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# Soapstone for the Cosmos: Archaeological Discoveries in the Cuyamaca Mountains

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**T**HE Cuyamaca Mountains of interior San Diego County are a remote region characterized by a vast diversity of natural and cultural resources. Located 60 km. east of San Diego, and within the ethnographic homeland of the Kumeyaay Indians, the Cuyamacas comprise a major portion of the Peninsular Range. The region is drained by the San Diego and Sweetwater rivers, and ranges in elevation from 1,000 to 2,000 m. above sea level. Local plant communities include well-developed chaparral, grassland meadow, and oak-pine woodland associations.

Extensive archaeological investigations have been conducted within the Cuyamacas, especially in Cuyamaca Rancho State Park, the heartland of this mountainous region (Fig. 1). Throughout the 1930s and 1940s, park sites were excavated by Malcolm Rogers (n.d.a) and other San Diego Museum of Man researchers. A large survey and ancillary excavation were conducted in the early 1960s by D. L. True (1961, 1966, 1970). The locational data generated by the Rogers and True surveys have been analyzed over the last few years by researchers exploring site-location models (Prosser 1975; Shackley 1980; True and Matson 1974). More recently, the California Department of Parks and Recreation has been involved in the systematic inventorying of the park's cultural resources (Foster 1980,

1981a, 1981b; Moore 1979; Parkman et al. 1981). To date, approximately 250 native American archaeological sites have been recorded within the 10,000 ha. Cuyamaca Rancho State Park. The sites include village and camp places, bedrock milling stations, flake scatters and hunting sites, rock art occurrences, and pottery caches. Many of the Cuyamaca sites are characterized by the aboriginal modification of the local bedrock. The features involved include bedrock mortars and metates, cupule petroglyphs, and various other incised and scratched petroglyphs (Parkman 1981).

A major source of soapstone is located within the park on the eastern flank of Stonewall Peak, and it has been known to archaeologists for over five decades. In his site record for SDI-9538 (formerly recorded as SDI-853, -859, and -912), the ethnographic village of *Ahhakweahmac* (Rensch 1950:8), Malcolm Rogers (n.d.a) mentioned the Stonewall soapstone source, noting that the site was covered with numerous "fragments and rounded nodules" obtained from it. Rogers apparently knew the location of the Stonewall source, but no site record was prepared for it. D. L. True was unable to locate the source during his survey of the park, but did note that one existed in the area (True 1961:8, 1966: 251, Map 16, 1970: 43). Finally, in a 1972 article concerning the use of soapstone by the Kumeyaay, Michael Polk

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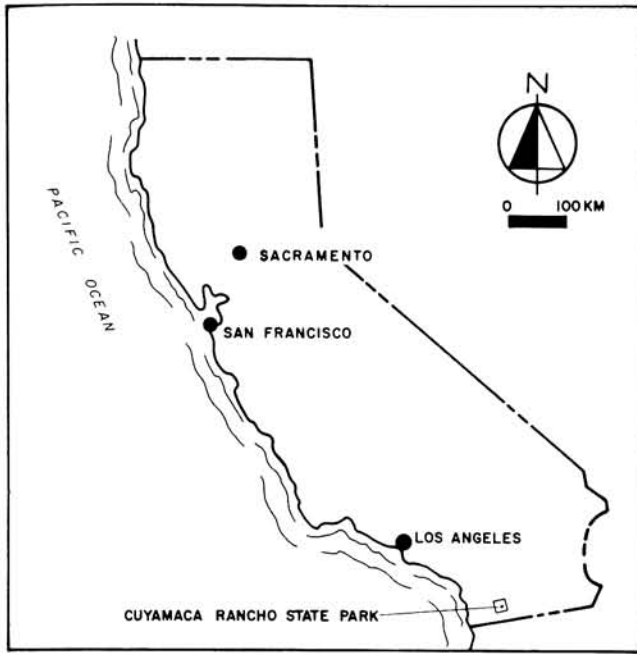


Fig. 1. Location of Cuyamaca Rancho State Park.

mapped and described the Stonewall source, noting that the material was fine-grained, light greenish-gray in color, and easily worked (Polk 1972:7). As with Rogers, Polk visited the Stonewall source area, but was unable to detect evidence of aboriginal quarrying activity (Michael Polk, personal communication 1982).

Although the Stonewall soapstone source has been known of for many years, until recently no quarry had been recorded in this area. During the summer of 1981, the California Department of Parks and Recreation recorded two archaeological sites that appear to be the remains of aboriginal soapstone quarries (Parkman et al. 1981). These are the Gwendolyn and World View sites. They are described below, and an interpretation of their possible roles in the Kumeyaay world is presented.

### THE GWENDOLYN SITE

The Gwendolyn site (SDI-9039) is located on a steep, chaparral-covered hillside overlooking upper Green Valley (Fig. 2). It is approximately 2.5 km. northeast of Stonewall

Peak. The site consists of about 50 soapstone boulders which are scattered over an area approximately 50 m. square. It is bisected by Soapstone Grade Fire Road (Fig. 3), an unimproved dirt road constructed by the Civilian Conservation Corps during the 1930s. The construction of the road appears to have destroyed a considerable portion of the Gwendolyn site.

