THE GREAT BALLOON FLY AT MUSSENTUCHIT

PART I

by

NOWELL L. MORRIS

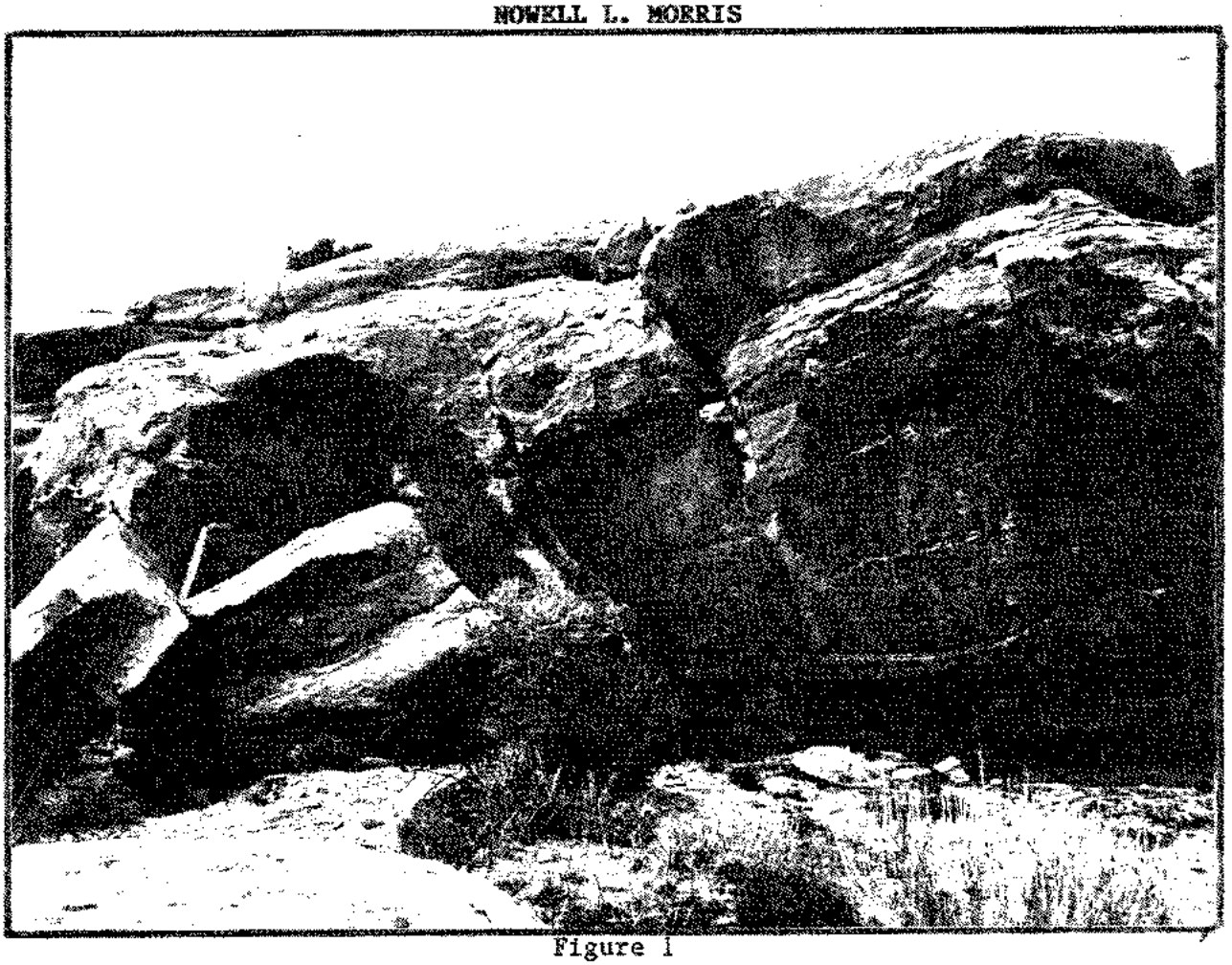


Figure 1

When I completed analysis of the site at Muddy River and Rochester Creek (Morris 84) I asked the BLM archaeologist in Price, Utah, Blain Miller,if he knew of a related site that might support my findings. He said that the petroglyphic panel at Mussentuchit reminded him very much of the Rochester site. I had to ask him several times about the name of the site to make sure that I was hearing it correctly. When I had purchased the proper maps it was not too difficult to locate Mussentuchit Flat and Mussentuchit Wash. It was more difficult to locate the actual glyphic panel. We started where the wash crosses the road and hiked up stream until we noticed two large cairns on either side of the canyon. While examining the cairns we sighted the panel across the canyon from where we were standing (Figure 1).

