

## CHAPTER 5 'MEMORIALS UPON THE ROCKS':

### ISSUES OF CONSERVATION AND COPYING

In this chapter the deterioration of the site, the rapid exfoliation of the rock surface and the engraved images, and their impending obliteration, is described. Having discussed the futility of seeking official assistance (chapter 2), the only remaining conservation option, the comprehensive recording of the images, is considered. Since the occurrence in January 2005 of a large sinkhole immediately adjacent to the site (**fig. 19**), the recording of the images has become a matter of extreme urgency. The development of recording methods is discussed, from the early efforts of Stow in the late nineteenth century, to the advanced direct tracing techniques and digital imaging of the twenty-first century. The various copy methods are assessed, and the technique employed for the recording of Redan, is described.

Visits to the site during 2002 and 2003 confirmed the rapid rate of deterioration. The base of the sandstone outcrop was partly submerged by encroaching weed and sand banks, the rock surface was littered with rubble and the last vestiges of the fence that had once enclosed the site were barely visible (**fig. 35**). A more serious cause for alarm was the extreme exfoliation that was taking place and the possibility that some of the engravings were disappearing. This can be attributed not only to natural weathering, but also to the pollution to which the area has been exposed since mining operations began in 1882 in the area. As a result of the persistent industrial activities in the Vaal Triangle over a period of more than a century, acidic

air and water pollution, popularly referred to as acid rain, has been largely responsible for the exfoliation of the sandstone rock face of Redan. Due to the rapid industrial development of Vereeniging this pollution continues unabated. A comparative study on site proved that exfoliation was continuing at an alarming rate and that these enigmatic images on the rock face, were indeed disappearing.

Photographs and rubbings taken more than ten years previously by the writer were compared with the engravings *in situ*; in one instance the tail of one of the rare animal engravings had disappeared completely. Flakes of sandstone scattered over the engravings bore silent witness to the havoc that the elements were creating. The southern Highveld is characterised by extreme weather conditions that range from hot summers with a high average rainfall, to cold, frosty winters. Thunderstorms with hail are not uncommon. Many of the engravings were so severely weathered that it was difficult to distinguish the engraved areas from the natural rock surface. A similar concern had been expressed more than three decades earlier by Willcox and Pager (1967:492) during their survey of Redan:

In addition to the normal agencies of weathering attacking the exposed surfaces, the rock is exfoliating in a layer averaging about 10 mm thick ... It is probable that scores, if not hundreds, have been lost with the detachment and disintegration of the surface layer into which they were cut ... *As some have weathered almost to be invisible it has been thought desirable to copy the petroglyphs without further delay, chiefly for the sake of record ...* (emphasis added)

Almost 40 years have elapsed since Willcox and Pager made these observations and copied the engravings of Redan. Their survey has proved invaluable, but copy methods have since advanced to a remarkable degree. It was expedient to make a second, more comprehensive and accurate survey that would serve as a permanent archival record and continue to give access to the information present in the engravings, long after their extinction. In the past discussions and negotiations between the various organisations concerned with the conservation and maintenance of the site had proved largely fruitless. Once again, no official intervention or sanction was forthcoming. A decision was made to commence copying the engravings as soon as possible using the most suitable copy method available.

A study of copy methods from their early beginnings in the nineteenth century to the technologically advanced methods of the twenty-first century, reveals that copy methods do not develop independently, but within a particular historical and ideological framework, and are co-determined by the methodological approach and interpretational framework adopted by the researcher.

#### **CONFLICTING PRIORITIES: THE EVOLUTION OF COPY METHODS**

Although a number of early travellers made desultory copies of the art they encountered in the course of their travels (see Willcox 1984:1-2; Wilman (1933) 1968:1-17), Stow was the first person to undertake a deliberate search for the art and to make a substantial number of copies. Rock art research was in its infancy and it had not yet become obligatory to trace the images directly from the rock face rather

than copy them freehand. Judged by today's exacting standards, Stow's copy method appears somewhat unorthodox. It consisted of two distinct stages. On site he took a few basic measurements, transferred these to rough paper, drew in the images freehand, made pencil annotations of the colours and collected pigment samples *in situ*. Later, after his day's work was done (probably in his tent and by the light of an oil lamp) the final copy was made by tracing and scoring through the images, transferring these to cartridge paper and adding colour washes. It is also widely known that many of his copies are in fact compilations consisting of the selection and omission of images from different parts of the rock face, to form a single composition (chapter 1).