Many of the soapstone boulders located at this site exhibit evidence of quarrying activity. A school camp is located within the park, and its students have traditionally visited the Stonewall source in order to obtain soapstone for use in arts and crafts projects (Clarke 1948). Many of the modifications (e.g., quarry scars made by rock picks, coping saws, and power saws) observed on the boulders at the Gwendolyn site date to this and other recent non-Indian use. Other evidence suggests an earlier aboriginal utilization.

Two kinds of aboriginal quarrying practices have been identified at the Gwendolyn site. The first technique involved the carving out and slabbing off of oval-shaped blanks approximately 25 cm. long and 15 cm. wide. Several loci of this activity have been identified within the site. Most areas exhibit depressions where blanks have been detached from the boulder, a feature reminiscent of the



Fig. 2. From the Gwendolyn site looking southeast toward upper Green Valley (photograph by the author, August 1981).



Fig. 3. From the Gwendolyn site looking northwest along Soapstone Grade Fire Road. Note the white soapstone boulders eroding from the hillside (photograph by the author, August 1981).

soapstone quarries on Catalina Island (Meighan and Johnson 1957; Schumacher 1879; Wlodarski 1979). In several cases, blanks are still attached to the parent rock (Fig. 4), having never been removed. A single detached blank was observed on the surface of the site (Fig. 5). Treganza (1942) reported finding five of these artifacts cached at the Jacumba Valley soapstone quarry (SDI-7790), and Polk (1972:9, Fig. 3) has illustrated another from northern San Diego County. Shortly after the discovery of the Gwendolyn site, Ken Hedges (personal communications 1981-1982) identified a second quarrying technique at the site. This method apparently involved the drilling of numerous small holes in a line along a boulder, after which a portion of the rock could be detached.

In addition to the quarry evidence, several of the boulders are characterized by petroglyph elements. Perhaps the most striking is an incised crosshatch similar to that found on many soapstone arrowshaft straighteners from the Cuyamaca region. The only artifacts observed on the surface of the site were the oval-shaped blank discussed earlier, and four quartzite and felsite hammer and pick-like tools, possibly used in the quarry operation. A small piece of soapstone with a single polished edge was also noted.

#### THE WORLD VIEW SITE

The World View site (SDI-9040) is located approximately 300 m. southeast of the Gwendolyn site. It also is situated on a chaparral-covered hillside (Fig. 6), and is bisected by



Fig. 4. Rock No. 2 at the Gwendolyn site. Note the undetached oval-shaped blank at the lower center of the rock (photograph by Shane Coles, March 1982).

Soapstone Grade Fire Road. This site consists of a cluster of soapstone boulders, on which are located numerous cupule and scratched petroglyphs (Fig. 7), a single conically shaped bedrock mortar (Fig. 8), and a large quadrilateral form (Fig. 9). The latter is thought to be an undetached quarry blank. The measurements of these elements are presented in Table 1. Another soapstone boulder, located 18 m. downslope from the first locus, has several tiny drill pits similar to those observed at the Gwendolyn site.

In addition to the modified boulders at the World View site, there is a possible trailside shrine located nearby. This feature is located about 50 m. downslope from the first locus of boulders, and consists of a crevice between two small boulders which has been

filled with numerous other rocks, several of which appear to be foreign to the immediate area. It is similar to a named (*Wiitaawhiitl*) Kumeyaay shrine in the nearby Laguna Mountains (Cline 1979: 21). A Kwaaymii (Kumeyaay) elder from that area, Tom Lucas, says he has seen other such features in the local mountains (personal communication 1982). The World View feature is located adjacent to a trail leading down to Upper Green Valley.

The only artifacts observed on the surface of the site were two felsite flakes and a felsite core-tool immediately adjacent to the modified boulders (Fig. 10), and a quartz core near the shrine. The construction of the fire road appears to have destroyed most of this soapstone outcrop. Prior to the 1930s, there may have been additional boulders here.



Fig. 5. Soapstone blank found on surface of the Gwendolyn site (photograph by the author, August 1981).

### DISCUSSION

The Kumeyaay used soapstone to manufacture various kinds of tools and ornaments, the most common being arrowshaft straighteners and pendants. Soapstone was also used for making pipes, sucking tubes, and "medicine" or "warming" stones (Polk 1972). The latter are believed to have been used by Kumeyaay shamans in curing rituals, and in the girls' puberty rites, during which a warmed stone was placed on the stomach or between the thighs of each girl in order to insure easier childbirth. Descriptions of these stones (Rust 1906; Strong 1929; Waterman 1910) indicate that they are somewhat similar in shape and size to the oval blanks found to have been quarried at the Gwendolyn site. Charlotte McGowan (1982:6) reported finding a warming stone cached at W-1133, a fertility (*Yoni*) site in the Jamul area of San Diego County. The flat stones used in the jumping aspect of the boys' initiation ceremony (Waterman 1910: 304-305) might also be a similar artifact.