The analysis of this site was at first patterned after the techniques used at Muddy River and Rochester Creek. But as time went on I found reasons to expand the methods by some degree. It turned out that the Mussentuchit rock art site is unique in Utah in one respect. It is the only site in the state,

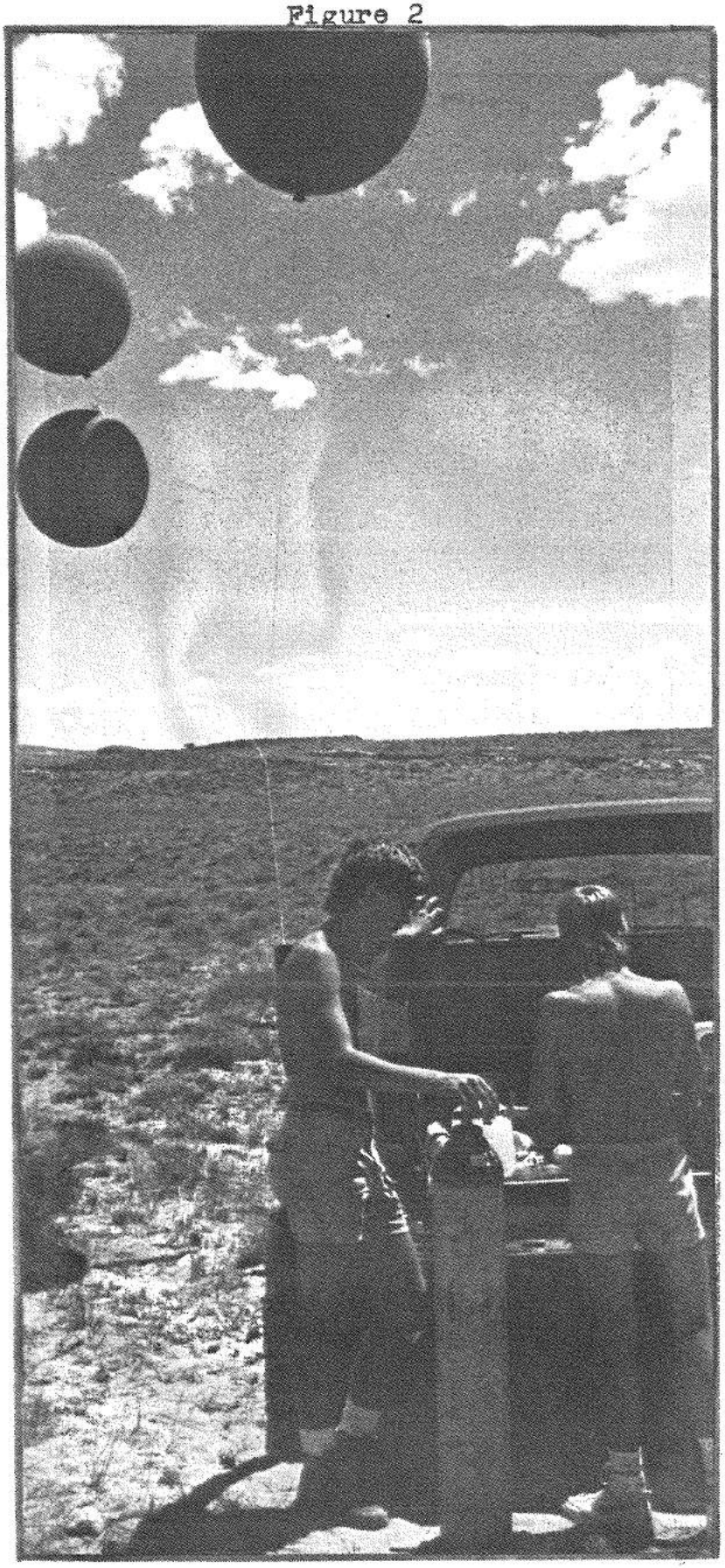
that I know of, that has a possible geoglyph or geoform associated with it. The geoglyph is located [redacted] The geoglyph is a series of black volcanic rocks arranged in curved lines across the white sandstone surface. It has a curious shape and is the subject of a second paper (Morris 87).

The panel and geoglyph at Mussentuchit provided me with a new puzzle to unravel, replete with mysteries and ripe for solution. The computer programs that I devised for Rochester Creek were now a ready resource for analysis of another site of a similar function. The first visit to Mussentuchit was like the opening scene of a new adventure.

The site is located in a place with vast and awesome but austere and quiet beauty that is becoming too rare throughout the West. I have the feeling that each site has its own accompanying spirit residing there as a function of the observer, the glyphic material and the environment. This spirit becomes somewhat of an old friend waiting for you on each visit. For me this spirit resides there as a protector of the site and whispers "mustn't touch it".

The geoglyph prompted me to do something that I had often wanted to do at Rochester Creek. This was to devise a means to take an aerial photograph of the site. At Mussentuchit this meant that we could also get a picture of the geoglyph from the perspective that it was intended to be viewed. This led to a great deal of expensive and high intensity fiddling around before my goal was accomplished.

Figure 2



THE SITE:

It interesting that on our first visit to Mussentuchit we found all the known significant features in the immediate area. It would be very easy to visit there and see only the petroglyphs and miss the other interesting details. The first related feature that should be mentioned is a large water hole that has always held water on every visit regardless of the time of year. This hole is a large depression in Mussentuchit Wash that is located just before the wash cuts through the high sandstone cliffs west of Mussentuchit Flat. Where the water cascades over a sandstone strata, it digs a deep hole or tank about 30 feet across. On opposite sides of this tank are rock structures which possibly were used by the Indians and/or pioneers as hunting blinds. These were placed such that a person sitting in either stone enclosure would be able to get a shot with bow or atlatl at any game that came there to water. At the location of the water hole, there is also a pioneer inscription dated 1888. With the exception of the petroglyphs themselves, this inscription throws some doubt of origin on all of the ancillary features at the site.

