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A TOUCH OF GEOGRAPHY

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Inaugural lecture delivered on accepting the chair of Geography at
the University of the North on Wednesday, 26th May 1982.
PIETERSBURG.

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Mr. Vice chancellor, (guests of honour), (members of senate), ladies and gentlemen, colleagues and students, there are so many conceptions and misconceptions regarding Geography that I feel a touch of Geography is necessary to give here, better understanding of what it is all about.

Many people regard Geography as the discipline where names of capes, bays, ports, capitals, rivers and mountains are memorized. Few Geographers today will agree with this idea but it will be interesting to know why it has developed. I believe it *did* because in the days of the Great Discoveries the *location* of bays and capes was of prime importance for safe navigation." Since the main objective of the navigators in those days was *trade*, names of ports and cities and the products that they could offer were part of the everyday knowledge of the traders. Add some basic facts regarding ocean currents, winds and other weather conditions and we have all the ingredients of the *old Geography*. A geographic heritage from this period is that reposing in the so-called *Commercial Geographies* of a former era with their endless lists of placenames and products — and some beautiful old *maps*. Interesting aspects of these old maps are the following:

1. Their artistic nature — some of them are real works of art.
2. Accuracy — as far as the known areas are concerned maps were accurate while the unknown areas were often ignored.
3. Imagination played a considerable role in the compilation of these maps. As far as the problem of the unknown areas was concerned the mapmakers solved it by putting in dotted lines, dragons, non-existent mountains and rivers etc. They nevertheless sometimes admitted their ignorance on the maps. A good example is *Terra Australis Incognita – The unknown land of the South*. These mapmakers who only possessed a touch of geography blended it with their skills and imagination to produce something unique — perhaps a touch of Geography became a touch of class.

GEOGRAPHY AT SCHOOL LEVEL

There are very few people on earth who do not have at least some knowledge of Geography. There are also very few who would deny the necessity of teaching Geography at school level. In the same way as it is necessary to learn something about man, his language, history, culture, economy, etc. So it is also necessary to learn something about *man in his environment*. That is essentially what Geography is about.

In teaching geography at school we normally commence the study with the child's *near environment* and let him observe and learn about some selected aspects of it. Our first objective is to make the child *aware* of his environment and we stimulate him to think of it in a *systematic* way. Therefore one of our first requirements is that we expect him to *orientate* himself in his environment. His attention is drawn to the *existence and location* of objects and places such as his

house, school, church, etc., and also their *relative location* with respect to one another. His *here, there, this way, that way* etc. is now expressed in terms of directions like North and South and he realizes that objects are separated from each other by *distance*. Most people are interested in the weather and therefore we assist the child in making observations regarding temperature, wind, rainfall, etc. Even at this early stage he becomes aware of the fact that his environment is only one of many and it occupies but a tiny spot on earth. The child is also introduced to the most fundamental of all Geographic tools viz. the *map*. If we regard a model as an idealised representation of reality, the map is one of the first *models* that the child uses in his Geographic study. Initially it makes a great intellectual demand on him because it is difficult for him to visualize the known objects of his environment being reduced to scale as symbols on a piece of paper. Furthermore he is expected to understand *location, relative location, direction and distance* on the map. It is essential, however, that he should understand these concepts because throughout his geographic study he will need them. At a later stage we make mental trips with the child from his own environment to other areas. He then realizes that there are many environments which are to some extent similar to his own, but also others which are entirely different. Therefore we move from the microscale of his environment to the meso-scale where he studies some aspects of other areas of his *own country* - aspects like towns, cities, provincial or state boundaries, cultural groups, and many more. Then we proceed to the macro-scale where the child studies the physical and cultural aspects of his *own continent* - in our case Africa. From here we proceed to the oceans of the world as well as the *other continents*.

In all this we endeavour to make him become aware of other areas and that the world at large lies outside his own limited field of observation.

