

Weapons of Pedagogy: Origins, Art and Archaeology.

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African Studies Seminar
University of KwaZulu-Natal
23 May 2007

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I The ideological

This paper develops three dominant integrated themes. Firstly that a critical understanding of the deep African past² amongst as wide a South African audience as possible is a major educational priority. Secondly that this raises very particular difficulties and problems for the teacher and the writer of teaching texts. Thirdly the paper considers some of the reasons why this is so difficult to achieve and tries to offer some solutions. These themes are integrated in a text which is built around some of the major items of discussion about the pre-literate South African past.

Our starting point is the fact that all the evidence suggests that it was on the African continent that human beings had their physical origin. Furthermore it has recently been argued that it was in Africa – perhaps southern Africa – that our common ancestors developed those cultural and cognitive features which define humanity. This preceded a move of humans out of Africa by people whose descendants then proceeded to occupy increasing areas of the world, developing strategies and technologies with huge consequences for the shape of ancient and modern history. The role of people from Africa in this process, and southern Africa in particular,³ is therefore of the greatest interest and significance, and as teachers we have a responsibility for increasing public awareness and understanding of this history. There are many reasons for the need to assume this responsibility and we will be discussing a number of them in this paper. But, as an initial justification, we want to assert a simple regional argument. Africa generally, and southern Africa in particular, is where some of the most significant developments in human history took place. It is also the location of the major archaeological research initiatives. It is a sound pedagogical principle to start with where we are.

We have often spoken in these seminars of the lack of historiographical continuity in South African historical studies. A prime example of this is the continual urging, from many quarters, that as teachers and researchers we adopt an approach which takes the ‘African experience’ and ‘African culture’ into account. There are problems with this demand: it is not just that ‘African culture’ is often presented in isolation from non-African influences (however defined) and explicable only to the racially-perceived African mind, but that it ignores the fact that attempts to work within and around African structures of thought and experience have been made in southern Africa for over a century and however limited, are sites of considerable intellectual achievement.

There are a number of obvious reasons why we should expect the call for the Africanization of southern African studies to intensify at this particular moment in South African history. However the frequency and the urgency of the call for recognition, together with the failure to recognise and utilize what has been achieved already by Africanist approaches, the continual assertions, rediscovered with each

² We use ‘deep African past’ as a convenient alternative to prehistory or the preliterate past to describe history in Africa reaching back to the time of human origins. The term is provisional, like the paper itself, which should not be quoted. It reflects work in progress, at the moment with the graduate class Hist704HC ‘The Foundations of African Society’ and we would like to acknowledge the students’ contribution to discussions we are having on many of the topics raised in this paper.

³ While the course concerns Africa as a whole the context very much southern Africa – a context which we would like to extend.

generation, that the African past has been ignored, denigrated, or appropriated by outsiders, indicate that the reasons for this persistence are profoundly ideological.

Ideology succeeds when ignorance works successfully with power. As scholars and educators we are paid to use our skills to confront ignorance and communicate the results of this confrontation to those we teach: if this is done effectively, we believe, we will necessarily challenge power. What we still have to find is ways to make this challenge successful.

And we fully realise that there is no simple answer to this. The common response – race prejudice, transformational failure – is at best inadequate. For it is not just a question of finding strategies and the resources to implement them. It is a salutary experience to read the critical yet ultimately optimistic *Report of the History & Archaeology Panel to the Minister of Education*⁴ and compare it with the lame presence of pre-colonial African history in the *Revised National Curriculum Statement*.⁵ To experience directly the knowledge level of tertiary students, and to speak with those involved in teacher and teacher-training, forces one, in the absence of dedicated research, to suspect that in spite of the presence of a forceful, informed Minister of Education who when he held office did what he could to intervene directly on behalf of history and archaeology, the general understanding of African past, remains woefully inadequate. Moreover it is difficult to perceive how this can be rectified within the present structures of the educational system.