The two large cairns on either side of the canyon were placed at prominences which mark entrance to the site from down Mussentuchit Wash. These could be of Indian or pioneer origin. We have examined them at great length but find no evidence to answer this question. The cairns are built of large, heavy, black volcanic stone that is very prevalent in the area. These may have required two or three men to lift into place. If the Indians placed them there, the cairns would have functioned to mark entrance to their territory. If the pioneers placed them there, they would have functioned to signal the approach to the water hole.

At the site there is an extreme abundance of lithic materials with some partial and mostly complete projectile points and tools having been noticed among the debris. This could very definitely have been a hunting or winter camp site for whatever prehistoric peoples used the resources there: the lithic material, the water hole and the game that came to water.

A most fascinating feature of the site and one that makes it unique to this area is a geoglyph [redacted] The geoglyph covers an area about 100 feet in diameter and draws out a shape that is not easily identified. I speculate that it may be one of the figures from the panel.

THE PETROGLYPHIC PANEL: (Figure 3)

Every since the analysis of the panel at Rochester Creek I have been tracing occurrences of what I call the two-headed ram or big horn sheep. This is a zoomorphic glyph with a ram's head at both ends. There is at Rochester Creek a fine two-headed ram, well executed and in a position of prominence on the panel. The two-headed ram is found all over the Southwest in several variations. This will become the topic of future research. The two-headed ram at Mussentuchit also commands a position of prominence on the panel and was one of those glyphs that link this site to Rochester Creek panel.

Figure 3

Another figure that links the two panels is the copulating man. He lays on his back with one leg hanging down. This man is at Rochester Creek copulating with what a Pueblo Indian called "Sky Woman. At the Mussentuchit site copulating man is engaged with an enigmatic two headed "A" shaped figure.

An additional figure on the panel that relates to, but is depicted differently from, the "Sky Woman" figure at Rochester Creek is a female form in the birthing position. She is drawn from the side and there is a series of full and half figured rams preceding from her as though she had given birth to them.

The vertical line with circles is also in common with the Rochester Creek site. However in this case there are only two or three circles on the line. I have speculated a great deal on the meaning of this glyph and at this writing feel that it can best be interpreted as an indicator of a site to observe the rising or setting of the sun at seasonal transitions. It is my guess that only three or four seasonal transitions (eight seasons to a year) can be observed at Mussentuchit; thus, there are only two or three circles on the vertical line.

Also appearing on the panel are two very excellent flute players or Kokopellis. These are found on either side of a very prominent and large figure of the panel. The flute players seem to be in adoration of the larger figure. Additionally there is a possible pleiad indicator, a circular figure divided into seven parts. There are many more figures on the panel that are not necessarily related to any of the figures from Rochester Creek nor do we have any plausible interpretation.

There is one additional feature of the site that must be explained here. To the left-front or west side of the panel are two large pieces of the sandstone cap that are leaning against the panel face. One of the pieces has a pyramidal tip that projects a pointed shadow on the panel at sunset during the late fall and winter months. The other rock projects a hump back looking, rounded shadow on the panel at the time of Winter solstice and eclipsing the pointed shadow.

ANALYTICAL TECHNIQUES:

The analysis of the panel proceeded as that of Rochester Creek beginning with a site survey and computer models. A complete horizon profile was recorded and entered into the computer. A survey of the site dimensions was done entailing the angles between the significant glyphs, the point of the pyramidal rock and the sunset azimuths. This by itself would give enough data to complete the analysis but a technique to take overhead pictures of this site and other sites still remained high on my wish list. And when I considered the possibility that there may be a real geoglyph associated with this site I decided to seriously consider alternative methods of taking overhead pictures. Several methods were technically plausible but some were eliminated for economic reasons. Renting an airplane and pilot or building a radio controlled model airplane proved to be much too expensive for my resources. I then considered suspending a camera by helium balloons and decided that this was technically feasible and economically possible.

Design of the balloon suspended camera was reduced to a minimum (Figure 4). It consisted of 20 mm wide angle lens, a motor drive for the Cannon A1, a long 60 foot wire to the remote shutter trip contact points, and three nylon cords, one to the tripod screw socket and one each to the two camera strap brackets. The camera, wide angle lens, motor drive and 60 feet of wire were suspended from a strong key ring which became a pivotal point from which the camera could always hang straight down. (That is unless it was swinging which it did most of the time during flight.) To prevent uncontrolled swinging a small kite twine line was also attached to the camera.

Weighing the camera and rigging indicated that I needed two to three five-foot diameter balloons to lift it into flight. For the first flight I took one 130 cubic foot tank of helium, and two five-foot and two three-foot diameter balloons. I wished afterwards that I had done a test flight at home but to save money I did the maiden flight in the field.