This practice was not considered unusual or fraudulent; it was dictated by the acute shortage of paper he invariably experienced (Stow & Bleek 1930:xxvii), a desire to make the art as 'representative' as possible, and above all, by an extreme sense of urgency to record as much of the rapidly disappearing art as possible in order 'that some record may be kept (imperfect as it must necessarily be ...' (cited in Schoeman 1997:73). The art historian, Alexander Duffey (2002:29-31) points out that the inaccuracies in Stow's copies were also influenced by Stow's personal style and in accordance with prevalent Eurocentric perceptions of what art should be. Referring to Stow's copy of a rock painting of eland and hunters from the Barkly East area, Duffey explains: 'Stow imparted his own distinctive style to his copies of art ... The form and elegance of line ... was actually Stow's stylisation and line'. Over the years Bert Woodhouse (1992:20-35) has relocated many of the sites that Stow visited and

copied. He confirms that details have been omitted and that there are minor discrepancies between the copies and the original rock paintings (see also Dowson *et al.* 1994). This does not detract from the copies as a valuable source of information; many of the originals are fading as a result of natural weathering, and a number are already completely obliterated. Stow did not limit himself to recording representational images alone. In a letter to W.H.I. Bleek, dated 12 December 1874, Stow described the 'mystic drawings and chasings' at Driekopseiland and emphasised that he was making copies of them: 'Of all the most characteristic of these I have made most careful rubbings and sketches' (McGregor Museum Archives Depot. MMKD 2650/1). Stow's 'sketches' consisted of selecting a few representative images from the rock surface, and reducing these to uniformly thick, black contour line drawings (**figs. 5 & 6**). Perhaps realizing that these simple diagrams did not reflect the characteristic intaglio quality of engravings, he also made a number of pencil rubbings, and wrote short notes describing the provenance of each engraving (McGregor Museum Archives Depot. MMKD 2652). Stow believed passionately in the conservation of these '*memorials upon the rocks*' ((1905) 1964:21, emphasis added), and he believed that by copying them, some record would be preserved for future generations. His efforts were not in vain. In 1906 a weir was built over a river bed-engraving site at Riverton to improve Kimberley's water supply. The engravings that Stow had copied here in the 1870s were completely submerged. His copies and notes are the only surviving record of the engravings. The copies have also proved useful in monitoring changes at the site (Morris 1989).

When the McGregor Museum in Kimberley opened in 1908, Maria Wilman was appointed its first director. She immediately commenced collecting records of rock art sites from Griqualand West and adjoining districts. In 1944 she acquired the copies that Stow had completed in the 1870s (Morris 1989:1-3). Wilman recognised the limitations of Stow's copy method and devised her own method based on what she considered to be of importance. She believed that the key to understanding the art lay in an objective description of subject matter and technique. In order to describe technique it was necessary to use a copy method that would enable her to distinguish and differentiate between the different marks on the rocks which she described as 'pitted', 'scraped' and 'incised'. She believed that the most reliable results could be obtained by combining photography with rubbings (Wilman (1933) 1968). She was one of the first researchers in South Africa to make extensive use of this time-honoured fine art technique in replicating the incised and engraved surfaces of rock engravings. In her rubbings she carefully avoided the natural rock surface seeking only to reproduce the engraved image. In an effort to make these rather faint rubbed images more visible, she frequently emphasised the shapes with a hand-drawn dark contour line. Many of the photographs were taken by A.M. Duggan-Cronin who would subsequently gain international recognition for his photographs of the indigenous peoples of South Africa. In spite of the limitations of photography in the 1930s, these black and white photographs of the rock engravings of the Northern Cape remain a valuable record. An added

advantage of this combined copy method is that the intaglio character of the engravings is faithfully replicated.

