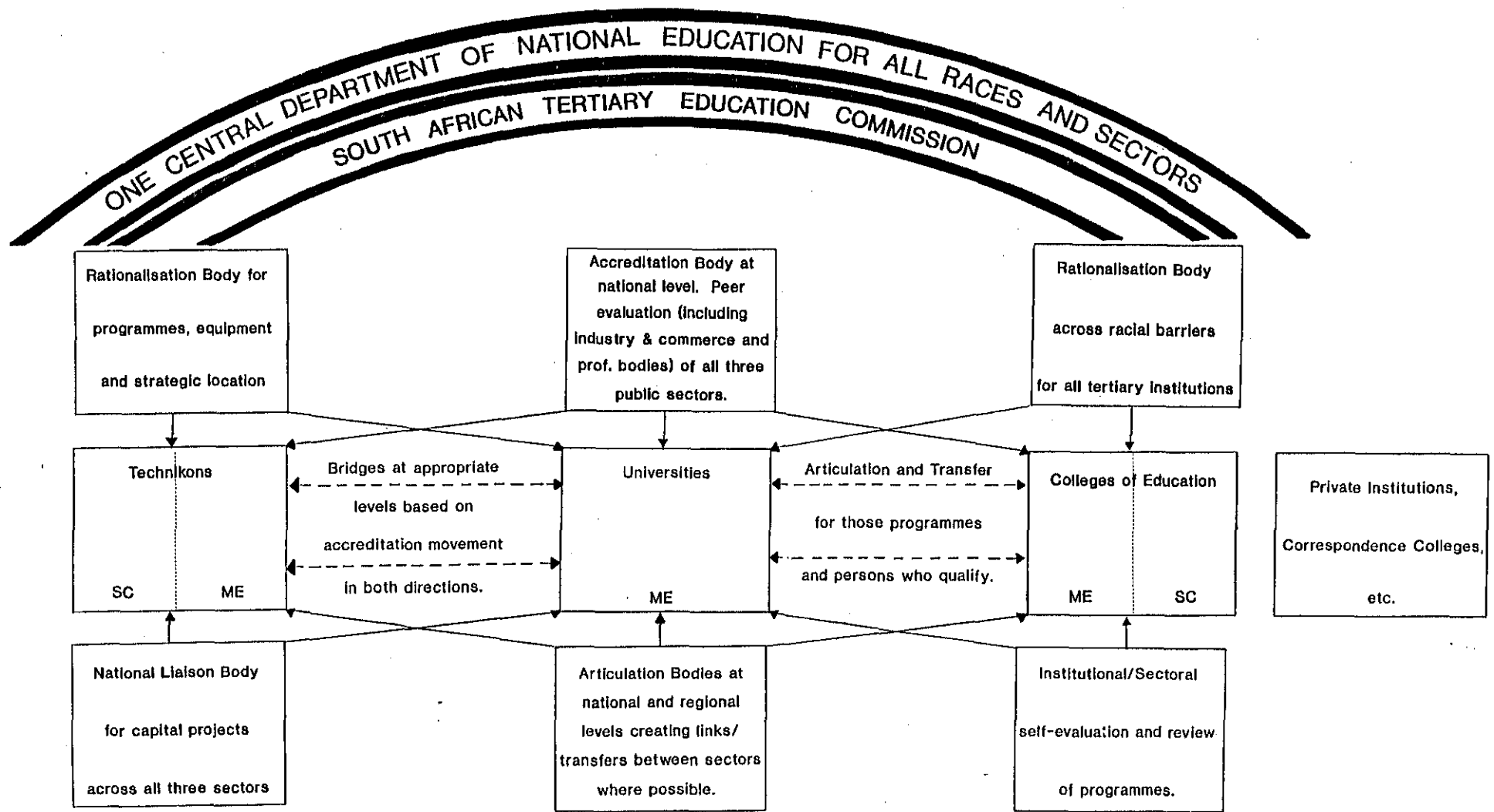
The essential difference between the arrangements existing at present for the formulation of tertiary education policy and the creation of SATEC would lie in the aspect of accountability. Whereas the bodies in the present structure are accountable primarily to the State, SATEC would have to be made accountable to the three tertiary education sectors and the public, in other words those who would be directly affected by its recommendations. The success of SATEC, as is the case with the CPEC in California, would therefore depend on the measure of independence granted to it by the State.

6. DIAGRAMMATIC MODEL OF MASTER PLAN

Since a number of the components of a model for a master plan for tertiary education in the RSA have now been identified and briefly analysed, it is necessary to draw these elements together in the form of a model. Such a model requires careful refining and a greater provision of detail which would seem inappropriate in an analysis dealing mainly with broad concepts and principles:

DIAGRAM 6 :

MASTER PLAN FOR TERTIARY EDUCATION IN THE RSA (1995 - 2005)



1. Accelerate rationalisation in all three sectors, and across racial barriers.
2. Negotiate articulation agreements in principle at regional level and prepare for one central body.
3. Lay foundation for accreditation associations at national level.
4. Conduct institutional self-evaluation and create mission statements.
6. Create liaison mechanisms for regular contact at senior level between all three sectors.
6. Create accreditation body for evaluation of private sector.
7. Prepare the way for legislation which would create one central Department of National Education for all groups.
8. Create forums for regular dialogue between teaching and administrative staff in all sectors at regional and national levels.
9. Establish SA Tertiary Education Commission for research and liaison.

