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SHORTER COMMUNICATIONS

DOCUMENTATION OF THE SACRED PRECINCT OF MATA NGARAU (‘ORONGO, EASTER ISLAND) IN THE LATE 19TH—EARLY 20TH CENTURY

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Easter Island, located in the southeast Pacific Ocean, was the home to a unique and highly-developed Neolithic culture that produced over 100 ceremonial platforms (Englert 1948: 515-33), several hundreds of *moai* ‘statues’ (Van Tilburg 2004, Shepardson 2009: 163), and several thousands of rock carvings (Lee 1992: 4). The Rapanui (Easter Island) people even developed a writing system (Fischer 1997).

The island became known to Europeans when it was discovered by the Dutchman, Jacob Roggeveen on Easter Sunday of 1722. The first Western visitors made numerous observations concerning the culture of the islanders; however, this information should be filtered from much more pragmatic comments:

Furthermore some thought they had seen that the inhabitants had silver plates in their ears, and mother-of-pearl shells round their neck for ornament.... Now when we had properly investigated everything, and particularly the materials and their colours, as well as the imagined silver plates and mother-of-pearl shells, it was found that all this was trash, namely that their covering cloths round the body was a field-plant, sewn together.... (Sharp 1970: 93, 96)

The expeditions of the 18th century, led by González de Haedo, Captain Cook and La Pérouse, recorded more information about the Rapanui, as narrated in stories about their surveying and reconnaissance ventures. Several famous etchings were produced based upon their field sketches and some outstanding watercolours were also produced by John Linton Palmer, who visited the island in 1868. However, *in situ* sketching required considerable time and all the salient details were not always recorded, as admitted by Palmer himself describing his work in the sacred birdmen village of ‘Orongo (1870: 377):

At the end of this settlement, which is close to the gap whence the lava escaped, almost all the blocks of lava are more or less sculptured; but as they are weatherworn, and the material perishable and overgrown, it is difficult to make out the design—so much that I made a coloured sketch I sent you without perceiving at the time that the one represented a face, which quite startled me on looking at my work. I wish I could spend some hours, nay, the whole night, up there, working away with my pencil; but at 2.30 was the last boat, and so duty called me away from a most interesting place.

Palmer's expedition discovered the famous statue Hoa Hakananai'a in one of the houses of 'Orongo, and brought it to England. On their arrival at Portsmouth, the statue was photographed for the first time, on the ship's deck (Van Tilburg 2004: 7). Further recognisable graphic documentation was made in 1872 by the Frenchman, Pierre Loti, who drew detailed pictures of the statues standing below the exterior quarries of Rano Raraku (see Heyerdahl 1961: Figs 9a, b).

Geiseler's expedition arrived at the island in 1882 on board the ship *Hyäne* without any photographic equipment, so Paymaster Weisser was responsible for making sketches that were further used to produce etchings and published in the expedition reports. The etching of *Moai Piropiro* from the exterior quarries of Rano Raraku (Ayres and Ayres 1995: 26, Fig. 7) is quite recognisable; the drawings of the painted slabs from 'Orongo (Ayres and Ayres 1995: Figs 11, 12, 16-19, 20), as well as carved rocks embedded into house walls, (Ayres and Ayres 1995: Figs 22 and 23) are accurate enough for identification (Horley and Lee 2009). One etching published as Geiseler's plate (Ayres and Ayres 1995: Fig. 21) had not yet been identified, to the best of our knowledge. The drawing shows three bas-relief birdmen side-by-side, suggesting that the carving in question most probably belonged to the sacred precinct of Mata Ngarau, the basalt boulders of which are densely covered with numerous repetitions of the *tangata manu* 'bird-man' motif. However, this particular configuration failed to match any of 'Orongo's boulders—until the moment we realised that the etching was made from an upside-down sketch (Fig. 1a). Upon making this correction, the design was easily identifiable as the birdmen motifs from Locus #18 (Fig. 1b; also see Lee 1992: 71, Fig. 4.44).