THE FIRST FLIGHT:

It was mid-August 1987, when I started out early in the morning with two of my sons, George and Rick, to do the aerial survey of Mussentuchit (Figure 2). It was my intention to get pictures at both the rock art panel and the geoglyph. We arrived at Mussentuchit about noon. The weather was as expected, hot, dry and clear. There was what I considered a gentle breeze but not enough to call off the flight. I started to fill the balloons and as soon as they were full I gained a greater respect for the strength of the breeze. We filled each balloon and tied them securely to

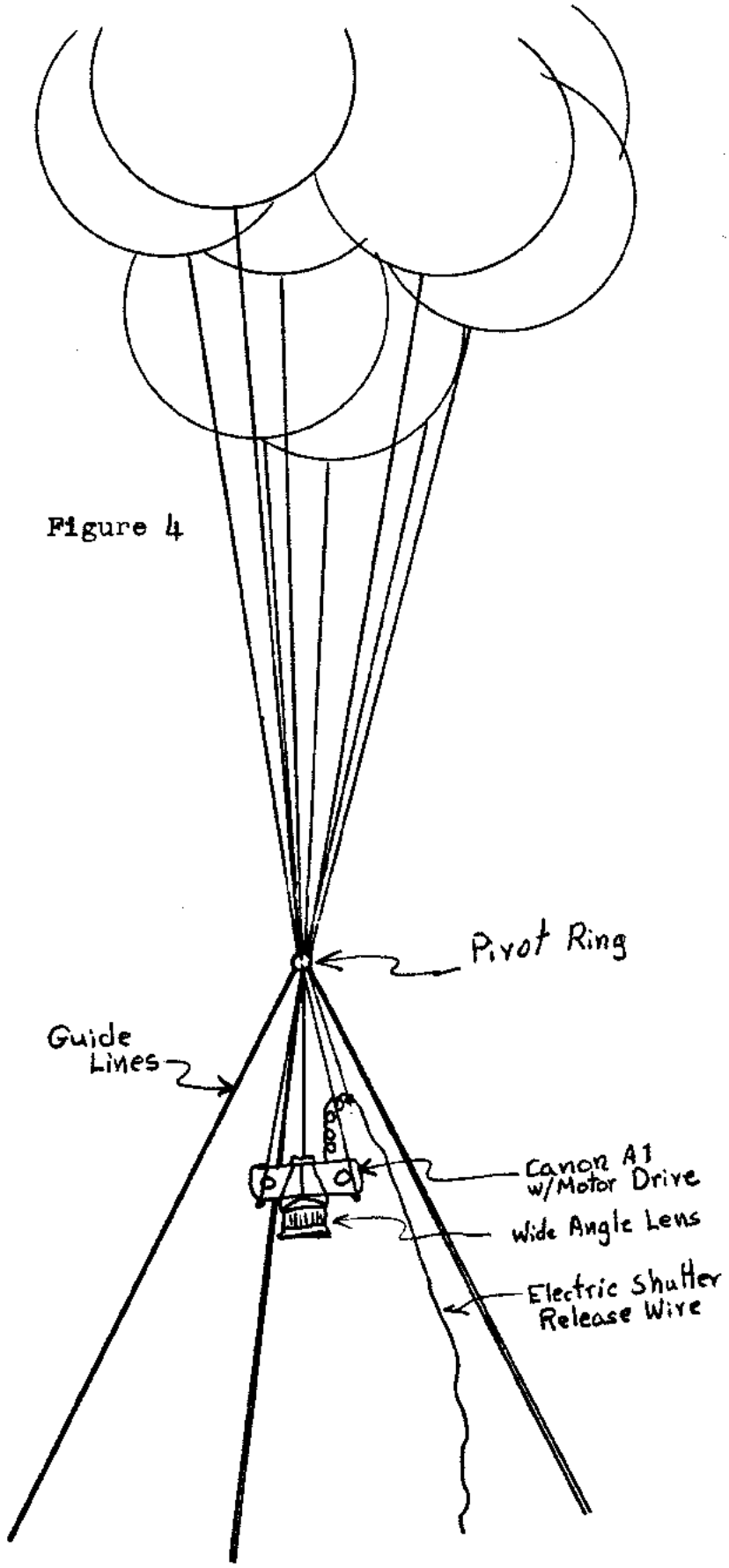


Figure 4

the side view mirrors on the truck. The wind blew, violently bouncing the balloons together setting off a loud pinging sound unnatural to the normal quiet serenity of the desert. Never-the-less we continued to put the rigging together and attached the balloons and the camera to the pivot ring.

But alas, when the camera, rigging, and balloons were all connected, there was not enough lift. At this dilemma I had no other choice but to untie the two large balloons and add more gas. I filled them to the calculated requirement which turned out to be beyond the manufactures recommendation. (How did this dilemma come about? When I asked how large these balloons could be inflated I was told that they could be inflated to a five foot diameter. But in actuality what was meant was a five foot semi-circumference.) The additional gas was enough to achieve lift off. For reasons I don't recall I decided to take pictures of the panel first and then proceed to the geoglyph. This turned out to be a very fortunate decision for reasons which which are soon to be evident. The three of us started for the panel with the wind wildly bouncing the balloons together as we walked through the sage brush. It was then that I realized that while I had achieved lighter than air flight, never-the-less the wind vector was a far greater force than the lift vector. Therefore the balloons tended to fly very close to the ground.

When we arrived, Rick placed himself on the rock overtop of the panel. George and I were down on the sandy slop at the panel level. With a lot of shouting and all three of us directing everything somehow we managed to take a significant fraction of the roll of film. One of the guide lines and shutter release cables became tangled in a small sage brush below the camera. I was trying to manage one of the three guide lines and the shutter release cable at the same time. Some of my consternation can be seen on the composite photograph (See Figure 5). Then it happened -- a sound much like a rifle shot echoed down the canyon, one of the large balloons had popped. I lunged forward to get under the camera but the sand slipped out from under my feet. The camera and rigging descended rapidly even though there were still three balloons attached. The camera and I lit just about where the small sage was. The lens hit something hard and badly dented its outer ring. I dusted of the Canon Al and finished off the rest of the roll of film.