Powdered soapstone was used as paint by the Kumeyaay. During the boys' puberty rites, the initiates were painted "with broad

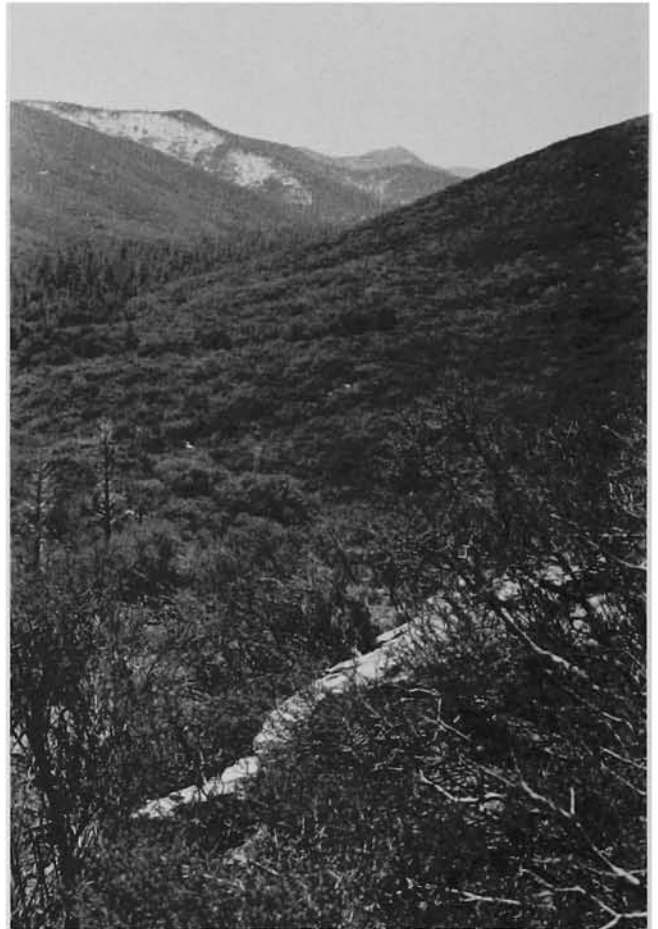


Fig. 6. From the World View site looking south toward upper Green Valley and Oakzanita Peak. The white soapstone boulders in the foreground contain a bedrock mortar and various cupule and incised petroglyphs. A possible trailside shrine is located about 50 m. downhill, adjacent to a trail leading down to the valley floor (photograph by Billie Davis, March 1982).

stripes of white powdered soapstone" (Waterman 1910: 304-305). Powdered white soapstone was also used in making the ground paintings associated with these puberty rites (Waterman 1910: 300-301).

Finally, soapstone was used to manufacture the "sacred" portable bowl-mortars used in the boys' puberty rites, and associated with the *Toloache* ceremonies. The Kumeyaay called these mortars *kalmo*, and they used them to grind Jimson weed, *Datura meteloides* (Drucker 1937: 14; DuBois 1908: 172;



Fig. 7. Cupule petroglyphs at the World View site. Note the incised line encircling the cupule on the left (photograph by Billie Davis, March 1982).

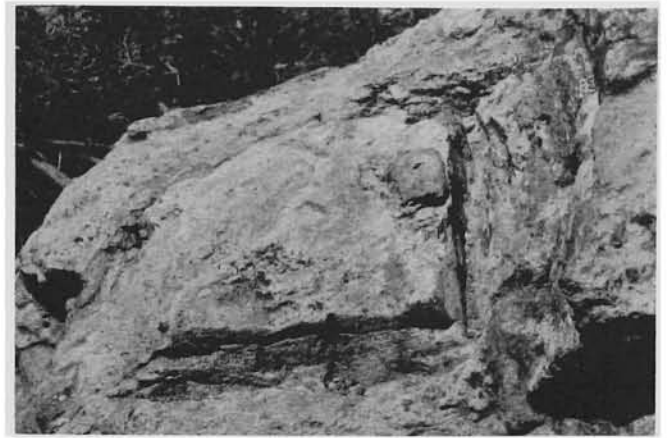


Fig. 9. Large quadrilateral form at the World View site. The feature, which appears to be old and weathered, was cut with a steel-bladed ax or hatchet (photograph by Billie Davis, March 1982).