This identification is verified by the following details: (i) the space under the panel in the "corrected" etching is hatched because it represents rocks in the foreground; (ii) the boulder has a characteristic bump to the left from Birdman #3; (iii) Birdman #2 has an unusual back-pointed beak that was overlooked by Weisser so that, in his version, this Birdman appears beakless; and (iv) the hand of Birdman #1 is eroded/polished away, in complete accordance with Weisser's drawing. The details overlooked in the etching include a small *tangata manu* to



Figure 1. Birdmen carvings from Locus #18: (a) Weisser's etching published in Geiseler's Report, (b) photograph of the boulder by Lee. The corresponding motifs are marked with numbers.

the right of Birdman #3 and a stylised face of the Easter Island god Makemake carved at the edge of the boulder to the left of Birdman #1.

The next major expedition, by Paymaster William J. Thomson visiting Easter Island in 1886, was the first to provide photographic documentation of the Rapa Nui sites. Many of these pictures (taken by William Safford) were included in Thomson's 1891 report. Several unpublished Safford's images can also be studied in preview quality in SIRIS (Smithsonian Institution Research Information System, <http://www.siris.si.edu>). Among the photographs of 'Orongo Village, we would like to discuss the image published as Plate 22 of the Expedition report, reproduced here in Figure 2a. It shows the sacred precinct of Mata Ngarau from its northern extremity, featuring a large boulder with a carving of a face in the foreground. To the best of our knowledge, this boulder has not been discussed in the literature—despite the fact that it was *lost* to the ocean about 40 years after its first documentation by Safford. This surprising discovery can be made if we compare the 1886 photograph with the picture taken by Routledge in 1914-1915 (Fig. 2b) which clearly shows that the boulder in question is missing. The rocks around the lost boulder are marked with Numbers 1-5; in Safford's image, Rock #4 (Locus #23, Lee 1992: 137) is significantly blocked from view by a boulder with a face, which is clearly missing from Routledge's photograph. For easier visual comparison, we marked the corresponding rocks with numbers in Figure 2c which shows an aerial view of Mata Ngarau.

The second photograph of the northern face of the missing boulder was discovered by the authors in August 2011 within the photographic archives of Alexander Agassiz, in the collections of Ernst Mayr Library at Harvard University (Fig. 3a). The photograph, possibly taken by Henry Bryant Bigelow, shows the site with taller grass, which is curious as both expeditions visited the island approximately in the same time of year: December 18-31, 1886 (Thomson 1891:476) and December 15-22, 1904 (Agassiz 1906: 29). However, even in the presence of taller vegetation, it is clear that the rock marked with #2 in Figure 2a was already lost by 1904 (Fig. 3a). The missing boulder with a large face is still in place; the photograph allows us to study it visually under different lighting conditions. The lichen spots located under the face are well-defined and of quite the same size as that in the 1886 photograph; in contrast, lichen patches on the upper left side of the boulder had greatly expanded since Safford's documentation. A side-by-side comparison of 1886, 1904 and 1998 images (Figs. 2a, 3b and 3c, respectively) illustrates that lichen growth is highly irregular, sometimes showing drastically different expansion of lichen patches even on the same boulder. Moreover, one should take into account that the site might have been cleaned from lichens between the pictures were taken, thereby compromising the record. Thus, application

of lichenometry dating on Easter Island (see e.g., Rutherford, Shepardson and Stephen 2008) may have considerable complications, especially when available historical photographs documenting the site are insufficient in number or quality.

The modern photograph (Fig. 3b) shows Rocks #3 and #4 in front of boulder #5 as completely open (Locus #22, Lee 1992: 137). Rock #4—Locus #23—has a birdman shape carved on it, which can be more clearly seen in the photograph taken during the Norwegian Expedition in 1955-1956 (Fig. 3c). The body of the birdman is carved on what appears to be a comparatively fresh rock surface (note how the upper part of the same body is already covered by lichen). There is a faint body shape incised in symmetric fashion (Fig. 3c) with an intention to create a *manupiri* ‘double bird-man’ design (Lee 1992: 70). As Rock #4 was located in a tight space between the now-missing boulder with the face and Rock #5, it is most probable that the birdman design shown in Figure 3c was carved *after* the large boulder went down the cliff—that is, sometime in the 20th century—raising a question about whether some other designs at Mata Ngarau could be recent as well.