I learned a lot about balloon lofted cameras on that first flight:

- A little wind is a lot of wind for balloons flying.
- Gas coming out of a bottle and filling a balloon is very cold and a hot August day will heat and expand it rapidly.
- Balloons should not be over inflated and semi-circumference is not diameter.
- Fly with more balloons than is needed for lift off, this is for two reasons:
  - To get the height you need, a lift vector must compete favorably with the wind force vector.
  - If one balloon pops for whatever reason the camera can be pulled down without damage.
- Always fly with a camera catcher under the camera.
- As this flight device was designed a crew of at least six people is needed.

Figure 5

If I had tried to take pictures of the geoglyph first, the camera would have landed on solid rock and damage may have been total. As it turns out a test flight at home in a park would have been a more practical first flight even if it cast me $35 in gas. The lens cost me $145.

SITE ANALYSIS:

A polar sighting was done to establish true north for the horizon and site survey. The computer model was run which gave us all of the sunset positions for any given year. The sunset shadow angles were calculated from the site survey for each of the significant glyphs (See Figure 6). (I say significant here but what I really mean is those glyphs for which we have some inkling of meaning.)

Figure 6

The dates of shadow passage are as follows:

	Winter	Fall
. The two headed ram	2-12	10-29
. The birthing woman	2-12	10-29
. The rams proceeding from the birthing woman	2-21	10-20
. The Pleiad symbol	2-18	10-22
. Vertical lines with circles	3-3	10-9
. Facing and Standing Goats	2-21	10-20
. The major figure latter design	2-23	10-18

* These date are approximate pending survey improvements.

We would like to see these dates have some coincidence with yearly solar dates of seasonal passage. But these people did not necessary hold these dates in great significance. This panel does not mark the equinoxes. The one date that we would expect it to mark (and it does fairly well) is the Winter solstice. The shadow of the humpback rock does fall on the sun-headed figure at the time of Winter solstice. It may also be significant that the pyramidal shadow does fall on the Pleiad indicator when the Pleiades are high in the November night time sky. This is a significant date observed by the Pueblos even now. The series of rams and half-rams proceeding from the birthing woman are the sun symbols indicating the sun's path to the south as spring and summer approaches. This site only functions during the winter months and this may have been for these people a winter time camp. The water hole would surely have water in it during these months. They could hunt the game of deer, antelope, and big horn sheep that would come there to water. They might spend the rest of their time making lithic tools and projectile points for trade. When the summer months came, the water hole may have dried up so the people moved higher up on Thousand Lake Mountain to where the game would move. There are pit houses in the upper valleys in the foot hills of Thousand Lake Mountain. These people probably watched their calendar stone and returned to their upland dwellings at which ever date they had considered best for the seasons. Just like the shadow on the panel these peoples lived there in an ever repeating pattern of one season after another, one generation after another lost in the hazy twilight of prehistory. All we have of these souls, feelings and mentality is what remains on the panel at Mussentuchit. When that goes we will have nothing. Look, but touch not.

For pictures taken from above of the geoglyph and the story of a more successful flight see the next paper which was presented at the 1988 URARA Fall Symposium.