This paper is part of a larger project which seeks to find alternative ways to present the findings of academics and specialist researchers, archaeologists in particular, to an audience without the conventional means to access information. Furthermore, this information, when it is not confined to professional publications, is often insufficiently sensitive to the particular challenges and difficulties faced by teachers at the senior secondary and tertiary levels in South Africa today. The project has been disappointed in an initially successful attempt to gain support from the provincial education authorities. Backing by business is an obvious possibility but this, as we show in this paper, can be hazardous – most obviously when political, business and media interests subsume educational objectives as they seek publicity and profit. The immense difficulties raised by other factors – inadequate training, teaching and resource distribution for example – are not examined in this paper.

We want to begin by stating that while we concentrate our analysis at a level determined largely by the challenges we experience in practice, we nonetheless realise that they can also be situated in a context far broader and more complex than the immediate problems raised by training, resources, or subjective attitudes. Jean and John Comaroff demonstrate this in their recent analysis of the African postcolonial state in the global neo-liberal economy.⁶ They draw attention to the profound material and ideological contradictions of the contemporary postcolonial state, torn apart by perceptions of intense difference which are in turn countered by ‘first-principle’ claims of prime, rights of birth – that is by the claims of ‘autochthony’. They point to the paradoxes which emerge out of the historical drive to assert wide-ranging forms of

⁴ Department of Education, 2002

⁵ Department of Education, 2005

⁶ Jean and John Comaroff, ‘Naturing the Nation: Aliens, Apocalypse and the Postcolonial State’, *Journal of Southern African Studies*, 27, 1 (2001)

differing identities while simultaneously claiming rights as sole, prime founders of single national identity as autochthons.

These contradictions seem to us of considerable significance for the study and teaching of 'African origins'. While the Comaroffs concentrate on the contradictions within the nation-state, the argument can be extended to continental Africa. Pan-Africanism is of course as old as the imperial partition of Africa itself. The context for its recent formulation is created by the contradictory impact of neo-liberal forces working within a global context. Once the political and entrepreneurial hype which surrounds it has been stripped away, it can be seen as a profoundly paradoxical claim for global autochthony; a bid for greater equality in the Orwellian sense; the contradictory assertion of Africa's prime claim to a universal identity.

This contradiction lies at the heart of many of the difficulties in communicating the latest findings on the complex, multi-disciplinary subject of African origins. It is not just that the topic is difficult in itself – it is indeed that. The challenge also comes from the contradictory ideological consequences implicit in the topic which force the teacher to find a way through conflicting pressures. On the one hand properly understood the topic remains part of the still unfinished anti-colonial anti-racist project. It is still necessary to assert the autonomous significance of African history in a world in which ideology and actions continue to confirm a sense of western, northern, European primacy and superiority. At the same time the tendency to distort, sentimentalise, and ultimately to replace one assertion of racial and cultural superiority, not with an alternative view, but with a rival one cast in the same terms, is a real threat to those seeking a genuinely independent, positively postcolonial, way to understand the African past.⁷ In this paper we present some of the ideas which mark our attempt to find ways to present difficult, specialised findings on the African past in a manner accessible to a wider audience, without sentimentalising or trivialising the subject matter and by making a radical break with conventional Africanist approaches.

'The Cradle of Mankind'

Africa is the continent on which the long process of human evolution took place. The ancestors of all human beings had their origin in Africa. Such essential physical features as bipedal locomotion, binocular vision, upright stance and steadily increasing cranial capacity are evident in the fossil genus *Australopithecus*, found only in Africa. The fossil and material evidence for this is fragmentary and spread over some four million years, but as palaeoanthropologists continue their research so the information base is enlarged. East and South Africa remain the areas in which the fossil record has best survived. It is now accepted that about two million years ago, *Homo* type physical features had begun to emerge and that about this time early forms of the genus *Homo* moved beyond the geographical borders of the African continent (the movement referred to as Out-of-Africa 1). In response to different regional environments, specificities developed: for example, *Homo ergaster* in Africa, *Homo erectus* in Asia, and *Homo neanderthalensis* in what became Europe.

⁷ See the references to Paul Gilroy's discussion on this point in John S. Saul's *Development After Globalization Theory and Practice for the Embattled South in a New Imperial Age*, UKZN Press (2006) pp.77-8.