By this time he should know that we do not live and operate on a flat surface but on a globe. To some people this pose so many problems that they firmly refuse to accept the fact that the earth is a sphere. Fortunately our children are more realistic than this but at this global scale, orientation becomes even more complicated and therefore we introduce them to location in terms of lines of longitude and latitude.

Despite the multitude of phenomena that the child becomes aware of, he also realizes that all spatial phenomena can be grouped into *three* classes only, viz.

Surfaces - Such as farms, plantations, regions, countries etc.

Points - Such as factories, towns, cities, etc. and

Lines - Such as communication networks (roads, railway lines, etc.)

With regard to surfaces and points, the resolution level or scale is important because what is regarded as a point on one scale may be a surface on another. The big cities of the world are mere dots on a world map but from the local perspective they are study objects in

their own right. The communication networks are recognized as the links between nodes mutually and between nodes and surfaces. Having moved to the macro-scale we soon realize that many important Geographic aspects still need to be taught to the children. Therefore at this stage we concentrate on selected regions and study them in some detail. Usually a fairly rigid framework is used when a specific country or region is studied, viz. location, build, climate, vegetation, population, economic activities, etc. Unfortunately these regional studies are heavy in facts and not very popular. Due to this unpopularity a professor recently wrote "*to write of regional geography nowadays may call for courage*" (Geography, No 294, Vol. 67, Part 1, p.3) and a former president of the Geographical Association jokingly remarked "*Regional Geography should only be discussed by consenting adults in private*" (Geography, No. 293, Vol. 66, Part 4, p. 263). Despite these views regional geography at school level is still necessary because we can hardly expect our children to know something of places that they have never come across before. Apart from this introductory value of regional studies, teachers nowadays try to make them more relevant by concentrating on aspects like underdevelopment, resource depletion, conservation, etc.

At this stage the child is taught that the earth is but one of many planets with a unique position in the solar system and a specific shape and configuration. Then he comes to understand phenomena such as, inter alia day and night, seasons and climate. He realizes that incoming solar radiation forms the basis of all systems on earth and it leads to a better understanding of climatic, geomorphic-, soil- and biotic processes. It means that instead of *accepting* facts regarding, inter alia temperature, rainfall, erosion, soils and plants as given, his studies now lead him to an *understanding* of these phenomena. Unique phenomena and areas are sometimes studied but more often the emphasis is on patterns and therefore *climatic regions, natural regions* etc. also form part of the curriculum.

Viewing the earth *from a distance* produces invaluable aids, viz. aerial and satellite photo's. These so-called *iconic* models are widely used especially to give students an idea of what the earth (or sections of it) look like. At fairly large scales it is useful for the identification of phenomena like drainage lines, hills, mountains, roads, plantations, etc. Apart from this it is hardly possible to explain to an outsider the wonderful experience of seeing a stereopair of air photo's *three dimensionally*. At this level it becomes apparent that the child should also acquire a sound knowledge of the systematic sections of Geography. Therefore he moves from a general and often superficial study of climatic aspects to climatology where principles regarding pressure, horizontal and vertical changes in temperature, humidity, etc. are explained. In the same way he commences with systematic studies of geomorphology, soils, population, settlement and economic geography.

Although it is necessary to use books, maps, photo's, models etc. *in the classroom* to teach Geography it is also necessary to *move out*. Geography occurs outside the classroom and therefore it is necessary for the teacher to introduce the children to the *real world* situation. Fortunately there *are* teachers who agree with this view and they help to make Geography a living experience for their pupils.

Throughout his school career the Geography students studies *systematic sections* like those previously mentioned but Regional Geography is still emphasized very strongly at the latter stages of his school career. By the time that he leaves school he has learned quite a lot about many countries. Examples of countries studied are th USA, the USSR, France, Great Britian, Japan, Italy, Brazil, China, Chile and Angola. He concludes his school Geography by studying his own country viz. South Africa in some detail.