THE GREAT BALLOON FLY AT MUSSENTUCHIT

PART II

by

NOWELL L. MORRIS and BONNIE L. MORRIS

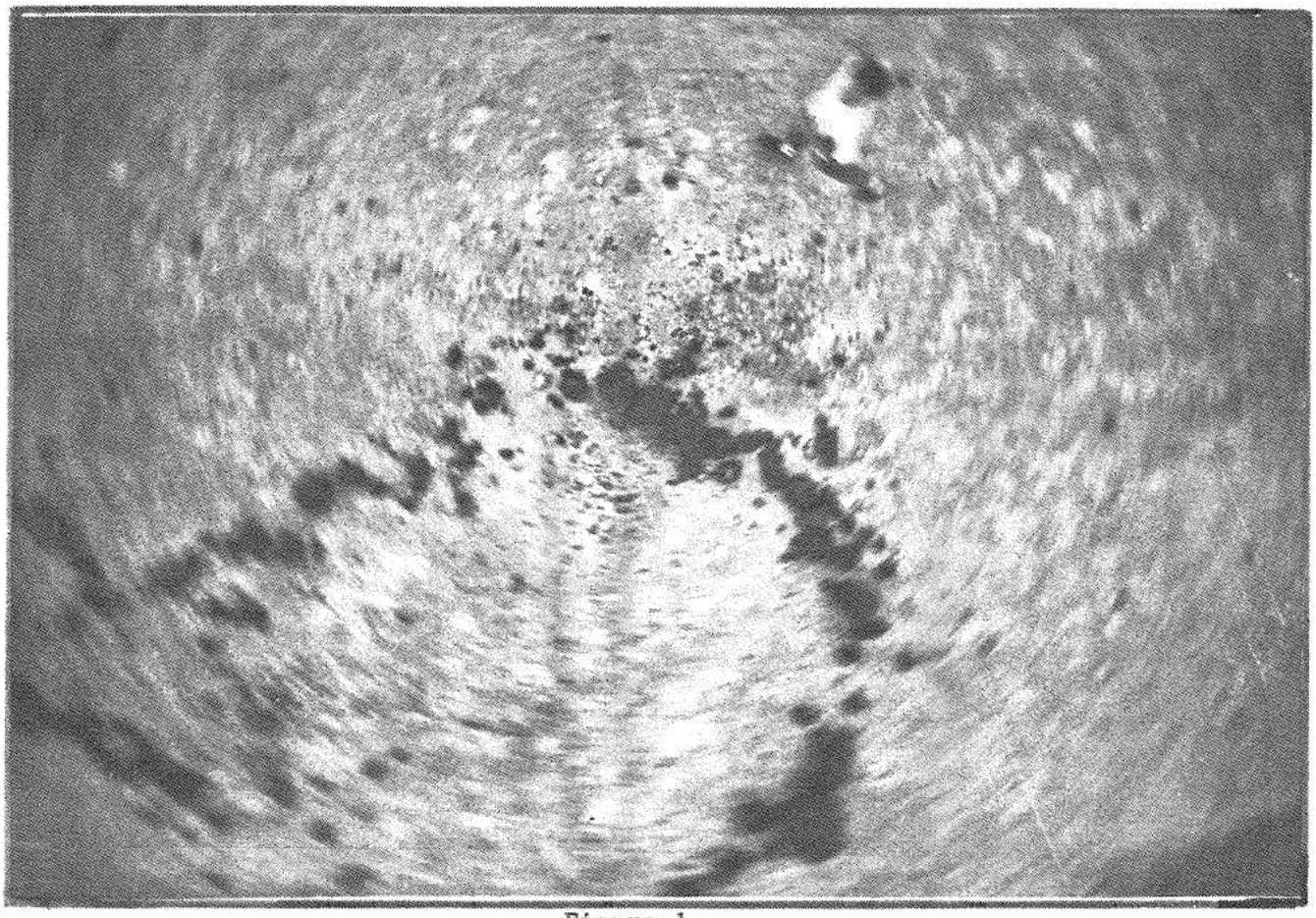


Figure 1

The rain pelted the top of the tent sounding like marbles hitting the surface of a base drum. Each drop was distinct when the rain was intermittent and during an on pour became thunderous on the tightly stretched canvas. We had returned to Mussentuchit to fly the balloons one more time and to get a picture of the geoglyph [redacted] The geoglyph had intrigued all who had seen it and now just maybe if the weather would settle down we may on the third attempt get to see what the geoglyph looks like from above, the aspect from which its creators intended it to be viewed.

We had come down the year before in September of '87 to make our second attempt at the balloon lofted camera and had once again failed because of high winds and dark skies. We shot a roll of film with blurred images and rotational spirals. The wind twirled the camera and the light was too dim for the auto exposure to set a shutter speed fast enough to stop the motion (See Figure 1). While our second trip was a great technical defeat, it turned out

to be one of the funest camping trips on record. Our slides of the event reveal our intrepid team of would-be balloonists running over the slick rock while the balloons were allowed free flight to gain altitude in the high winds. Our team consisted of our good friends Ken and Elva Ogden, their friends the Lampings and several others. We learned a lot on how not to fly balloons and I also learned to listen to the spirits. At the precise moment that I decided to launch the flight there was a loud thunder roll portending an ominous outcome. We had noticed on other trips that the wind was usually calm in the morning and picked up more in the afternoon. This was the reason why we were here this night, to catch the calm air of the early morning for our third and possibly final attempt.

We pulled in after dark the night before and made camp on a piece of natural desert pavement which was flat and quite hard with a natural gravel and clay surface. Now in the middle of the night I was afraid that the rain was going to prevent us yet again from achieving our goal. The weather had turned wet and windy and we could have been getting up in the morning to a world of dark gray skies over an endless sea of mud.

After a night of uneasy sleep, I woke at first light thinking that I would have to be stoic about another failure. When I peered out of the tent much to my relief I viewed a spectacular sunrise with buttermilk skies bathed in the red, pink and orange light. My spirits immediately reversed and even though the sun was still below the horizon, I rousted the rest of the camp. It was by prior agreement that we would all get up at the crack of dawn because it had become apparent that the best time to fly balloons was in the early morning when the air is still and calm, cool and dense.

We ate a quick breakfast and then drove up the hill to the point of closest vehicular access to the site. We immediately set about filling balloons. I had bought a new set of five 4 foot diameter balloons prior to leaving Salt Lake. I filled these and because I had brought extra helium, I also filled three of the used balloons from the last flight. I filled the three additional ones to make sure that we would have enough lift. But for this flight all things came together optimally.

As was expected the air was calm, cool and dense. When all eight balloons were full, holding them required quite a tug on the arm. All the balloons were filled at the car and the camera was attached. [redacted]

Our crew on this trip was: Paul and Trina Enciso and two of their girls, Jesse Warner, myself and my wife Bonnie and our two children. I asked Paul's girl, April Morning Star, to be the camera catcher. She stayed under the camera at all times to prevent a sudden gust of wind from pushing the camera into the ground. Because we had so much lift and optimum condition, Bonnie complained about not feeling useful. We had a person on each of the three guide lines, a camera catcher and myself to trip the shutter by electric wire. We got a picture of the glyph from maximum height which was about fifty feet up (See Figure 2). We were also able to take a complete roll of film and took pictures of the long semicircular extension of the glyph (See Figure 3). We have never put the mosaic of different exposures together because of scale difficulties resulting from the varying altitude of the camera.