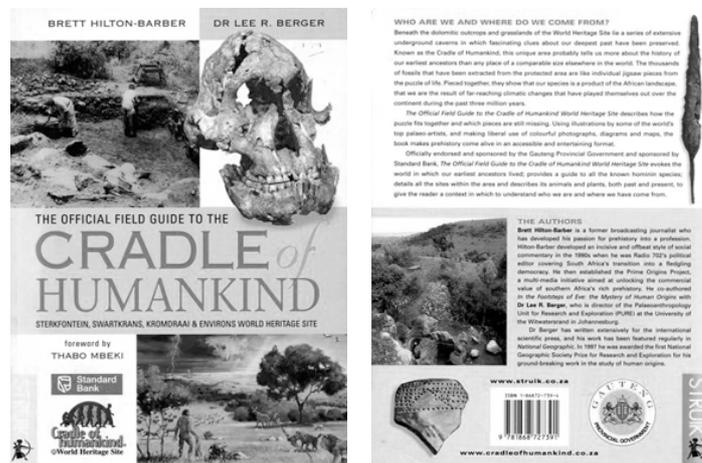
Some twenty years ago discoveries in molecular biology, especially the role of DNA in the generational transmission of physical characteristics, made it possible to measure the extent of genetic difference amongst individuals. The greater the genetic difference the greater the distance in time that has passed since they separated from a common ancestor and vice versa – the more similar the genes the more recent the common ancestor. The results were controversial, have been challenged and will still be refined, but are increasingly accepted and remain startling. Through the mitochondrially traced female line all human beings share a common ancestor who lived about 180 000 years ago on the African continent. About 90 000 years ago groups of *Homo sapiens* began to leave the continent (referred to as Out-of-Africa 2). Over the next 60 000 years all previous existing forms of *Homo* became extinct and left no trace in the genetic record – it is from these comparatively recent *Homo sapiens* from Africa that all human beings are descended.

The implications of these findings are stupendous. Firstly it shows the proximity of human beings, physically and in time. This close human identity is a scientifically and statistically based answer to theories which assert or imply distance and racial difference. Not only do we have distant common origins in Africa, but the ‘modern’ form of human being that came to dominate over other human forms was specific to Africa until 90 000 years ago. This in turn implies that the main features which define humanity are of African origin.

It is this latter thesis – that human beings originated and developed on the African continent – that I want to examine further. It has become a commonplace, used by politicians, teachers, the writers of text books, the directors of museums, and those hoping to profit from heritage and tourism. In an argument which posits close human identity, this kind of emphasis on the African origins of humankind is implicitly contradictory. We summarised above the postcolonial context for the emergence of such a contradiction. But at the same time, at another level, it is understandable. The idea of Africa as backward in history even if it is no longer present in the text books has never been eradicated – and indeed contemporary poverty and violence and the notion of the ‘failed state’ confirms a notion of African backwardness, even if it is unspoken. Such feelings are to a degree assuaged by the new discoveries in archaeology and genetics: far from failure Africa is where it all began: Africa is the place of origin of humanity itself; human beings would not exist but for their common African ancestor.

Such arguments give a certain psychological satisfaction, a sense of racial achievement with which to confront what is depicted or felt as racial failure. As a consequence these ideas have been taken up by those who have for centuries, but increasingly, organise our lives, and seek to control our thinking. Those in the business of politics and the politics of business hire their messengers in the media to spread the message: Africa must return to the central role it played in human history: Africa must unite, combine its forces, assert itself once again, work towards assuming leadership as archaeology and history show it did in our shared human past. The evidence and the sites of such achievements are opportunities for profit – and the heritage and tourist industry begins to promote the idea of the importance of African origins, and devise methods to sell it. Africa after all was the ‘Cradle of Mankind’: come and see where it all began. And, if less stridently, nonetheless with a greater betrayal of their calling, scholars attempt to reach a broader audience by hitching an

Africanist cause to the results of their often specialised and remote research with a token often sentimental celebration of our common African humanity. They regret the inhumanity of the past, especially the recent past when it terminated the lives of their subjects. They dedicate their work to the recovery of these lost pasts. They seek to overcome colonial cultural amnesia - unaware that it includes the history of archaeology itself.