Prior to the Redan survey in 1967, Willcox had already demonstrated the efficacy of colour photography in the recording of painted images (Willcox 1963) and had also developed a relatively sophisticated method of tracing the naturalistic engraved images of animals with black stipples and outlines. However, due to the extreme unevenness of the rock face, this method was deemed unsuitable for recording the engravings of Redan (Pager, S-A. 1988). Working with three assistants, Willcox and Pager commenced their survey in the winter of 1967 and worked on site for a period of six weeks. Due to the poor visibility of many of the engravings, recording was limited to early morning and late afternoon when the images were more easily visible. Before commencing the copying of individual engravings a map was drawn up showing the different rocks, their circumference and their relative position. Each rock was designated a letter of the alphabet and the position of each engraving was indicated with a number (**fig. 38**). Each image was then laboriously measured and copied on to a field copy and later re-drawn to scale on to a smaller format and completed with uniformly thick black contour lines to delineate individual shapes. Although a number of photographs were taken and sixteen rubbings were made, these were not included in the published paper. Their objective was not to record the intaglio character of individual engravings as Wilman had done, but to make an inventory of an entire site. The final 244 copies were then arranged typologically and numerically in 16 columns according to their general configuration from

indeterminate to those with a well-defined circularity and finally to the ten representational images of animals (figs. 39 & 40). This early example of the quantification of iconographical data in rock art research, set a precedent that would be closely emulated and expanded on by a number of researchers including Maggs (1967), Vinnicombe (1967), Rudner and Rudner (1970), Pager (1971) and Lewis-Williams (1972). A more significant consequence of the 1967 survey of Redan was that it was one of the first inventories of a rock art site in its entirety, and that it focussed attention on the hitherto neglected category of non-representational imagery in rock art.

In 1958 Gerhard Fock was appointed as South Africa's first officially designated museum archaeologist at the McGregor Museum in Kimberley. Due to his efforts a Regional Office of the Archaeological Data Recording Centre was established at the museum in order to house the documentation of rock engravings of the Northern Cape that had been begun by Wilman. Included in this early collection were the copies of non-representational engravings from Driekopseiland that Stow had done in the previous century. Upon Fock's retirement in 1967 his interest in the rock engravings of the Northern Cape became a full-time occupation when he and his wife Dora were appointed research associates of the museum (Morris 1989:1-3). Over a period of almost 30 years they undertook the arduous task of mapping sites and recording all the known engravings of the Northern Cape, culminating in three major publications (Fock 1979; Fock & Fock 1984; Fock & Fock 1989). The early efforts at systematisation and quantification as demonstrated by Willcox and Pager



at Redan and Wilman's emphasis on technique, were combined and expanded into a decimal classification of techniques, presented as a series of tables. Their *modus operandi* consisted of combining a number of different recording techniques: all engravings in a site were counted and assigned numbers and individual engravings were measured; approximately 40% were copied with rubbings and 60% were photographed in black and white; finally a small selection of engravings considered to be of significance, were cast in latex *in situ*. These latex casts studied under laboratory conditions revealed features that were not visible in the field (Fock 1979:103). The casting of engravings *in situ* is cumbersome, time-consuming and potentially damaging to the rock surface. Consequently it is seldom used today. However, it is also the recording method which best replicates the precise visuality and intaglio character of engravings. This replication of the intaglio quality of the engravings was a by-product of the latex-casting technique that the Focks used. Their primary purpose was to record the different engraving techniques: '... to provide a meticulous inventory of the various sites, supported by several types of permanent record, but analyzed according to a neutral, technological framework and terminology ... and have therefore developed an objective typology applied only to engravings and based primarily on technique' (Butzer 1989:137-138). Concurrently with the Focks, the art historian Murray Schoonraad (1987) attempted to develop a copy technique for the recording of the fine-line engravings of the Magaliesnoot area near Krugersdorp in the former Transvaal. Rubbings were made and the images were then traced through the rubbings and transferred to another sheet of

paper and completed in black ink. This copy method did not prove popular and was eventually abandoned.

