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The aim of *Southern African Field Archaeology* is to communicate basic data to professional archaeologists and the public.

Manuscripts of original research undertaken in southern Africa will be considered for publication. These may include reports of current research projects, site reports, rock art panels, rescue excavations, contract projects, reviews, notes and comments. Students are encouraged to submit short reports on projects. *Southern African Field Archaeology* also welcomes general information on archaeological matters such as reports on workshops and conferences.

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Cover illustration:
Plan drawing of a Late Iron Age stone-walled settlement near Brits, p. 68.

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OPINIONS

Provincialisation of measures for
control of heritage resources

Since the publication of the final drafts of the now not so new constitution, there has been much debate and the beginnings of re-organisation around a stipulation in Schedule Six, to the effect that responsibility for cultural matters shall rest with the nine provinces. This provision is as applicable to the management of heritage resources and, in the context of this journal, specifically archaeology, as it is to other areas of cultural activity and is hence in the process of transforming the field in which we operate.

Whilst 'Schedule Six' poses many obvious threats, not least of which is the dissolution of the familiar forms of control constituted via the National Monuments Act, it also has advantages, a number of which may not be self evident to those practising in the field. It is apparent that to many the immediate benefit is that control of the permit system and maintenance of standards for archaeological practice will as it were 'be brought home'. This is an attitude to be wary of. The advantages of provincialisation go far beyond mere parochialism and any system which seeks to give local archaeologists control of their own destiny, or which vests the overseeing implementation of the system in a provincial institution which also undertakes fieldwork, should for obvious ethical reasons be guarded against.

Since the introduction of the Environment Conservation Act in July 1989, we have heard much of IEM, EIA's and related jargon, but in seven years we have somehow not quite reached the situation which expectation led us to believe was just around the corner. A possibly simplistic analysis of the situation is that two factors lie at the bottom of the problem.

The first of these is the failings of the National Monuments Act, an antiquated and somewhat authoritarian body of legislation, and the fact that no attempt has been made to mesh its provisions with environmental legislation. The second and related factor is that in order for Integrated Environmental Management (IEM) to work, the resources for which it caters must be integrated into the country's town and regional planning system.

This latter factor determines why there are, for provinces aware of the issues at stake, definite advantages in the creation of a provincial system for management of heritage resources. Even in the darkest days of Tricameralism, when provinces were stripped of their powers, town and regional planning legislation remained largely in the hands of the rump provincial administrations, a situation that persists under the Interim Constitution. What this in effect means is that whilst at national level it will still be impossible to ensure by legislative means that heritage resources are catered for in the planning process, this need not be the case where a province elects to establish it own monuments council/heritage resources commission and pass its own heritage legislation.

Simply put, the advantage of a province having powers over both the planning process and heritage resources is that it is able to create a system where management of heritage resources, including archaeological matters, is catered for in structure plans, town planning schemes and other planning policies. It also means that a uniform set of principles and procedures for IEM and other areas of heritage conservation can be built into both planning and heritage legislation. This is not possible in a situation where the national government controls heritage resources and provincial governments the planning system.

Experience the World over has shown that integration of heritage management into planning processes is the most effective and conflict-free method of managing heritage resources. In the United Kingdom, Germany and many states of the USA much of the responsibility for heritage resource management rests with the planning authority rather than a monuments council type organisation. In many such places archaeological sites, historic buildings, historic shipwrecks and the like have come to be viewed as simply another restraint, no different from other provisions of town planning schemes, such as zoning requirements, building lines, height restrictions and the like. There has similarly grown up amongst town and regional planners the view that heritage resources are no different from the other resources for which a planning system must cater.

That is to say they are no longer only part of a special case scenario catered for only in rare and unusual circumstances.

Whilst this demystification of the basic material of our trade might alarm some, it is a desirable, sane and relatively uncontroversial method of handling a complex issue. It is, however, necessary first to understand how such a system would work and the only, and as yet untried, South African precedent is in the form of the KwaZulu-Natal Draft Heritage Bill, a body of legislation yet to pass through the Provincial Legislature, but which has drawn on experience in, and the legislative principles and polices used by, around fifty different authorities worldwide.

The Bill proposes a system which it calls "Heritage Resource Management" (HRM) by which any planning authority (broadly speaking any form of local government) will at the time of determining or revising its planning policy be obliged to identify and make provision for the more important heritage resources of the area under its control. This will be done in terms of formal categories of protection provided for in the Bill *e.g.*, landmark status, listing (*i.e.*, the equivalents of national monument status and the National Register), and to the satisfaction of the proposed provincial heritage body, **Amafa aKwaZulu-Natal**. The local authority is then also obliged to provide minimum, non-fiscal, planning incentives for conservation of those resources, this being in the form of relaxations of aspects of the planning scheme (*e.g.*, bulk and height restrictions, building lines, zoning and parking requirements and the like) in order to ensure conservation and maintenance of profit margins. In short, via prior identification of sensitive resources it is expected that those contemplating inappropriate development will be warned off (thus minimising the risk to both developers and the resources in question) whilst those wishing to build a conservation element into a project will be offered incentives to do so.

Where resources are not easily identified, as is often the case with archaeology, or where they do not qualify for formal protection, they will in the case of large developments be protected via an impact assessment and adjudication process, which also allows for a system of compensation in instances where developmental needs outweigh the value of heritage resources. The *onus* for identifying resources and for initiating discussions with **Amafa aKwaZulu-Natal** is placed squarely on the shoulders of the initiator of the threat and the law will require that such discussions take place at the earliest possible time.