We are confronted at every turn by the consequences of this intellectual opportunism and we take as our example *The Official field guide to the Cradle of Humankind, Sterkfontein, Swartkrans, Kromdraai & environs World Heritage Site*⁸ and draw on the Introduction signed by the State President Thabo Mbeki. He dwells on the unique contribution of

Africa to world history and the need to redress present imbalances of power and wealth in Africa. After centuries of material exploitation and intellectual sidelining Africa is at this moment claiming her heritage. An 'African Renaissance' is taking place, We have entered the 'African century'. Far from being on the periphery of world history and development, Africa is in fact at the very centre. Such ideas have been incorporated into national ideals and international relations – in NEPAD, the New Economic Partners for African Development for example.

The back cover blurb reads:

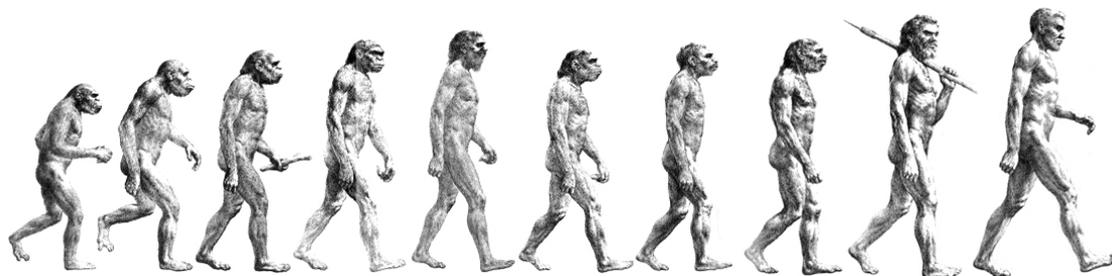
Who are we and where do we come from? Beneath the dolomite outcrops and grasslands of the World Heritage Site lies a series of extensive underground caverns in which fascinating clues about our deepest past have been preserved. Known as the Cradle of Humankind, this unique area probably tells us more about the history of our earliest ancestors than any place of a comparable size elsewhere in the world. The thousands of fossils that have been extracted from the protected area are like individual jigsaw pieces from the puzzle of life. Pieced together, they show that our species is a product of the African landscape, that we are the result of far-reaching climatic changes that have played themselves out over the continent during the past three million years.

This is not only hype but misleading hype: if it does make an impression on the learner, much of what is said here will have to be unlearned. It is not to deny the importance of Sterkfontein, the importance of knowing about the fossils of Sterkfontein, for what they mean to the understanding of our common African past, to point out that to do it in this manner works against, and not for, an understanding of our deep history – we are certainly not just the 'result of far-reaching climatic changes'! – but by describing us as 'the product of the African landscape' the authors avoid such dangerous phrases as 'where we evolved by a process of natural selection'.

The Chairman of Standard Bank is braver but not very sensible or accurate when he tells us his bank has 'been a pioneer as corporate supporter of the study of human

⁸ B. Hilton-Barber and Dr. L.R. Berger, Struik (2002).

evolution and the preservation of heritage and evolution in Africa.’ On the front cover of the book is the logo for Sterkfontein. It is ‘the Cradle of Humankind ©’. It is a brand. Our heritage, the caves at Sterkfontein, have been branded for commercial promotion. Words, the heritage of all speakers and learners of the English language, have been privatized, appropriated by the owners of a United Nations World Heritage Site.



This is doubly outrageous because the logo itself has been copied. Anyone who knows anything about the iconography of human evolution should know where it comes from – a famous Time Life book from the 60s called *Early Man*. And not only is the image appropriated but it is an image which itself has become a cliché, as the very epitome of what is wrong with conventional ideas of human progress: a modern male, heading a victorious procession of increasingly human species from an ape-like past.



Perhaps even the designers of this branded stolen cliché were aware of its limitations – a dot of paint to suggest a breast has been added to the image of the leading male figure – the sexism of the original stolen object rectified by a gratuitous attempt at empty political correctness.