The partial view of the south side of the missing boulder was also documented by Bigelow (Fig. 4a). With this image, we made a tracing of the motifs that once covered the boulder (Fig. 5). The large-eyed face is carved on its extremity, using the rock shape to emphasise the head’s form. The bulging eyes have clearly-marked pupils, which is a common trait for Mata Ngarau faces (Fig. 6) as well as several sculptures such as *Moai* Tukuturi and a head excavated at Rano Raraku by the Norwegian Archaeological Expedition (Skjølsvold 1961, Plates 51 and 53c, d). The cheekbones of the face are accentuated and the lips are set in low relief. The face has at least one ear, which is short but which features a well-defined ear-spool executed in bas-relief, most clearly seen in Safford’s image (Fig. 2a). It was definitely the most elaborate ear in the Mata Ngarau carvings; at other loci, the ears, when present, are shown as mere outlines (Fig. 6a). Safford’s photo also indicates that the missing boulder was worked below the face, aiming to create the semblance of a neck, which is a considerable development in comparison to simpler face forms carved on Mata Ngarau rocks. This impression of uniqueness is emphasised by the face being positioned on a prominent extremity of the boulder overlooking the ocean, suggesting this carving may have had a special function.

The missing boulder carried a number of birdman designs, marked with letters in Figure 5. It is difficult to identify them all based on three photographs only. Nevertheless, we are quite sure that the bas-relief birdmen A and B on its northern side were late and elaborated designs. Contour C may be the belly outline of an earlier birdman. Outline D appears to be the spine of a smaller

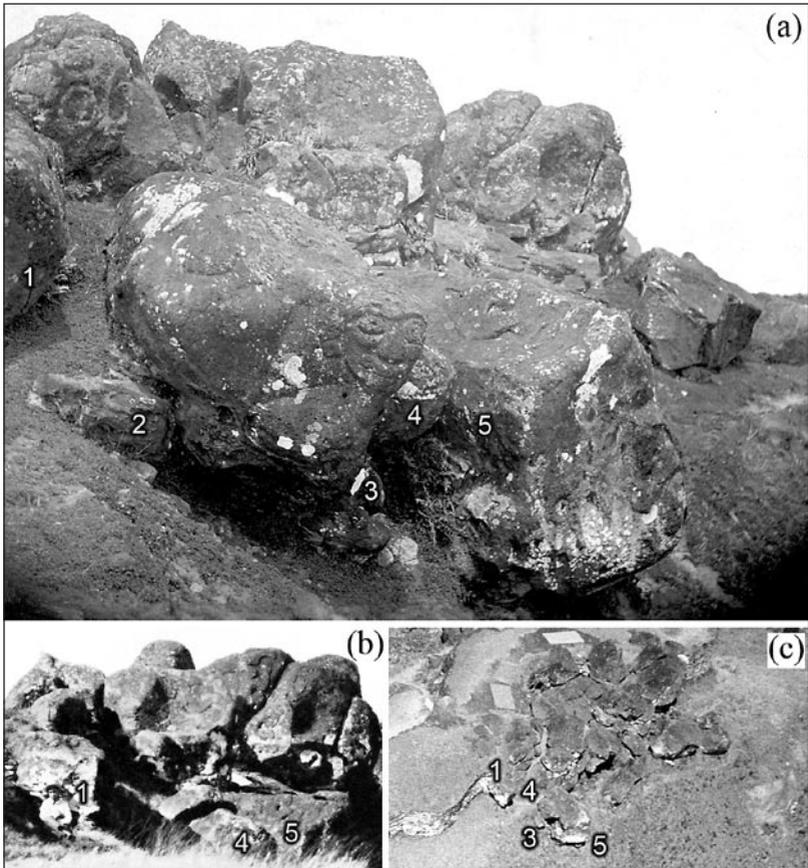


Figure 2. Mata Ngarau seen from the north: (a) William Safford's 1886 photograph, published as Plate 22 in Thomson's 1891 report (high-resolution scan from the original 19th century photographic print is courtesy of the National Anthropological Archives, Smithsonian Institution, photograph NAA INV 04951700); the prominent rocks around the boulder subsequently lost to the ocean are marked with numbers 1-5. (b) Katherine Routledge's 1914-1915 photograph (Routledge 1920: Plate 12.1), showing Boulders 4 and 5 in their entirety, while these were partially blocked before by a boulder with the face in Safford's image. (c) 1998 kite aerial image of Mata Ngarau (courtesy of Donald and Elaine Dvorak).