It is hoped via this system to eliminate much of the tension created by late identification of resources, the lack of incentives to conserve them and the often unassessed relative merits of conservation as opposed

to a proposed development. It is similarly expected that the system will gradually begin to move heritage conservation away from circumstances where the identification and investigation of heritage resources, in particular those with which archaeologists are concerned, is considered to be in the realm of the rare or peculiar, towards a situation where their investigation is commonplace and something which the planning and development fraternity expects to undertake as a standard practice.

The entire process is one which can under the present constitution and for the reasons mentioned, only be properly implemented at provincial level. For this reason alone it is important that archaeologists and others working in the field come to grips with the concepts surrounding planning and make a positive contribution to the debate taking place in various forums concerning the issue of provincial management of heritage resources. Without the institution of a system akin to that envisaged in KwaZulu-Natal an opportunity will be lost and the risk of creating a body which bears only the hallmarks of the dangers of provincialisation, that is parochialism and lack of expertise and funding, may well result.

In KwaZulu-Natal a concerted effort has been made to avoid the pitfalls of provincialisation, in particular with regard to questions of ethics and conflicts of interest arising from the fact that Amafa aKwaZulu-Natal will employ archaeologists of its own and that they will be actively engaged in contract work and other projects related to the research programme of the institution and its fund raising

efforts. To this end, and to avoid a situation where an individual is in any way involved with the issuing of his or her own permit, it has been proposed that administration of the permit system rest solely with a relatively independent branch of the organisation, probably to be known as the 'Compliance Division'. The staff of the Division will not be engaged in research or contract work and will be charged only with the implementation of the 'compliance' provisions of the Heritage Act. The feeling is that the Division should not need the services of an archaeologist since it will implement a predetermined archaeological policy and be required to submit permit applications for archaeological work to a panel of archaeologists who do not live in KwaZulu-Natal.

Whilst there are definite downsides to the provincialisation debate, these can be neutralised and the advantages played up. As with all things it will be necessary for those concerned to think things through in a thorough fashion in order to realise maximum potential via the creation of a system which is geared to the specific needs of the province in which they operate. As for most other aspects of life in our country, the 'New South Africa' presents opportunities for positive change in heritage resource management. Do we as heritage managers and researchers in the field have any choice but to seize the opportunity?

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REVIEWS

REVIEW OF MV-NUTSHELL: a DOS-based computer package for multivariate analysis of data in archaeology and physical anthropology, by Richard V.S. Wright (1994).

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Many statistical packages exist on the market, designed for use in any field of science, but here is one that has been prepared with archaeologists and physical anthropologists in mind, focussing on multivariate analysis. Users who are unfamiliar with multivariate techniques should not feel daunted. In fact, the package prepared by Richard Wright can be welcomed as something that may stimulate many archaeologists to go beyond basic descriptive statistics, and to explore their data by means of various multivariate techniques if they haven't been tried already.

A booklet by Wright entitled "The MV-NUTSHELL brochure: a concise introduction to multivariate archaeology" describes techniques available from the Main Menu of the statistical package, including Cluster Analysis, Correspondence Analysis, Principal Components Analysis, Canonical Variate Analysis and Seriations. Dendrograms can be drawn from cluster analyses based on Euclidean distance matrices. K-means cluster analysis also allows one to explore data for possible groupings.

Results can be easily plotted and explored "on screen", and images can be exported to graphic packages for purposes of publication. The author advises that users should check that plots transferred to "foreign" graphic packages correspond to images plotted on MV-NUTSHELL graphs. He warns that in some cases, images may be distorted in the process of exporting, as a result of problems associated with the use of different symbols for different variables.

In his brochure, Wright has emphasised the importance of multivariate techniques for exploring data. Simple bivariate plots can demonstrate whether or not particular variables are correlated, and scattergrams can also be used to plot the results of principal component or correspondence analyses.

The author has included a Discriminant Function Analysis programme (DISCRIM) on the MV-NUTSHELL package. This can be used to check the "reasonableness" of a priori classifications, whether one is dealing with measurements obtained from pots, stone artefacts or hominid species. Data sets can be explored by means of the DISCRIM programme to determine the degree to which a classification system has successfully separated groups based on a priori assessments. Discriminant Function Analysis can be expected to succeed when one is dealing with groups that are clearly distinct and which have not been subject to gradual changes through time or space.

The use of Principal Component Analysis in exploratory work may be considered preferable to Discriminant Function Analysis, not only because it can take into account the variable nature of measurements in spatial or temporal dimensions, but also because it may help to identify the underlying factors which contribute to variability in space and/or time.

Archaeology is notorious for the fact that often a great deal of time and effort is exerted simply to obtain data. The application of multivariate techniques in exploratory statistical analyses would seem to be eminently worthwhile if (in a fraction of the time taken to collect statistics) it allows the user to identify variables contributing to observed patterning in space and/or time. The MV-NUTSHELL package can be recommended to archaeologists who have not tried multivariate analyses before, and who wish to undertake exploratory analyses to try to enhance their understanding of archaeological data sets.

The MV-NUTSHELL package is available, on either stiffy or floppy discs, directly from Richard Wright at MV-ARCH, 72 Campbell Street, Balmain, NSW 2041, Australia. The cost of the package (including airmail postage) was recently set at $60 (Australian dollars); $52 (US dollars); or £34 (UK Sterling).