Such efforts to popularise the deep African past raise for us a range of contradictory problems. One must support the communication of recent findings to a wider audience. The evidence of African origins is a counter to racist traditions not just in popular thinking but in education. However, especially when politics and business have a hand in it, the message is a distorted one and its effects very unfortunate. The restriction of public spending and the domination of corporate funding is ominous and regrettable, but it is a feature of our age. The first edition of *The Official Guide...* was not only misleading but showed signs of, at best, hurried production when other archaeologists pilloried it for its inaccuracies in a controversy which soon took the form of a sport in which palaeoanthropologists excel in a very competitive field – the academic punch up.

Much more can be said about this. It is not to argue against the importance of Sterkfontein as the site of discovery of a considerable body of fossil evidence to point out that the motto ‘Cradle of Humankind’ is misleading (although not as vacuous as the motto of the Origins Centre in Johannesburg, ‘We are who we are because of who we were’). The fossils at Sterkfontein are predominantly pre-human. ‘Uterus’ would be more metaphorically accurate than ‘cradle’, but would probably be unacceptable to

the advertisers. It was to be millions of years before the first humans appeared and the connections between the Sterkfontein fossils and the first humans is still a matter of great debate. It is not in our opinion being overly pedantic to point this out. As we will see below some of the most serious misunderstandings about the nature of evolutionary history have their source in a failure to comprehend the time-spans involved and the use of cradle in this way only compounds the confusion.

Sterkfontein will be in the news increasingly over the next few years as it is the site of Stw 573, the only complete australopithecine fossil skeleton ever found. Following the practice of palaeoanthropologists of giving their most famous discoveries the most misleading nicknames, Stw 573 is called 'Little Foot'. There is no evidence that the feet are notably small any more than there is evidence that 'Mrs Ples' was female. In this way the rather wheezy sense of humour of the in-group can create unnecessary difficulties for the learner. We have to wait with some trepidation to see how the final stages of the excavation of Stw 573 will be treated in the press and the publicity material for Sterkfontein.

We could continue to develop these themes using other examples from southern African history. We must repeat that we are not objecting to the manner in which a study of the African past has overturned Eurocentric perceptions. This is part of the still unfinished process of rooting out the remnants of colonial prejudice. What we are warning against however is the way in which the old misinterpretations are not replaced with a new synthesis but repeated with new actors. The temptation to do so is great. Thus, for example, the recent developments in chronometric techniques, the reappraisal of the significance of African art and the evolution of cognitive systems, and the close analysis of archaeological sites have led to a re-interpretation of the Middle Stone Age in South Africa which in turn has forced archaeologists to re-conceptualise stone-age chronologies. In so doing, the long-held idea that innovatory developments in the making of modern humans took place in Europe some 30 000 years ago is shifted to Africa 100 000 years before that. Again the danger is that this process of interpretative rectification will be presented as a racial or cultural inversion.⁹

And as we get nearer to the present the process continues. No one doubts the significance and the importance of the states founded in the Limpopo valley a thousand years ago and which culminated in Great Zimbabwe. The evidence of the existence of these states is of the greatest significance in the teaching of African history especially to those of a school-going age investing it with adventure and excitement – Guy has himself contributed to school texts on the subject.¹⁰ But the breathless descriptions of the gold ornaments, the beads, and the evidence of Indian ocean trade which pervade the literature and media also betrays a desire to participate in the same race for cultural and historical advantage characteristic of so much nationalist history. Moreover the use of technological and cultural artefacts as markers of achievement within a context of national rivalry are ultimately doomed: there will always be another 'older', 'more advanced', 'more complex', 'more

⁹ J. Parkington, 'From neo-anthropes to modern people. The changing fortunes of the Middle Stone Age' G. Blundell (ed), *Origins. The story of the emergence of humans and humanity in Africa*, Double Storey (2006). This book was prescribed for the course 'The Foundations of African Society' and is the source of many of our insights – and of our criticisms.