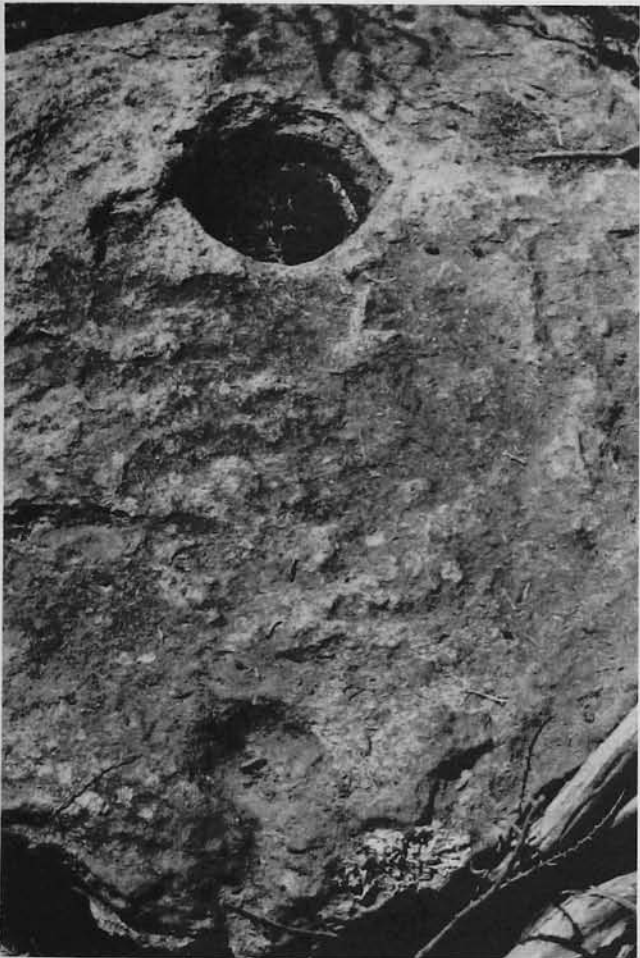


Fig. 8. Bedrock mortar and large cupule petroglyph at the World View site (photograph by Shane Coles, March 1982).

Table 1

MEASUREMENTS OF FEATURES OCCURRING IN BOULDER LOCUS NO. 1

Feature	Type	Diameter (cm.)	Depth (cm.)	Length (cm.)	Width (cm.)
1	cupule	7	3.5	-	-
2	mortar	17	12	-	-
3	cupule	5	1.8	-	-
4	cupule	2.5	1	-	-
5	cupule	0.5	0.4	-	-
6	cupule	4.5	1.2	-	-
7	cupule	2	1	-	-
8	cupule	4	2	-	-
9	incised line	-	-	4.5	-
10	incised line	-	-	5.5	-
11	incised line	-	-	5	-
12	cupule	5	2.5	-	-
13	cupule within incised line:				
	cupule	3.2	1.4	-	-
	line	-	-	12	9
14	cupule	3	2.5	-	-
15	cupule	9	4.5	-	-
16	cupule	4.5	1.5	-	-
17	cupule	3	1.2	-	-
18	quarry blank	-	-	34	30
19	cupule	3.5	1.5	-	-
20	cupule	3.5	1	-	-
21	cupule	2	1	-	-
22	cupule	2.5	1	-	-
23	cupule	2	1	-	-



Fig. 10. Felsite core-tool resting on the surface adjacent to the bedrock mortar boulder at the World View site (photograph by Billie Davis, March 1982).

Kroeber 1925: 713; Spier 1923: 317; Waterman 1910: 304). A drink prepared from this hallucinogenic plant was served to male initiates in order that they might obtain visions.

One of the unifying features of soapstone use by the Kumeyaay appears to have been the "sacredness" of the artifacts produced from it. Sucking tubes and warming stones seem to have been used exclusively by shamans and, except for the occasional pendant, most soapstone artifacts were probably involved with the more esoteric world of the Kumeyaay. Even the soapstone arrowshaft straighteners, which are generally considered to be "technomic" (Binford 1962) in nature, may have been viewed as "ideotechnic" de-

vices by the Cuyamaca area Kumeyaay. From the cemetery associated with the ethnographic village of *Pilcha* (SDI-913), Malcolm Rogers recovered as many as 200 of these artifacts, some being miniatures, and many appearing unused (True 1970: 49). These data have led True (1970: 49) to hypothesize that some of the straighteners were made "especially to be included as grave goods."

Apparently, the Kumeyaay of the Cuyamacas obtained much of their soapstone from the Gwendolyn site. Just how intense this utilization was has been made indeterminable by the fire road's impact upon the site. The relative absence of quarry tools, as well as quarried boulders, may suggest other nearby quarries, although none, other than the World View site, has been identified. An inspection of the soapstone artifacts recovered from various Cuyamaca sites reveals the presence of some exotic soapstone material. The soapstone of the Stonewall source is a talc schist (Syd Willard, personal communication 1981) which is quite distinct from some of these other materials. Both of the Stonewall quarries are located within a Julian schist formation immediately adjacent to its contact line with a Stonewall granodiorite formation (Everhart 1951; Todd 1977; Todd and Shaw 1979). Other loci of soapstone boulders may yet remain to be recorded along this contact line, especially to the north outside of the park. In addition to the Stonewall quarries, and the Jacumba Valley site (SDI-7790), several other soapstone sources are known to occur in Kumeyaay territory. A soapstone source (SDI-8538) with "pecking scars" on the boulders was recently recorded in the nearby Laguna Mountains (Archaeological Systems Management 1980). A small source of soft, greenish-gray soapstone occurs elsewhere in the Laganas, and another source of harder dark-green material is located at the "rim of the desert overlooking Mason Valley" (Tom Lucas, personal communication 1982).



The latter two sites have not been recorded.

Although fragments of soapstone have been recovered from almost all of the excavated Cuyamaca sites, most of the soapstone industry appears to have been centered in the ethnographic village of *Ahhakweahmac* (SDI-9538). Rogers (n.d.a) noted that much local soapstone was present at this site, and True (1970: 43) observed that *Ahhakweahmac* appeared to have "substantially larger amounts of steatite refuse on the surface than did those sites situated a greater distance from the quarry." *Ahhakweahmac*, being 3 km. northwest of the Gwendolyn site, represents the quarry's nearest recorded village site.