At this stage Mr Vice-chancellor you probably feel that the child has studied all the Geography available. Unfortunately this is not the case. Instruction varies from about one to three hours per week during his school career and therefore the school syllabus has merely *introduced* him to Geography. Fortunately I can say that this introduction has supplied him with the basic Geographic facts and principles that can help him in many ways in his future life. I also think, however, that it is true to say that up to this level he has merely been exposed to a touch of Geography.

GEOGRAPHY AT UNIVERSITY LEVEL

If the child now goes to university, his Geographic training is intensified. In this first year at university he receives approximately *five* hours of formal training per week in the theoretical and practical aspects of the discipline. He is also expected to work on his own for up to five hours per week. His training is of a general nature and contains some orientation and introductory lectures on the scope and nature of Geography. Then he does a semester course on each of Physical an Human geography. While at school level, the division is mainly between Systematic and Regional Geography, we find that many Geography departments do away with Regional Geography and concentrate on *Systematic Geography*. The argument is that a sound systematic basis will allow students to attempt meaningful regional studies on their own. In Physical Geography the emphasis is on Climatology, Geomorphology, Soil- and Bio-Geography and we co-operate with disciplines such as Physics, Geology, Soil Sciene, Botany etc. Students who are orientated towards the Arts sometimes find this work difficult but they nevertheless have to do it because their further Geography training can hardly be meaningful without Physical Geography. It is at this stage that the lecturer has to check whether some misconceptions still exist as far as the physical world is concerned. Very often we find that the school teachers succeeded in rectifying some misconceptions but unfortunately there are also many unqualified Geography teachers who simply do not have the

ability to teach the discipline properly. We realize that this is due to the *scarcity* of qualified teachers and it will be a long process to train enough Geography teachers to meet the demand. Two simple examples will illustrate some of the misconceptions that still exist. About 20-30 years ago it was common practice to explain the winter rainfall of the S.W. Cape in terms of the N.W. anti-trade winds an the summer rainfall of the interior in terms of the S.E. trade winds. Nowadays rainfall, temperatures, etc. is explained in terms of *high and low pressure cells* and even a junior secondary child can to a certain extent interpret a synoptic chart of South Africa for a certain day. That child will also be able to tell you that wind moves parallel to the isobars and not perpendicular to it as we were taught 30 years ago

My Geography lecturers at university explained landscape development in terms of the Davis model where landscapes were seen to go through stages of youth, maturity and old age over a period of millions of years, and progress from an elevated area to a fairly flat, almost featureless plain called a *peneplain*. Lack of suitable examples of these peneplains necessitated geomorphologists to reconsider the way in which landscape development is visualized. Nowadays therefore, theories like parallel retreat of slopes or dynamic equilibrium are more widely accepted.

In the same way that Arts orientated students sometimes find it difficult to understand Physical Geography, students of the natural sciences may have problems with Human Geography. In the section on Human Geography we concentrate on settlements, population, resources and economic activities and make contact with disciplines like History, Sociology, Psychology, Economics, Business Economics, Political Science, etc.

Students from both the Arts and Natural Sciences are expected to do Physical and Human Geography together and also some practical work like map interpretation, drawing of maps, aerial photography and statistical analysis. After one year of training students are not qualified to teach Geography at High School level, but *if necessary* they can handle work up to Std. 8 (Form III).

During the second year at university students devote more or less the same number of hours per week to Geography as in the first year. They study some of the systematic sections in more detail and most universities differentiate between a B.A. course and a B.Sc-course. In the B.Sc field emphasis is placed on Climatology, Geomorphology, Soil- and Bio-geography, while B.A. students concentrate on Settlements, Political-, Population- and Economic Geography. These systematic sections are all taught at school level and once a student has mastered them, he should be able to teach Junior Secondary school courses with confidence. A lecturer who teaches one or more of these sections for second year university students is expected to have at least an Honours degree in the specific section(s).

The work in the systematic sections is usually fact *and* principle orientated. It means that lecturing time is used to explain principles and introduce students to new facts.