¹⁰ J. Guy *Turning Points in African History*.

beautiful' claim posited. It is true that in southern Africa we are still confronted with colonial attitudes. Of course prejudiced belittling of the African past has to be confronted. But this will not be achieved by training students to compete in yet another race for cultural superiority. The justification and the basis for studying the deep African past is surely to make a claim not to compete for, but to participate as equals in, the enormously varied, contradictory but shared, experience of human achievement.

II The technical

This project had its origins in a bid to write material that could be used in colleges and schools by teachers and pupils without a specific background in archaeology, or even access to such invaluable if flawed stimulants to the imagination as *National Geographic*, popular illustrated books, history channels and videos, or the internet. The intention was also to draw on our experience in the class room, heritage bureaucracy, and the world of digital art in an attempt to overcome some of the very real problems of communicating these ideas.

This is not to ignore the publications produced by archaeologists when they write for a wider audience. It is this work ultimately upon which we as non-specialists depend.¹¹ We cannot do even a summary review of the work here but Martin Hall,¹² Tom Huffman,¹³ and most recently John Parkington¹⁴ have made important attempts to reach beyond specialist readership. Nonetheless we are of the opinion that there is something absent; an insufficient awareness of the difficulties of teaching a non-specialist, resource-starved audience. In the more popular literature there are examples where arguments attempting to attract a wider audience in fact reinforce or even create prejudice. Further layers of ignorance are created in the name of enlightenment. The replacement of 'Europe first' with 'Africa first' which was theme of the first part of this paper is an example of this. It is the consequence usually of market and political pressure, but also, less obviously, of the working of ideology in the contemporary historical context.

Time-span



In this section we move away from the primarily ideological to the technical aspects – an artificial distinction in practice of course but adopted here for the purposes of analytical clarity. An understanding of 'origins' necessarily implies an understanding of what was happening in pre-human times, and we have adopted a conservative approach restricting the time-scale to four million years. But the most common, the most difficult, the greatest overarching obstacle in the study

¹¹ This, and the notes that follow, are given as examples and obviously not comprehensive citations. Useful updates South African archaeological research on are published periodically in the *Journal of African History*. For the most recent see P. Mitchell and G. Whitelaw, 'The Archaeology of southernmost Africa from c. 2000 bp to the early 1800s: A review of recent research', 46 (2005).

¹² M. Hall, *The changing past: Farmers, kings and traders in southern Africa 200-1860*, David Philip (1987) and *Archaeology Africa*, David Philip (1996).

¹³ T. Huffman, *Snakes & Crocodiles. Power and Symbolism in Ancient Zimbabwe*, WUP (1996).

¹⁴ J. Parkington, *Shorelines, strandloppers and shell middens*, Krakadouw Trust (2006).

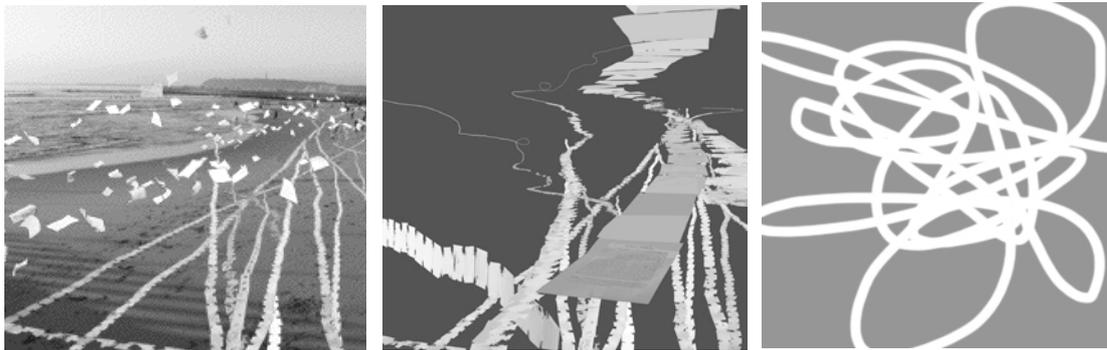
One of the problems here is of course the very common careless shift from Africa to African as in ‘Africa is the where human beings originated’ to ‘the first human beings were African’. But it also depends on the failure to internalise the immense passage of time during which even human evolution took place. Unless pupils have conceptualised the difference between 4 000 000 years ago when early human-like apes were evolving in Africa, and 40 000 years ago when human beings in different parts of the world were responding to their different environments and developing external, physically different features, then this sort of confusion will continue to bedevil attempts to understand physical racial difference and commonality.