Another related stone-working industry appears to have been centered in SDI-9534, a large village recently recorded on the southern shore of Cuyamaca Reservoir. Situated at the edge of this site is a natural deposit of phyllitic schist (Syd Willard, personal communication 1982). Several felsite hammerstones and pick-like tools are associated with the quarry located there, and fragments (worked and unworked) of the schist material litter the surface of the village site. Artifacts, especially pendants, of a similar material have been recovered from most of the excavated Cuyamaca sites (see True 1970: 40).

### INTERPRETATION

Kumeyaay inhabiting the Cuyamaca Mountains came to the Stonewall quarries, especially the Gwendolyn site, in order to procure soapstone. It is probable that they satisfied some of this need by collecting float material from about the surface of the source area. They also quarried the material, utilizing at least two distinct methods.

Artifacts of a great variety were manufactured from the soapstone, and most were somewhat ideotechnic in nature. The oval-shaped blanks that were quarried at the Gwendolyn site appear especially well suited for the manufacture of the warming stones

that have been recovered from throughout San Diego County. D. L. True (1970: 39) recovered a number of these artifacts from SDI-860, and they also are found in the collections Malcolm Rogers excavated from SDI-913. In both cases, most of the artifacts are made of a material identical to the local Stonewall soapstone. Additionally, a cache of these warming stones was plowed up by a farmer in the nearby community of Julian in the 1930s. This cache, which is in the collection of the Julian Pioneer Museum, consists of seven soapstone warming stones (Figs. 11 and 12), a small soapstone bowl (Fig. 13), two small non-soapstone hammerstones, and a non-soapstone rock somewhat reminiscent of the crescent-shaped ceremonial stone illustrated by T. T. Waterman (1910: Pl. 21). All eight of the soapstone artifacts appear to be manufactured from Stonewall material. The stone bowl is very similar to ethnographic descriptions of the *kalmo*, in which *Datura* was prepared. The two small hammerstones each fit well in the bowl's cavity, and appear to have been used with it, perhaps being the *xanokai* associated with the *kalmo* (Waterman 1910: 304). The cache may have belonged to a shaman, or perhaps it was a communal possession, such as the cache of ceremonial objects stored in the village's ceremonial house (Waterman 1910: 281).

Another cache of soapstone artifacts, some of which may have been manufactured from Stonewall soapstone, was plowed up at Pine Hills, near Julian, during the 1930s. This group consisted of 21 sucking tubes (Rogers n.d.b), and appeared to be another shaman's cache. A third cache was plowed up in a field near Poway. This one included soapstone bowls and warming stones that were covered with red ochre (Polk 1972: 20). Other artifacts of a material similar to the Stonewall soapstone have been found in nearby Descanso Valley (McKinney 1972), and in the Earthquake Valley area of Anza-Borrego

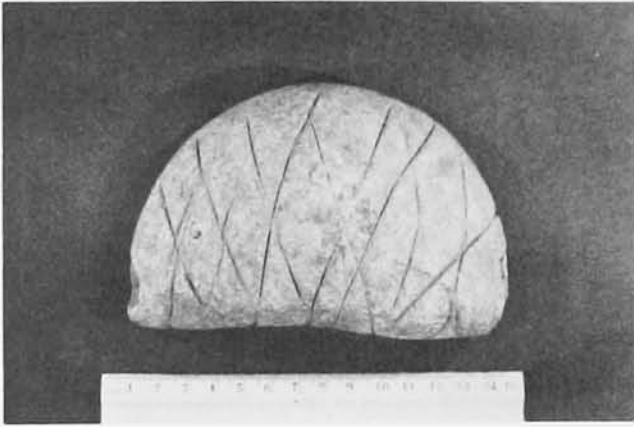


Fig. 11. Soapstone warming stone from a cache of 11 artifacts found in Julian, scale equals 15 cm. (photograph courtesy of the Julian Pioneer Museum).



Fig. 12. Soapstone warming stone from the Julian cache. Note the similarity between it and the blank in Fig. 5 (photograph courtesy of the Julian Pioneer Museum).



Fig. 13. Soapstone bowl from the Julian cache (photograph courtesy of the Julian Pioneer Museum).

Desert State Park (Robert S. Begole, personal communication 1982). Artifacts made from a non-Stonewall soapstone, including a possible "owl" effigy from Mason Valley (Musser 1980), and a pendant blank from Wynola (Fritz, Knight, and Gothold 1977: 32), have also been found at local sites. The latter two artifacts, each of which are reddish in color (Fritz, Knight, and Gothold 1977: 32; Musser 1980: 280), are probably made of Jacumba Valley (SDI-7790) soapstone, which is of a similar color (Polk 1972: 7; M. Steven Shackley, personal communication 1981). Kume-yaay (Kamia) of the Imperial Valley region are known to have obtained their soapstone from the Jacumba area (Gifford 1931: 29), and it is probable that some of this material was traded north to the Cuyamaca region as well.

Based on the foregoing data, it appears obvious that a soapstone industry was being conducted in the Cuyamaca region during the Kume-yaay occupation. The industry appears to have been focused on the Gwendolyn site, where soapstone was procured, and on *Ah-hakweahmac*, where it was manufactured into various kinds of artifacts. It has yet to be determined how far Stonewall soapstone traveled in the local trade network. Future chemical analysis of the local soapstone will address this problem.