A large body of theory has to be studied to be able to master the basics of these systematic sections. At this level problem solving is secondary but students do become aware of problems such as:

The silting of dams

Desert invasion in South Africa

Long term weather predictions

Spatial imbalances in cost of living and

The effective placing and spacing of industries.

The problems, however, have to be shelved until the basic training of the student has been completed. In the second year (like the first year) at least one afternoon per week is devoted to practical work. Exercises vary widely in nature because they are based on the different systematic sections. In Geomorphology standard exercises are the compilation of relative relief maps, identification of terrain types, slopes analysis, etc. In Climatology students are very often required to collect and interpret weather data. Simple maps of rainfall distribution, variability and reliability can be compiled and are useful at regional as well as local scales. In Population studies students can do analysis of age and sex structure as well as being introduced to the nature of census surveys. In Settlement Geography they do exercises on urbanization, the placing and spacing of service centres etc. In Economic Geography they can do exercises on aspects on industrialization. Economic Geographic methods and techniques also include cartographic representation of different types of resources, shift of industrial activities in selected areas and network analysis. Because such a mass of statistical data is available on the different systematic sections, the students are expected to proceed to correlation and regression, not only with numerical data but also taking the spatial dimension into account. We realize that some students are not well equipped mathematically and therefore we do not press too hard for results at this stage.

The third year course is very much a progression from the second year along the same lines. A great difference now, however, is that although the time of formal instruction is still about 5 hours per week, students are expected to work on their own for much longer periods. In the systematic sections models are emphasised very strongly. The Christaller model where settlement development is visualized as occurring like a hexagon is often used to explain settlement patterns. On the other hand the Von Thünen model where land-use development is visualized as occurring in a concentric (zonal) way around a central market, is used to explain rural and even urban land-use patterns.

At this stage students are fully aware of problems like pollution, resource depletion and economic and spatial imbalances regarding

development. Therefore many universities teach courses like Resource Geography, Environmental Conservation and Biogeography with a strong emphasis on ecology. These and many other Geography studies are often taught using the systems approach as a basis because it facilitates the integration of the components into a unifying whole. Sometimes third year students still receive formal training in the use of geographical methods and technique but often they are required to conduct a research project of their own.

Our present third year class is doing such a research project on *environmental perception*. As far as this approach is concerned scientists agree that there are two different environments for man.

Decision-makers operating in an environment base their decisions on the *environment as they perceive it*, not as it is. The action resulting from decisions on the other hand is played out in a *real environment*. A problem arises when the planner perceives the environment differently from the people for whom the planning is being done. It is therefore essential for meaningful planning to know how people perceive the environment. Lack of understanding of differences between the real and perceived environments have very often resulted in planning disasters like the Anglo-French Concorde and the Sydney Opera House. Although the authorities had planned to build 400 Concorde only 16 were ultimately completed. The total final cost was estimated to be approximately R300m — R350m and the loss R35m in 1977. The Sydney Opera House is a very impressive building and an architectural triumph, but it was completed ten years late at a cost of 15 times the original planned cost. All misinterpretations of environmental perception are not as costly as these two examples but it is nevertheless essential to understand environmental perception. That is why we are conducting a study regarding *accessibility and residential preference* with our students. Studies like this does not only imply a sound theoretical knowledge of the topic but also an ability to draw up questionnaires and conduct surveys. The processing of the data implies a sound knowledge of statistical and cartographic techniques and more specifically matrix algebra and principal components analysis.

I have tried to give you a touch of my geographic brush, hopefully to facilitate a better understanding of what we teach our students. You may conclude that we teach a very comprehensive and diversified course. That deduction is correct but I want to point out that after three years of Geography training we have merely given our students a touch of Geography and we can hardly claim that they are trained Geographers. There are two main reasons for this:

In the first instance a spatial science studying both physical and human phenomena must by its nature be comprehensive and it is hardly possible to do more than touch on its many facets.