Progress



Themبisa Waetjen and Julie Parle have written of the difficulties of teaching evolution in South Africa.¹⁵ We have also experienced this and at present we find it best to treat evolution implicitly as an explanatory structure. However even when the class generally has no difficulty accepting the theory of evolution by natural selection many problems remain of which perhaps the most difficult is the idea of progress. Although only marginally Darwinian the idea of progress has always attached itself to evolutionary theory which in turn has its origins in the age when the ideology of progress was dominant. Stephen Jay Gould wrote repeatedly and eloquently against the idea that evolution necessarily implies progress. It remains however deep in our thinking, uncritically structuring our ideas. Even as the ancient pedigree of our claim to humanity is asserted – as in the ‘we all began in Africa’ slogan – the triumphalist teleology of progress is implied.

But how can we as teachers disrupt this teleology without simultaneously destroying the idea of history as process and change? We have been trying in our teaching to get away from the linear, genealogical view of history upon which the idea of progress depends. The idea of change as a process of multi-causal feedbacks is verbally clumsy. But not perhaps as an image. And this in turn can be used around the very contemporary concept of the network.



¹⁵ J. Parle and T. Waetjen, Teaching African History in South Africa. Post-colonial realities between evolution and religion, *Afrika Spectrum* 9 September 2005.

Multi-disciplinarity, evolution and social change



One of the most important challenges raised by the teaching of archaeology is its multi-disciplinarity. It draws not just on the social sciences but the natural sciences and if pursued at any depth moves into debates with profound philosophical implications. The basis of chronometric dating techniques, the presentation of statistical information, anatomy, geology, climatology, zoology and botany and molecular biology are only some of the useful skills. For us an educational structure which would not just permit but encourage training across the conventional humanities, social and natural sciences divide is a pedagogical ideal, but one which is unlikely to be achieved in the foreseeable future.

There is no evidence in present educational planning that there will be pressure for such changes, or indeed even for the promotion of historical study of the deep African past. When Kader Asmal was Minister of Education he set up a 'History & Archaeology Panel' as part of the 'Values in Education Initiative'. The Panel's *Report* confirmed the need for History and Archaeology in schools, was critical of the 'present situation', and urged that these disciplines should form an essential part of the 'new curriculum'. Despite this the presence of what might be seen as archaeological topics, or in the narrower sense as the study of pre-literate societies, make a very brief appearance in the *Revised National Curriculum Statement* for the Social Sciences. In the 'Knowledge Focus Framework' for Grade 7 History we find

Human evolution:

early hominid discoveries in South Africa and East Africa;

becoming human in southern Africa;

rock art as an expression of hunter-gatherer society and world view.

At Grade 10 we find

What are the constructed heritage icons from the period that are celebrated today? [sic] For example How and why has Great Zimbabwe become central to Zimbabwean nationalism

The impression one gains from teachers is that they circumvent these topics and that they have little impact in schools. Given the way they are framed this is perhaps fortunate.

Parle and Waetjen have written of the extreme difficulties of teaching evolution at university first-year level and the evidence of hostility on the part of some students, teachers and, it would seem, educational bureaucrats. It is sufficient to quote the following key question at Grade 11 taken from the *Revised National Curriculum Statement*

What was the impact of pseudo-scientific racism and Social Darwinism on the nineteenth and twentieth century (including the eugenics movement in the late nineteenth century and its impact on ideas of race and racism in Africa, the USA, Australia, Europe and particularly leading to genocide in Nazi Germany?)