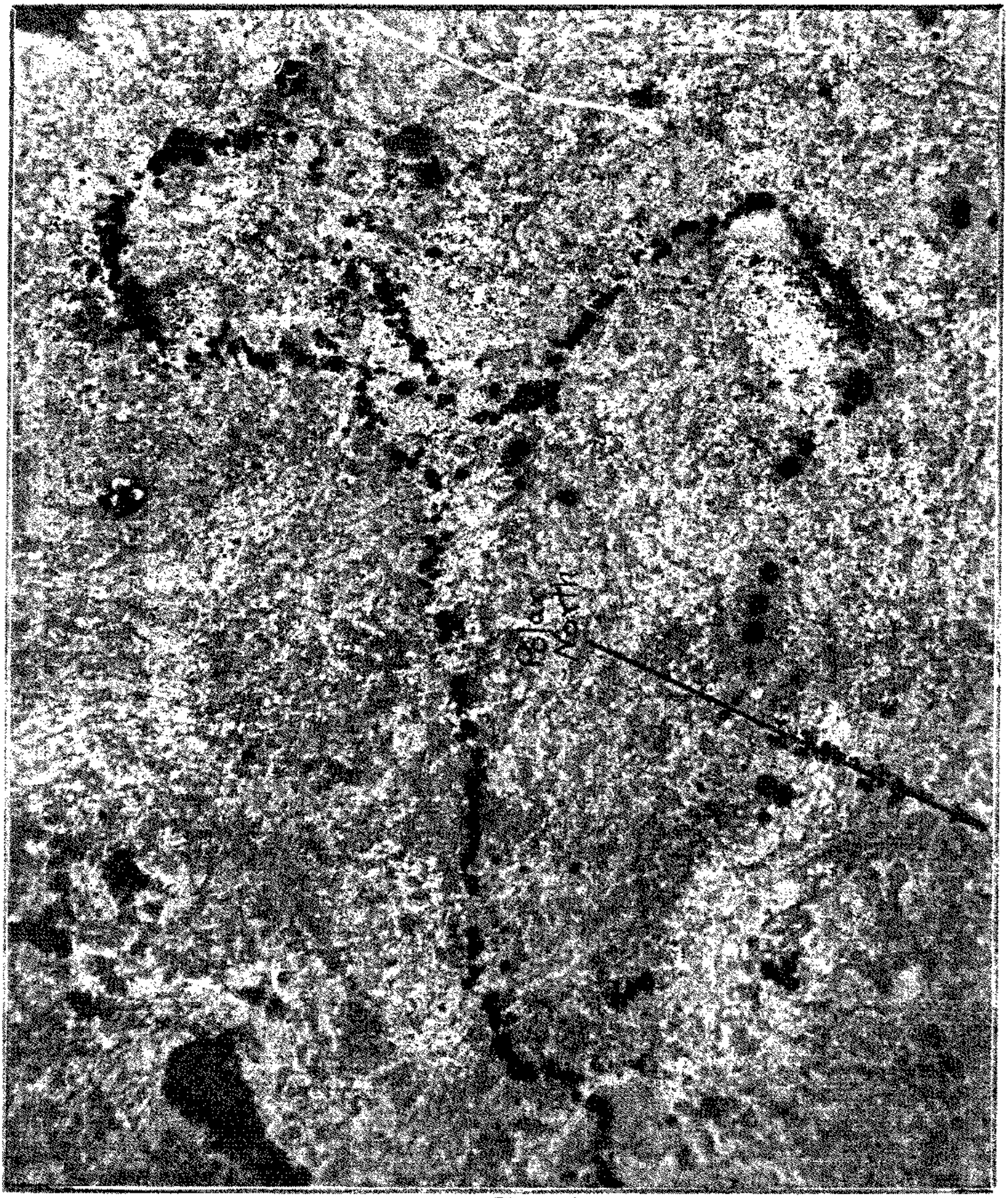


Figure 2

Figure 2 is our best exposure of the glyph taken on the third flight. The glyph is very hard to interpret. It is sufficiently difficult to identify such that we should consider its alternative explanations. It would have to be from one of three sources: 1) it could be a nature phenomenon or 2) it could have been put there by the pioneers or 3) it could have been put there by some American Indian peoples. Let's consider these three origins in that order. I would suspect that if this were a natural phenomenon then it would be repeated many times in this same area on the other exposed sand stone surfaces. We have not found this to be the case. This argument assumes that a natural process would repeat itself and proceed in like manner all over the local area. On the other hand, if this had been done by pioneers there would be some evident purpose for the rock alignments like tent circles, rocks placed on the lower canvas edge of a tent to hold it down. If pioneers did this there would also be camp debris. Closer to the wash there is a strew of tin cans and junk but there is no such evidence at the geoglyph. When we consider that there are many incidences of geoglyphs at other places in the southwest it seems most likely that this was of Indian origin. The vagueness of the figure is probably the result of the natual breakdown and displacement of the stones over the centuries. One of the chief causes of this breakdown and displacement is from the alternate freezing and thawing of water, ice or snow.