After the 1967 survey of Redan, Pager set out for the Ndedema Gorge in the Drakensberg accompanied by his wife Shirley-Ann. Over a period of two years and concurrently with the Focks he developed an extremely sophisticated recording technique. The painted rock faces were photographed from right angle camera positions on black and white film, and where rock faces were curved as they frequently are in caves, a series of photographs were taken in order to avoid perspective distortion. After processing the films and making 1:1 scale black and white prints they were taken back to the rock shelters and propped up on easels. The images were then outlined with pencil and painted with oil paints according to the Munsell Soil Colour Chart of 1954; in many instances the colour had to be intensified in order to distinguish images from the rock face (Pager 1971:31-82). The rigorous six year art and design training that Pager had undergone in Austria under such masters as Oskar Kokoschka, prior to coming to South Africa (Pager, S-A. 1988), enabled him to replicate the rock paintings with consummate skill. As an artist Pager realized that even the most sophisticated copy method could never entirely replicate the original, as the hand of the copyist is always present: 'The copies, due to their authentic rock background and the precision-drawn figures, give an exceedingly realistic impression of the paintings, but they are not facsimiles in the true sense' (Pager 1971:82). Each of the painted images was then minutely described regarding motif and attributes such as shape, elevation, colour, technique

etc. Finally this huge corpus of interrelated data was quantitatively analysed with the help of a computer programme.

Subsequently working in the Brandberg in South West Africa (Namibia), Pager abandoned photography and traced the images directly from the rock surface and then painted them. According to his wife Shirley-Ann, this step was a result of the cost of large-scale photography, and Pager always maintained 'that the method he developed in the 1960s using both photography and copying was the most desirable' (Pager, S-A. 1991:5). Both these copy methods are not only time-consuming but demand a high degree of artistic skill; an ability that few copyists possess. It was inevitable that an alternative copy technique would have to be developed.

This direct tracing of images from the rock face was not new and several researchers had used this method in the past. The artist Walter Battiss used it extensively between 1940 and 1945 during the Rose Cave cottage excavations to make copies of the rock paintings in the Ladybrand area (Mason 1989:147; 148; 156). Battiss's water colour copies which were subsequently included in a publication (Battiss 1948), bear the unmistakable stamp of his personal creativity. Prior to working at Ndedema, Pager had also developed a direct tracing technique whereby the images were traced directly from the rock face. Pager's tracings retain a strong degree of anonymity; this is largely due to the fact that Pager meticulously analysed each colour and tone and reduced them to a large number of black stippled areas of various degrees of intensity (Pager 1971). The subtleties of colour, tone and texture

for which the Ndedema copies are justly famous are understandably lacking in this copy method. Instead the focus is on the exact replication of individual shapes and the identification of subject matter. Pager (1975) made limited use of this technique at Ndedema, but later used it almost exclusively. The direct tracing technique proved particularly useful for copying iconographically similar images from different rock surfaces, re-grouping them thematically in tables and finally arriving at a statistically-derived conclusion. While the direct tracing method would be developed and expanded in the years ahead, the quantification of data would become largely obsolete.

After the seventies it was increasingly believed by some researchers that a clearly formulated framework was a prerequisite for data collecting. The painstaking recording and quantification of entire sites, particularly as practiced by Pager and the Focks was subjected to severe criticism and discounted. It was argued that quantified data 'should be collected within a clear and explicit theoretical framework to test carefully formulated hypotheses' (Lewis-Williams & Loubser 1986:260). The Rock Art Research Unit was established at the University of the Witwatersrand in 1986, and under the directorship of Professor D. Lewis-Williams a dramatic change in research priorities was announced. It was no longer the aim of the institution to do extensive recording of entire sites as they had previously done:

Our aim now is to learn more about the meaning and social significance of the paintings without concentrating on a single area. *We have learned that recording techniques must be appropriate to our aim ...* In keeping with the aims of the Rock

Art Research Unit, field expeditions are now undertaken to trace selected and particularly interesting sites. These are sites that stand most in need of explanation, or which develop explanations currently being formulated. (Kingdon & Dowson 1986:3)

These 'explanations currently being formulated' referred to the interpretational model that Lewis-Williams had introduced some years earlier in his seminal treatise on rock art *Believing and seeing: symbolic meanings in southern San rock paintings* (1981).