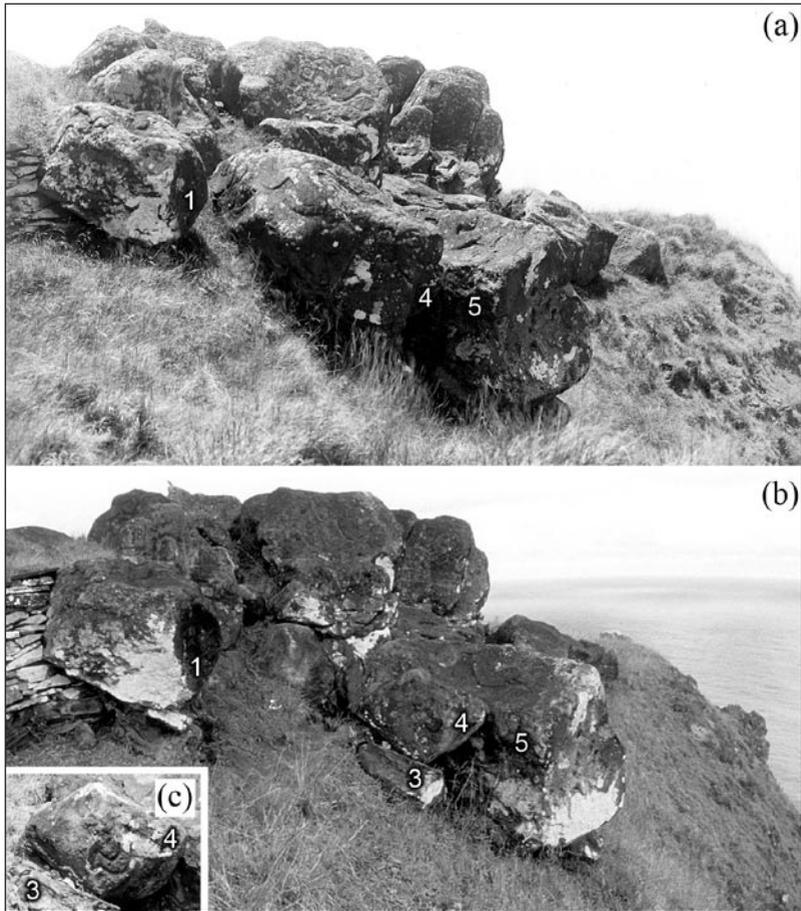


Figure 3. Views of Mata Ngarau from the north, similar to Fig. 2a and 2b with the same numbering of rocks: (a) 1904 photograph taken by Henry Bigelow during the Agassiz expedition (previously unpublished image courtesy of the Ernst Mayr Library, Museum of Comparative Zoology, Harvard University). (b) 1998 photograph (courtesy of Don and Elaine Dvorak); note that the lichen patterns on Rock 1 is essentially the same as that in 1904 image, while lichen on Rock 5 has grown significantly. (c) Close-up to Rock 4 in Erling Schjerven's 1955-1956 photo (image courtesy of the Kon-Tiki Museum) showing a relatively recent (?) birdman design over a cleft rock surface.