Although taken from a key educational document there seems little point in pursuing seriously questions framed in this manner. Indeed the experience of both authors, the one who has throughout his career founded his teaching of African history in the deep past, the other with experience as an employee in the heritage bureaucracy, suggests that at present the best way to promote archaeological knowledge to a non-specialist audience is by attempting to influence the formal educational system from outside the walls of prejudice and ignorance indicated by this quotation. This is what we seek to do in the present project.

To conclude with just one example of the way this could perhaps be approached. It would seem as if little can be done at the moment about the intellectually disastrous division at all educational levels between the natural sciences, the social sciences, and the humanities. There is no need for me to dwell on the economic and social consequences of a system designed to produce the lop-sided instead of the rounded. The fact that so many South Africans are able to move and influence their world from different disciplinary perspectives is despite, rather than because, of the formal educational system.

The importance of the developments in microbiology over the last fifty years is indisputable. They no longer remain the preserve of microbiologists and debates on genes and the importance of ‘breaking the genetic code’, the Human Genome Project and its local equivalent the African Genome Initiative is attracting wide political and business interest and with it massive funding. We are not yet qualified to comment on its efficacy but from the internet hype it may well be another example of the manner in which the general concept of ‘Africa’ and the African past is used to serve very particular contemporary interests.¹⁶ Leaving this aside however the interest in the ‘human genome’ does confirm how significant an understanding of genetics is – not just for training in the sciences, but as part of the general preparation of an educated public across all the disciplines.

From our experience of teaching about genetics, specifically the role of mitochondrial DNA in our understanding of Africa’s history, we want to draw attention to a particular debate which raises problems which go beyond the obvious difficulties of teaching cell structure, and the role of DNA in genetic inheritance. This debate concerns the confusion, and it is a confusion confirmed and exacerbated by the quotation above from the Grade 11 portion of the *Revised National Curriculum*, about the fundamental difference between evolution and cultural change.¹⁷ The former concerns the natural world and takes place over immense periods of time, and depends on a process of natural selection whereby the interaction between the species and its environment determines genetic inheritance and thereby physical form. The latter concerns the social world and can transform our lives, at any level in an instant. It is expressed physically but transmitted not through the genes but through social interaction, from generation to generation, and amongst members of social groups.

¹⁶ http://www.foundation-development-africa.org/africa_special_projects/genome.htm

¹⁷ I am drawing here on the arguments of Stephen Jay Gould, *Life’s Grandeur*, Vintage (1997) where he urges us to make this distinction – to the extent of avoiding the phrase ‘cultural evolution’. These arguments were developed in turn by Richard Dawkins’ fascinating, if over-elaborated, *The Ancestor’s Tale. A Pilgrimage to the Dawn of Life*, (Phoenix, 2005)

It is immediately obvious that these two examples of change lie at the heart of the most important debates on the nature of humanity – for example freedom/determinism, nature/nurture, genetic/social forces. The complexities have been intensified by advances in our understanding of the molecular basis of genetic inheritance and are the subject of a stream of books by biologists, geneticists, specialists and popularisers. It is indeed one of the great debates of contemporary times, being described we are informed as the most profound intellectual revolution since the Copernican. The history of African origins seems to us an excellent way to prepare students for an engagement with this debate. First it requires an understanding of the basics of modern genetic theory – an understanding without which no young person can participate effectively in contemporary world developments. Then it requires that the differences between both evolution and cultural change be conceived analytically. Only then can we understand how they interact – as they did over millions of years in Africa, ultimately successfully to become *Homo sapiens* – and nowhere else.

Indeed, it is perhaps inevitable that the conventional chronological narrative based on fossil evidence will reinforce misleading conceptions of evolution, development and progress. Consequently, it may very well be better to begin our study of African origins by finding ways to visualise the basics of modern genetic theory, thereby making it more accessible to the student (and the teacher) without an adequate background in microbiology.

And this of course brings us back to where the paper started. How is it possible to find effective pedagogical strategies to teach the deep African past? How do we counter the political and economic forces which exploit and trivialise these crucial educational objectives? Can visibility be used to communicate conceptual complexity? Does the contemporary situation force teachers to find ways to work outside the formal educational structure to be effective? For us the need to find answers to such questions is not only personally fascinating, but educationally important.