A second reason why we only touch on some aspects of Geography is the length of our academic year and our subject structure. In the first

year B.A. and B.Sc students devote $\frac{1}{4}$ of the effective academic year of ± 30 weeks to Geography. In the second year it is $\frac{1}{4}$ for B.A. and $\frac{1}{3}$ for B.Sc students, while in the third year it is $\frac{1}{2}$ of the academic year for both groups. For a normal three course a student therefore devotes one academic year to Geography it is we accept that it is taken as a major. We can hardly claim to train *Geographers* in a 30 week period. This is problem not only of Geography but of most other disciplines at South African Universities, Authorities, parents and students are all demanding job orientated academic programmes but it is hardly possible to achieve this in 30 weeks. In courses where students are trained for jobs like medicine, law, theology, etc. they devote most of their time to specific training and good results are achieved. In disciplines like Geography, Psychology, Economics, Botany, etc. it is not possible to achieve the same results because we simply do not have enough time to train the students adequately. A valid question is whether universities really want to train students for specific jobs. Not all disciplines have pragmatic orientation or desire. Therefore students very often end up with degrees comprised of subjects which can hardly be used to make a living. Very often students are disillusioned after obtaining degrees and if they want to become part of the economically active population, they usually do a one year teachers training course and go into teaching. At present we are grateful for these students because we realize how great the shortage of trained teachers is. It is unfortunate however, if students become teachers simply because they are forced into a field that becomes the only logical option *after* they have obtained their degrees. This state of affairs can be relieved if students get guidance to such an extent that they know exactly what the implications of certain subject combinations are. I feel that market forces should be allowed to operate to a greater extent at universities. We can hardly deny that a university operates like a business enterprise. The university sells knowledge in packages called subjects and if the students has paid for enough subjects he obtains a degree. He pays with *money* (supplied by himself, his parents and the authorities) and the *time and vital energy* that he puts into his efforts. It is, however not a straightforward transaction over a counter because he can only receive his reward (a diploma or degree) after he has proved in an examination that he has acquired the necessary knowledge and skills. With rising university costs, one can expect that the demand will increasingly be for job-orientated degrees. Students will buy what they can use and universities and departments will have to adapt continuously to changing demands.

Criticism by people from many sectors regarding the usefulness of Geography as a University discipline has troubled Geographers for many years. We have accepted our responsibility to train Geography teachers but this has led to the remark that Geographers only train Geographers to become Geographers to train Geographers.....etc. Fortunately most Geographers have not accepted this state of affairs and studymaterial is continuously being scrutinized to determine its

relevance and usefulness. But unfortunately this has led to widely divergent views and to courses ranging from the traditional Regional Geography to Welfare Geography and Radical Geography. I say unfortunate because I believe that all Geography Departments should concentrate on the basics of Geography (some regional work, the systematic sections and geographical methods and techniques) at least up to graduate level. In line with my exposition up to now I believe that it is only at post-graduate level where meaningful job training programmes can be followed. It is not only wishful thinking that students trained in such a way will also obtain jobs outside teaching. Students with Hons. degrees in Geography obtain positions in a variety of fields like planning, military intelligence, wild life conservation, government service, etc. In fact the Geography Department of the University of Pretoria claims that approximately 90% of its post graduate students find employment *outside* teaching, while formely 90% of these students went *into* teaching.

At the University of the North we are in the fortunate position of having a well-equipped Geography Department. Although most staff members are still studying to improve their qualifications we can accommodate students up to the highest level. The proficiency and interests of staff members indicate that we can make a meaningful contribution towards planning and development in Lebowa. In planning programmes it is essential to conduct a survey of the *existing* situation with regard to population distribution, the placing and spacing of schools, hospitals, shops, factories, etc. Few people are better equipped to do this than Geographers. We therefore hope to make a significant contribution not only towards the training of Geography teachers but we also hope to provide people who can play an active role in the development of Lebowa.

MR. VICE-CHANCELLOR, I HEREBY ACCEPT THE CHAIR OF GEOGRAPHY AND PLEDGE TO SERVE THE UNIVERSITY OF THE NORTH TO THE BEST OF MY ABILITY.

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