The progressive refinement and development of this model from its beginnings as the 'metaphorical model' to the 'trance hypothesis' and the 'neuropsychological component' and finally to the 'shamanistic approach' and the emphasis on precisely observed and recorded iconographical detail, became central to the theoretical framework that the Rock Art Research Unit adopted and expounded. Pager's preoccupation with quantification was abandoned, but the direct tracing technique that he had developed with its emphasis on the accurate depiction of subject matter was retained. The technique was refined and elaborated, enabling the copyist to record every minute detail of the painted image. Tracing is executed on .05 single matt Ozatex<sup>TM</sup> using a .3 mm clutch pencil; every line is faithfully traced and the colours are indicated with annotations, including exfoliations, superimpositions and cracks on the rock face. Re-drawing takes place in the drawing room where the completed field drawings are laid out on tables. A colour coding system is used to represent the different colours and tones and these are then represented by a variety

of dots, lines and flat areas, executed in black ink (Kingdon & Dowson 1986:3; Loubser & den Hoed 1991:1-4). It is a contradiction in terms that the direct tracing method was developed for the recording and copying of the rich polychrome rock paintings of the Drakensberg and the Brandberg, yet requires that colour be reduced to black and white areas. These manifold stippled areas are a poor substitute for chroma, hue and value and finally bear no resemblance to the richly coloured surfaces of the original rock paintings. Ultimately this altered visuality has a direct bearing on interpretation.

The direct tracing method was vigorously promoted as preferable to photography and it was believed that the advantages of the technique far outweigh the disadvantages. It was argued that the latest photographic technology did not equal the accuracy and detail obtainable by the direct tracing method and that it was frequently impossible to distinguish on the photographs between man-made and natural marks; tracing requires prolonged contact with the rock face, enabling the tracer to identify and record every detail, whereas photography is already a step removed from the rock face (Loubser & den Hoed 1991:1-4). The one obvious disadvantage of photography, namely the ephemeral nature of colour transparencies, was not included in the rationale. Clearly the priority was the exact replication of iconographic detail; colour was of secondary importance. The direct tracing method rapidly became the preferred copy method in South Africa, with photography functioning in a subservient role. Elsewhere, particularly in Australia, the direct tracing method came under severe scrutiny (particularly its potential to

damage the rock face) and preference continued to be given to photography as yielding the most accurate and impartial results. The relative merits of photography versus tracing were debated at an international rock art conference held in the Drakensberg in 1991. L.G.A. Smits emphasises that 'all re-drawings ... are not proper recording techniques but ... enable the researcher ... to select his data on the basis of his or her preconceived ideas, hypotheses or theories'. He concludes:

As photographic recording and tracing serve fundamentally different purposes, they are not competing nor interchangeable. However, this also means that in view of the vital importance of preservation, tracing without systematic photographic recording is a practice no longer proper or acceptable. (Smits 1991:247)

At the same conference the possibility of digital imaging as the ultimate solution to the recording of rock art and other works of art, was debated. Gerald Newlands summed up the situation: 'While there are certainly advantages in these hi-tech approaches, they are very costly and beyond the reach of most students of rock art at this stage' (Newlands 1991:246). More than ten years have elapsed since these words were spoken; during the intervening years digital imaging has become extremely affordable.

While the direct tracing method was extensively used to copy rock paintings, researchers continued to make use of rubbings to copy rock engravings (Morris 1988; Dowson 1988; Steele 1988; Fock & Fock 1989). During this period the writer also made comprehensive rubbings of the engravings at Redan with the