Where has this taken us? We have a geoform of some description as seen in the photograph in Figure 2. And we also can make some interesting observations. There is a bulbus headlike projection. There is a three sided square which could have been arms or feet and below this there is a possible phallus projection that points polar north. The form on the rocks could be a ceremonial pattern or layout. It could also be a zoomorphic or anthropomorphic figure from the panel below. I have, because of the phallic projection, thought that it might be a representation of the copulation scene in the sky. This scene appears on both the Rochester Creek panel and here at Mussentuchit. From this and other copulation glyphs at Rochester Creek this would certainly not be inconsistent. But because the geoglyph is all too vague and imprecise we are only able to suggest what it might have been.

We asked Paul Enciso what he thought it could be and he said that it could possibly be a clan symbol to mark of the site as belonging to a particular clan.

CONCLUSION

The discoveries from this exploration at Mussentuchit are twofold. The first, and most obvious, is that we have discovered to the best of my knowledge the first known geoglyph in Utah. And second we have developed a method for taking pictures of a site from above. The more I study rock art and associated manifestations the more I am convinced that peoples in the prehistory of the State of Utah were resourceful and complex in nature. That while they were not as technically advanced as their European counter parts they were culturally and religiously insightful. And the geoglyph at Mussentuchit demonstrates that these people had a perspective of themselves as seen from above and thus had a perspective of themselves in the light of the infinite and eternal.

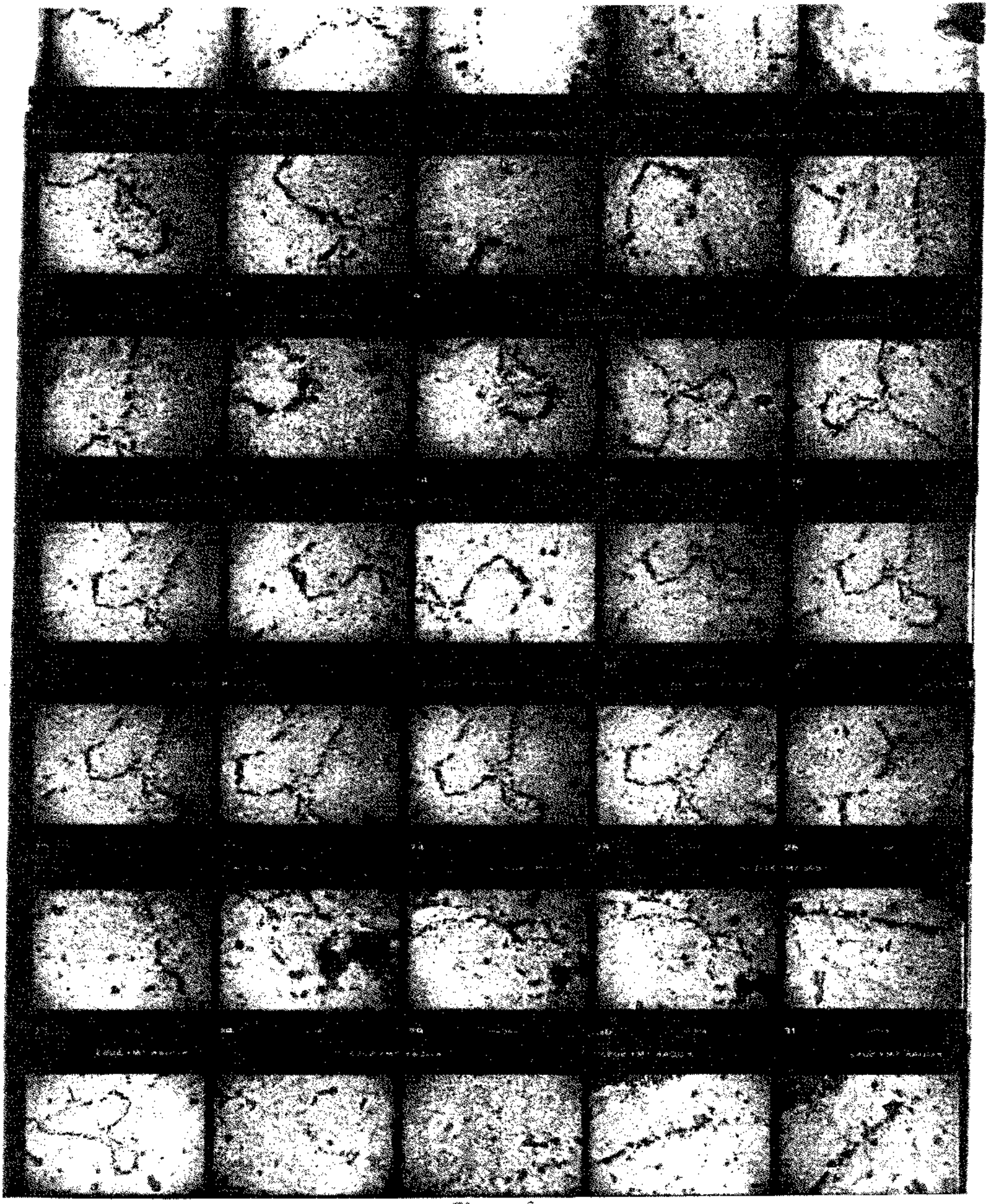


Figure 3