The World View site may have seen considerably less quarrying activity than that of the Gwendolyn site. Extant evidence at World View suggests limited use as a quarry. Of course, float material could have been collected there without leaving traces, and it should be remembered that the fire road destroyed a significant portion of the site, thus there may have been additional evidence in former times. Available data, however, do suggest a more ritualistic nature to the use of the World View site.

As noted earlier, the trailside shrine at the World View site is similar to another nearby

named shrine (Cline 1979: 23), and other such places are known to occur throughout interior San Diego County. The trail on which the Cuyamaca shrine is located leads upslope from upper Green Valley, and then apparently past the Gwendolyn site into the large grassland area surrounding Cuyamaca Reservoir. From there, it was a short and easy walk to *Ahhakweahmac*, or to a larger trail system (now Highway 79 and Engineers Road) connecting the Cuyamacas with Santa Ysabel Valley and other occupied areas. In the opposite direction, a trail down upper Green Valley would allow easy access to the settlements on East Mesa, and would link up with a major trail (now Highway 79) to Descanso and Samagatuma valleys. Soapstone procurers, as well as hunters, gatherers, and other passersby, probably utilized the trail leading past the World View site, and it was probably a major avenue of travel.

It is possible that the bedrock mortar/cupule petroglyph complex at World View, like the rock cairn shrine, was associated specifically with the nearby trail. It may have been a place that marked the trail, or rather a place where ceremonies pertaining to the trail were performed. The rock cairn shrines are known to have been places where Kumeyaay travelers made offerings to insure their safe travel (Cline 1979: 23, 105; Drucker 1937: 43; Tom Lucas, personal communication 1982). Archaeological evidence indicates that these shrines were often located near mountain passes or the junction of main trails (Begole 1974: 59, 1981: 1). The World View site, situated just below the mountain pass connecting Upper Green Valley with the large grassland and cienega that is now Cuyamaca Reservoir, would appear to fit this same pattern. An extremely panoramic view of the surrounding countryside is afforded the visitor to World View, and this may have been a factor dictating its use as a shrine.

The presence of the bedrock mortar (Fig.

8) in a soft soapstone material represents one of the major enigmas involving the interpretation of the World View site. Mortars typically occur in harder rocks, thus facilitating the milling activity associated with them. Indeed, a non-exhaustive review of the records maintained by the State Office of Historic Preservation revealed but one additional California site where bedrock mortars are associated with soapstone. The site (YUB-851) is located in Yuba County, and contains approximately 75 mortars and 20 cupule petroglyphs on several boulders (Donald J. Storm, personal communication 1982). Although these boulders were recorded as "steatite," they might prove to be serpentine, or at least a hard variety of soapstone. A series of sites with soapstone bedrock mortars has been recorded within Plumas National Forest (FS Nos. 05-11-54-29, -30, -57, -68, and -180; Daniel G. Foster, personal communication 1981), but they also may prove to be serpentine. The bedrock mortar at the World View site is located in the midst of a chaparral zone, well removed from any stand of oak or pine trees. A few small Scrub Oaks (*Quercus dumosa*) do grow nearby but, although their acorns were occasionally used to make mush (Spier 1923: 334), the Kumeyaay considered their acorns to be a food less desirable than those of the Black Oak (*Quercus kelloggii*) and the Coast Live Oak (*Quercus agrifolia*) (Almstedt 1968: 10), both of which grow along the valley floor below World View. It does not seem likely that acorns from the Scrub Oaks were being ground at the World View site, nor does it seem likely that plant foods would have been carried there from the valley, especially since granite outcrops are located among the trees below. Moreover, a preliminary inventory of the plants occurring at World View (Table 2) does not appear to suggest that food preparation (at least that which would have necessitated grinding) occurred there. And, although the Kumeyaay did hunt in the chaparral zone,

Table 2

**A PARTIAL LIST OF THE PLANTS OCCURRING  
AT THE WORLD VIEW SITE**

(Field identification by Jeri Hirshberg, March 23, 1982)

- 1 *Adenostema fasciculatum* (Chamise)
- 2 *Arctostaphylos glandulosa* (Eastwood Manzanita)
- 3 *Castilleja (foliosa?)* (Wooly Paintbrush)
- 4 *Ceanothus greggii* (Gregg's Lilac)
- 5 *Ceanothus (leucodermis?)* (Blue Wild Lilac)
- 6 *Cercarpus betuloides* (Mountain Mahogany)
- 7 *Eriogonum* sp. (Buckwheat)
- 8 *Happlopappus squarrosus* (Golden Bush)
- 9 *Mimulus* sp. (Monkey Flower)
- 10 *Quercus dumosa* (Scrub Oak)
- 11 *Salvia apiana* (White Sage)
- 12 *Stipa* sp. (Purple Needlegrass)
- 13 *Yucca whippleii* (Our Lord's Candle)

it does not seem likely that non-vegetal foods (e.g., small rodents and birds) would have been ground and prepared at World View, either. Given the presence of the shrine and the petroglyphs, it would appear reasonable to assume that the World View site was utilized for ritualistic and/or non-food procurement activities.