consent and approval of the Vaal Teknorama museum (figs. 53b, 54c, 55b). Not only are rubbings relatively easy to make, they have the additional advantage of accurately reproducing the exact size of the image and replicating the intaglio quality of the engraving. In many respects the copying of rock engravings (regardless of the copy method used) is less problematic than the copying of rock paintings. They generally occur on loose boulders in the open veld; images are usually isolated and superimpositioning is rare, and colour (apart from patinae) is not a factor. Due to their accessibility rubbings can also be made with ease. A basic precondition of any copying method is that the rock art and the rock face should not be adversely affected by chemical or manual processes other than natural deterioration factors. Recorders and copyists had long been aware that vigorous rubbing could remove particles of the engraved surface. From Australia it was reported that rubbing could alter the sensitive chemistry of the rock varnish, which could affect future scientific analysis. This also applied to the taking of latex casts (Bednarik 1990b). After 1990 there was an increasing awareness of the dangers inherent in rubbing and the practice was severely censured. Unauthorised rubbing of rock engravings was no longer possible. This embargo meant that in future rock engravings would increasingly also be traced; the same criteria that had been set for the tracing of rock paintings, a meticulous attention to iconographical detail, was applied to the tracing of representational imagery in rock engravings. Non-representational engravings were not afforded the same meticulous attention.



In the past non-representational imagery in rock art had not been perceived as aesthetically or heuristically significant. These enigmatic images suddenly gained importance with the introduction of the shamanistic approach and its concomitant neuropsychological model, serving as further 'proof' of the validity of the shamanistic approach (Lewis-Williams 1988; Lewis-Williams & Dowson 1989). The direct tracing technique reduces these images to uniformly thick, black contour line drawings, iconographical diagrams with no indication of their characteristic intaglio character, the richly textured rock face on which they frequently occur, or their individual patinae (see Lewis-Williams 1988:table I; Lewis-Williams & Dowson 1989:26). Apart from their more accurate delineation, these tracings are ultimately not very different from the copies that Stow made of the rock engravings of Driekopseiland more than a hundred years earlier. The black and white tracings of non-representational engravings included in Dowson's *Rock engravings of southern Africa* (1992) have all been augmented with photographs and rubbings.

The enthusiasm for the direct tracing method was not shared by researchers elsewhere, and priority was not given to any one particular methodological approach. Particularly in Australia, photography continued to be widely used for the recording of non-representational images (see Steinbring (ed.) 1995). The impermanent nature of colour transparencies remained an obstacle; because of the fleeting nature of photographic dyes, all transparencies are doomed to fade eventually and are therefore of little use as permanent archival records. In 1995 perpetual digital preservation became a reality with the introduction of a universal

calibration standard, the *IFRAO* (International Federation of Rock Art Organisations) Standard Scale, and the digital colour re-constitution process (Bednarik 1994:17-19; 1995:24-27). It became possible for all photographs, slides and films of rock art to be colour-calibrated by a device profile that is backed by digital recovery software. All rock art imagery recorded with the IFRAO Standard Scale will remain recoverable, irrespective of how faded it is, how badly scanned by a digital scanning device, or how distorted the photographic image is. This new technology demanded that all previous recording methods be critically re-evaluated. The precision of this technology permitted monitoring of pigments and patinae for the first time, replacing the manual use of Munsell Charts (as practiced e.g. by Pager (1971)) with the mathematic precision of digital manipulation. Previously colour photography had not played a significant role in the recording of rock engravings. The new developments and particularly the use of the IFRAO Standard Scale meant that it was now possible to monitor patinae on rock engravings as an indicator of age, both intra-site and inter-site. In the past the study of patinae had been of limited use to indicate age. Willcox and Pager (1967:492) had briefly addressed the degree of patination at Redan and noted that 'in apparent age there seems to be no great difference as all are patinated to about the same degree'.

While the colour re-constitution process was hailed elsewhere as an important break-through in the long-term recording of the art, researchers in South Africa continued to give preference to the direct tracing method, with photography playing a secondary role. The majority of rock art researchers in South Africa work within

the confines of the shamanistic approach (chapter 6); in this approach the emphasis is on the exact replication of iconographical detail, to the exclusion of other visual aspects. Colour and tonal qualities are reduced to black and white areas, and are not addressed as a possible indicator of meaning; meaning resides primarily in the iconographical analysis of one particular engraving, painting or panel. Due to the uneven and exfoliating rock surface at Redan, the direct tracing method was not considered an option. Patination was so advanced that it was difficult to distinguish the engraved surface from the rock surface. From a purely practical point of view, photography was the only choice. However, there were other considerations. In the present study a holistic approach is adopted, and although each engraving was recorded individually, these images are not perceived as functioning in isolation. The engraved images, the rock surface, and the unique position of the outcrop in the surrounding landscape, are all perceived as inter-connected, one indissoluble whole (chapter 8).