ACTION DURING 1990 - 1995:

7. REVIEW OF CHAPTER EIGHT

The culminating chapter (apart from the Findings and Recommendations), as presented here, is probably the most important in the whole study. Although tentative, it is the synthesis of all the preceding chapters and represents the first known attempt at a model for tertiary education in South Africa incorporating some of the fundamentals of the California Master Plan.

Because this chapter is tentative (i.e. an experimental attempt) it is vulnerable and indeed deserves to be analysed, dissected and challenged. It is all the more experimental because it uses some of the techniques of comparative education such as the juxtaposition of ideas in California with their South African equivalent. However, if it has succeeded in rousing the dormant thoughts and raising the ire of some of our rather staid educators, then it will have achieved its purpose.

Quite clearly these first crude attempts at a model must be followed by a more refined model in order for these proposals to be taken really seriously by policy-makers.

CHAPTER NINE

FINDINGS AND RECOMMENDATIONS

1. FINDINGS

What has emerged from this preliminary study is the fact that one can clearly identify a number of elements in the California higher education system which could profitably be adapted for use in the RSA. The most significant of these elements is clearly the issue of articulation/transfer and the differences which exist between the RSA and California in this regard.

The worthwhile findings of this study can be summarised in this way:

- * The mobility of students in California has certain advantages; therefore it behoves educators in the RSA to examine carefully ways of increasing articulation/transfer in the RSA.
- * Institutional accreditation and programme review in California promotes the maintenance of standards and encourages self-evaluation amongst colleges and universities; therefore it behoves educational authorities in the RSA to consider the introduction of accreditation principles in its tertiary educational institutions.
- * The universality of certain basic principles (e.g. the need for a comprehensive master plan for tertiary education, and the need for an eclectic approach) emerge strongly; therefore it behoves educators to undertake such studies and review the possible benefits which could be derived for the RSA.

2. RECOMMENDATIONS

- * The three main sectors of tertiary education in the RSA should enter into liaison in order to examine ways of promoting greater movement/flow/articulation/transfer of students between sectors.
- * The education authorities (for all races) at the tertiary level should consider ways of linking with each other in order to create one comprehensive, flexible system which allows for greater mobility.
- * A detailed report on articulation and transfer in the RSA should be drawn up in order that the limitations and advantages of student mobility can be clearly understood prior to devising a more flexible system.
- * The AUT, the DNE, and other bodies with statutory authority, should seriously consider the question of accreditation as it relates to the accountability of institutions to those who provide the bulk of their income, namely, the tax-payers.
- * A master plan for the whole tertiary education sector (all races) should be speedily drawn up, while bearing in mind the lessons to be learned from other countries and states such as the UK, Australia and California. Provision should also be made for the regular reviewing of such a master plan.
- * The expectations of students, the composition and ability of students, the growing number of mature students, are all factors to be considered. For this reason these factors should be incorporated in short-term, five-year strategic plans which augment the central master plan and other longer term plans which are being, or have been, drawn up.
- * Regular visits overseas to other sophisticated tertiary education systems should be undertaken in order to glean constructive ideas for possible adaptation to our system in the RSA.

- * Serious consideration should be given to the creation of a mechanism for the awarding of certain types of degrees to non-university institutions. Such a mechanism should include a means of ensuring the preservation of the highest academic standards for such degrees so that they would be comparable in all ways with existing degree structures.

- * The creation of an independent, co-ordinating body known as the South African Tertiary Education Commission should take place in the near future (within five years). Such a body could unite the various elements presently performing the advisory and research tasks in tertiary education, into a more comprehensive whole and carry out the tasks identified for it in Chapter Eight with greater objectivity than exists at present.

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APPENDIX A

INTERVIEWS CONDUCTED IN CALIFORNIA

Explanatory Note - The following is a brief, selected list of people who were interviewed during the author's research visit to California in 1988. This list has been prepared in order to provide a possible starting point for other researchers in this field or fields closely related to this thesis topic:

1. Dr Dorothy Knoell - Senior Researcher at the California Postsecondary Education Commission. Dr Knoell is regarded as one of the most informed researchers on higher education in California. The author was privileged to be able to interview Dr Knoell on four occasions.

Address: Dr Dorothy M. Knoell, Senior Researcher, California Postsecondary Education Commission, 1020 12th Street, Sacramento, California 95814.

2. Dr Connie Anderson - Senior Researcher at the Office of the Chancellor, California Community Colleges.

Address: Dr Connie Anderson, Senior Researcher, State Chancellor's Office, California Community Colleges, 1107 9th Street, Sacramento, California 95814.

3. Mr Chuck McIntyre - Senior Researcher at the Office of the Chancellor, California Community Colleges.

Address: Mr Chuck McIntyre, Senior Researcher, State Chancellor's Office, California Community Colleges, 1107 9th Street, Sacramento, California 95814.

4. Dr John Smart - Vice-Chancellor of the California State University. Dr Smart was supported by four of his most experienced research staff at this interview.

Address: Dr John Smart, Vice-Chancellor, The California State University, 400 Golden Shore, Long Beach, California 90802 - 4275.

5. Mr Juel Lee - Director of Community College Relations at the University of California, Irvine.

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6. Mrs Elizabeth Testa - Senior Librarian at the California Postsecondary Education Commission in Sacramento. Publications are available free-of-charge and visitors are encouraged to use the library.

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7. Mr Ed Opodaco, Head of Admissions and Outreach Services, Office of the President, University of California, Berkeley.

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