The only non-food procurement activity that seems likely to have occurred at the World View site is that of soapstone acquisition. The evidence of the site's use as a quarry has already been discussed. In addition to these data, it should be noted that the bedrock mortar at World View might also have been used to obtain soapstone. The Kumeyaay are known to have utilized white soapstone powder (Waterman 1910: 297-298, 301) and, by rotating a pestle in the World View mortar, powdery soapstone would have collected in the base (Travis Hudson, personal communication 1982). An alternative method would have been to collect soapstone float material, which could then be ground into powder in a granite mortar. Because the powder-acquisition model does not explain the petroglyphs at World View, it is likely that part of the site's explanation is to be found in a more ritualistic model.

Several ritualistic models appear somewhat feasible in explaining the non-quarry function of the World View site. For instance, the site may have served as either a trail and/or a quarry shrine, or it may have been a place where certain ceremonies, such as the *Toloache* ritual, or some other initiation ceremony, were conducted. The rock cairn associated with the World View site is thought to represent a trailside shrine (Tom Lucas, personal communication 1982). Similar shrines are known to occur throughout the region. It is conceivable that the petroglyph boulders (Locus No. 1) represent another shrine that is intimately involved with the trail that passes nearby. As such, the cupules may have been places where offerings were made to insure a safe journey, or success in the venture that necessitated that journey. Although such uses do not appear to have been common, there are some accounts of this function, such as the following account from northern California:

The old Wintoon trail along the Sacramento from Susson down as far as Redding was divided into day's journeys, with regular resting places where the night was spent. At each of these places was a small shallow hole in a rock—a hole apparently not more than a couple of inches in diameter and perhaps an inch in depth. The old Doctor used to go to these holes and pray for strength and success [Merriam 1955: 11].

Another possible explanation for the World View petroglyphs is that they represent a quarry shrine, rather than a trail shrine. As such, the site would have been a place where offerings were made to the soapstone source and/or quarries. As noted earlier, the cross-hatch petroglyph at the Gwendolyn site is similar to those found on local arrowshaft straighteners, warming stones, and various other soapstone artifacts that might be viewed as ideotechnic in nature. It is doubtful whether the designs on these artifacts are merely

ornamental. Instead, the markings may impart "power" to the stones (Joan Oxendine, personal communication 1982). Similar designs are an integral aspect of California rock art, and are often associated with sites thought to have a religious significance. The crosshatch at the Gwendolyn site may be a bond that connects the natural soapstone with the products fashioned from it. The petroglyphs at World View may have served a similar purpose.

The World View site also may have been the scene of some other ceremony, such as the *Toloache* ritual, or some other initiation rite. The *Toloache* ceremonies first appeared among the Kumeyaay during the beginning of the American Period (ca. A.D. 1850), having been transmitted to them by the Ipai and the Luiseño (Bean 1975: 29; Drucker 1937: 14; Kroeber 1925: 712-713). The *Toloache* ritual was an integral aspect of the Chingishnish religion, a revitalization movement which appears to have originated among the Gabrieliños about A.D. 1800. Two aspects of the *Toloache* ritual are of possible significance to the interpretation of the World View site. In the boys' initiation rites that were associated with the *Toloache*, *Datura meteloides* was used to prepare an hallucinogenic drink which was given to the initiates in order that they might obtain visions (Drucker 1937: 14; DuBois 1908: 172; Kroeber 1925: 713; Waterman 1910: 304). The *Datura* was prepared and occasionally served in a soapstone bowl (*kalmo*). During these same rites, which were held during "cold weather" (Spier 1923: 316), a ground painting was made which depicted many of the important aspects of the Kumeyaay cosmos, including certain sacred mountains, constellations, and mythological animals (Spier 1923: 327; Waterman 1910: 300-301). It is quite possible that the World View petroglyphs represent a lithic version of this cosmos. The pattern which emerges from World View (Fig. 14) is one

that is slightly reminiscent of Ipai ground paintings from nearby Santa Ysabel and Mesa Grande (Fig. 15). A similarity may exist between the depiction of certain painted elements (e.g., Orion and Pleiades) and some of the World View petroglyphs (e.g., incised lines 9-11 and cupules 19-23, respectively). The *Datura* mortar was also depicted in these ground paintings, and the bedrock mortar at World View may have seen a similar use. The morphology of the World View mortar (which is conical), however, suggests that it was better suited to producing soapstone powder than for grinding *Datura*. In other words, the mortar's conical shape indicates that it was produced by the constant wear of a pestle around its walls. This is an action one would strive for in order to maximize powder manufacture. To grind *Datura* would necessitate more of a verticle pounding action, and would probably result in a mortar that was more bowl-shaped. The mortar at World View may have been used, however, to mix the already ground *Datura* with water. The introduction of powdered soapstone into this mixture could have been viewed as beneficial. In the same manner, the mortar may have been used to mix the soapstone powder with water, in order to produce white paint. White paint was instrumental not only to the *Toloache* ritual, but to many other Kumeyaay ceremonies as well (Waterman 1910).