#### **RECORDING REDAN**

The map that was drawn by Willcox and Pager (1967) proved extremely helpful in locating the various engravings, particularly in the light of the poor visibility of most of the engravings. The numerical and alphabetical system devised by them had also been retained for the purposes of this study. However, it was deemed necessary to draw up a series of maps of the site indicating additional detail such as circumferences, the position of the stream adjoining the site, and the immediate and surrounding environment (**figs. 36 & 37**).

Photography commenced in 2001, and continued intermittently over a period of 12 months, weather permitting. All photographs were taken early in the morning to ensure that the sun fell off the rock face at a shallow angle. On a textured surface, shadow formation is the image defining factor. Three high quality transparencies were taken of each of the approximately 273 engravings (819 photographs):

- i one image with the IFRAO Standard scale;
- ii one image with the map reference number according to Willcox and Pager (1967);
- iii one image without the above, for reproduction purposes.

As the majority of images are non-representational and spatial orientation can therefore not be determined, this aspect is not included. A 35 mm Nikon F100 camera, with a Nikon 60mm macro lens, and Agfa RXS 2 film, were used. The fine-grained quality of the latter ensures that detail is not lost during enlargement. All the photographed images were electronically scanned, and recorded on CD Rom for reproduction and archival purposes. These are available upon request. Additional photographs of the site and surrounding landscape were taken in 2003 and 2004.

In the course of the photographic survey, an additional 27 engravings were discovered. These are also recorded on CD Rom, and indicated with the letter X (e.g. X2). The majority of these can be classified as indeterminate circular shapes. Research on site also revealed that an entire engraving of an eland has been

removed from the site. This engraving was the largest, and also the most naturalistic of the animal engravings (**fig. 52**). This engraving was included in the Willcox and Pager survey, and must therefore have been removed after 1967. There is no record of an authorised removal. This removal is extremely unfortunate as the eland is prominent in San art, ritual and myth; its occurrence on the rock face is a strong indication of a former San presence. Apart from this engraving Rock H has been removed in its entirety. Removal was obviously facilitated by its relatively small size and the fact that it was on ground level. It contained five non-representational engravings. Mention has already been made of the authorised removal in the 1950s of a large non-representational engraving. It is presently housed in the Rock Art Research Institution at the University of the Witwatersrand; it was not included in the present survey.

Each of the 273 engravings was photographed in sequence according to the rocks on which they occur; a representative selection is included in the text. The photographs are arranged stylistically according to their general configuration. No classificatory system, other than this, was used. This is in contrast to the Willcox and Pager copies where the images are arranged in columns, ranging from indeterminate to geometric, and finally to the representational images of animals. A comparison of the Willcox and Pager copies, with the photographs, show quite clearly the latter are more detailed and complete. They do in fact show substantially more detail than the naked eye can possibly detect, including individual peck marks and depressions on the rock face. In a number of instances detail that had been

overlooked by Willcox and Pager, was recorded by the camera; of these the most significant is the mask or face (**figs. 54a, 54b, 54c**). For the purposes of analysis and discussion, a representative number of these photographed images have been enlarged to an approximate identical size, and included in the text. The exact size of each image is recorded on CD Rom. However, the relative size of images does not appear to be of significance, and has therefore not been included in the text.

In this chapter I have considered the various copy methods, traced their historic development, and compared current techniques. The direct tracing technique, developed and refined by the Rock Art Research Institute of the University of the Witwatersrand, is widely used in South Africa. While this technique ensures the exact replication of iconographical detail, other essential qualities of the art are lost. It was not deemed suitable for Redan. The rapidly exfoliating rock surface and the poor visibility of individual images, dictated that photography was the only option. The fact that there are only 273 engravings concentrated on a relatively small area, was instrumental in this decision, and facilitated the subsequent recording process. The results were extremely satisfying, revealing significant detail that had previously been overlooked, and retaining the characteristic intaglio quality of engravings that distinguish them from paintings.