In addition to the *Toloache*, the World View site may have been used for some other ceremony, especially one focusing on initiation. Among the neighboring Luiseño, it is possible that cupule petroglyphs were associated with the boys' initiation ceremonies (Chace 1964, personal communication 1982; Minor 1975). Traditionally (i.e., pre-*Toloache*), the Kumeyaay may have performed a boys' or girls' initiation ceremony at World View, but the extant ethnographies do not indicate such a function. The site also may have been the scene of some individual

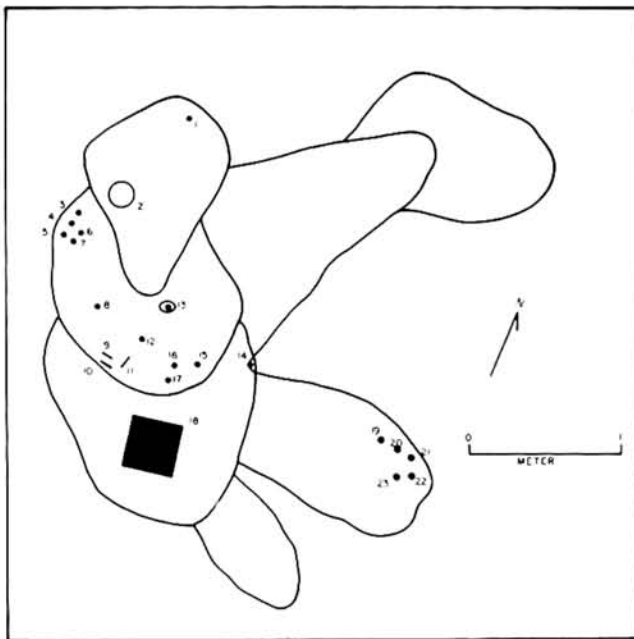


Fig. 14. Schematic drawing of Locus No. 1, the World View site. 1: large cupule; 2: bedrock mortar; 3-8: cupules; 9-11: incised lines; 12: cupule; 13: cupule with incised line encircling it; 14: fragment of cupule; 15-17: cupules; 18: large quadrilateral form; 19-23: cupules.

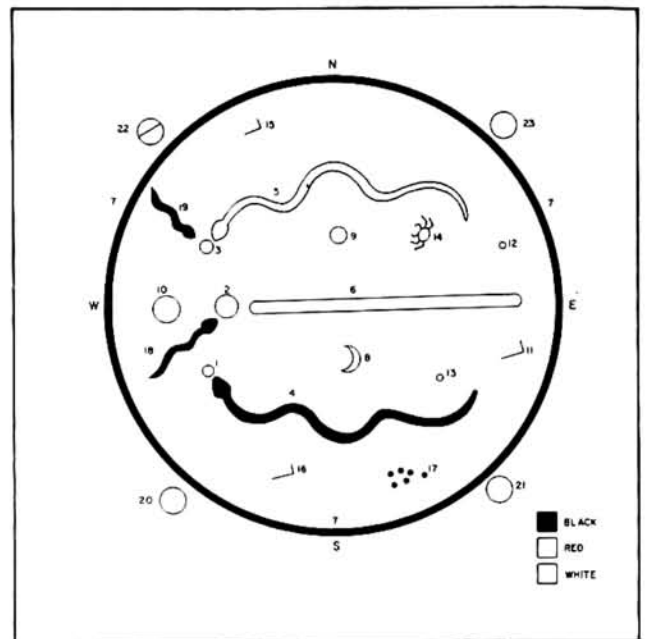


Fig. 15. Map or diagram of the world as conceived by the Ipai. This ground painting was made at Mesa Grande by Antonio Maces and Jo Waters. Such paintings were made with colored earths, and were used during the boys' initiation ceremony. 1-3: Datura mortar and pestle; 4-5: rattlesnake; 6: Milky Way; 7: world's edge (perhaps black); 8: new moon; 9: full moon; 10: sun; 11: coyote; 12: buzzard star; 13: crow; 14: black spider; 15: wolf; 16: mountain sheep or Orion; 17: Pleiades; 18: black snake; 19: gopher snake; 20-23: mountains (After Heizer [1978: 656, Fig. 2]; Waterman [1910: Pl. 25]).

ceremony, such as the "vision quests" attributed to nearby Cuchama (Tecate) Peak (Evans-Wentz 1981; Staniford 1977).

### CONCLUSION

As soapstone quarries, the Gwendolyn and World View sites are significant in that they present an opportunity to examine the quarry techniques utilized by the Kumeyaay. The only previously recorded soapstone quarry in Kumeyaay territory, SDI-7790, was destroyed before scientific study could take place (Treganza 1942). Other soapstone sources are known to occur within Kumeyaay territory, but their potential quarries have yet to be investigated and reported. Future chemical testing is necessary in order to delineate the range of the Stonewall soapstone trade, as well as explain the exotic soapstone materials recovered from Cuyamaca sites. Such data may eventually provide valuable insight into the socioeconomic complexities that charac-

terized the Kumeyaay world. Potential answers may be found to address questions concerning the territorial boundaries that separated the Kumeyaay, Northern Diegueño, and Luiseño. These data might also be applied to the dynamics of culture change, observable, for example, through the spread of the *Toloache* ritual.

As a ceremonial site, World View is especially intriguing, although somewhat enigmatic in nature. It has been argued herein that the site represents a ritualistic manifestation of the Kumeyaay culture. Explanations concerning the ceremonial nature of World View focus upon its possible role as a shrine and/or place where other ceremonials, especially in-

itation rites, took place. However, the true meaning of the site will probably always remain a mystery, and perhaps justly so.

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