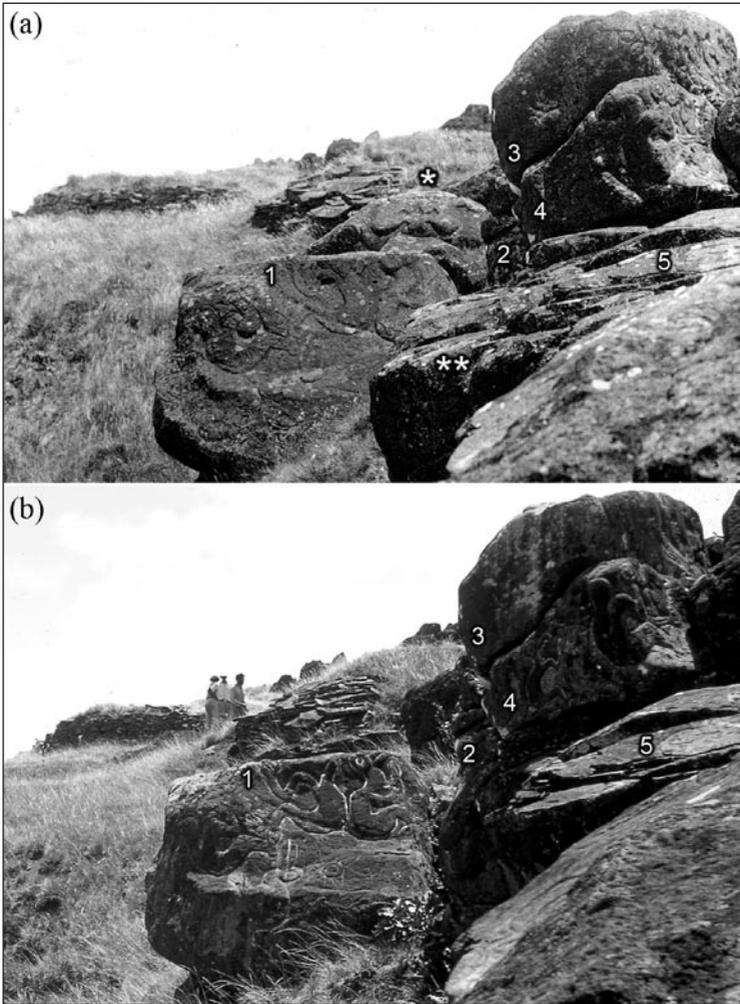


Figure 4. The view of Mata Ngarau from the South: (a) 1904 Bigelow's picture (Agassiz 1906, Plate 43; image courtesy of the Ernst Mayr Library) in which the reference rocks are marked with numbers and the missing boulder is denoted with an asterisk [*]. (b) 1955-56 Schjervén's picture (previously unpublished image courtesy of the Kon-Tiki Museum); note that court area marked with double asterisk [**] in Fig. 4a was also lost by the 1950s.

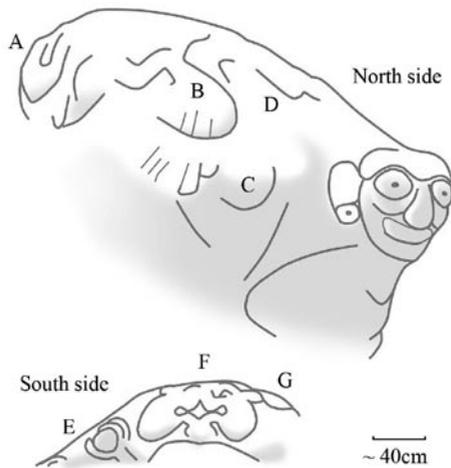


Figure 5. The carvings adorning the missing boulder traced from photographs of the Agassiz expedition (Figs 3a and 4a). The birdman designs are marked with letters A-G; carving F represents a *manupiri*. Contour C may belong to an earlier birdman. Possibly, Contour D may correspond to the left *tangata manu* or *manupiri* F, which will make G the head of Birdman B. The scale is approximate.

tangata manu and could actually correspond to the farthest left image from the *manupiri* motif appearing on the south side of the rock (Fig. 5 F). If this is so, the bas-relief bulge to the right of the *manupiri* (Fig. 5 G) may be the head of Birdman B. To the left of the *manupiri*, one can clearly see a hand holding the egg and a beak of yet another birdman (Fig. 5E).

Remarkably, Bigelow's photo (Fig. 4a) is practically identical with a picture taken by Schjerven during the visit of the Norwegian Archaeological expedition (Fig. 4b). Comparing both images, we can see that, in addition to the missing boulder (marked with an asterisk [*]), there is *another* large piece of rock missing, considerably shortening the court of Mata Ngarau (the area marked with a double asterisk [**]). To estimate the extent of rock loss, it is necessary to identify the locus in question. Noting the birdman design carved by a sharp ridge (located to the right of Number 5 in Figure 4a) one can confirm that the rock in question is Locus #16, with the corresponding birdman carving shown in Figure 7a. As one can see, just above the birdmen, the rock features an abrupt plateau containing incised lines, which appear in the published tracings thereof (Figure 7b). Just below the birdmen figures, there is a ledge without pronounced carvings, clearly marking the breakage line of

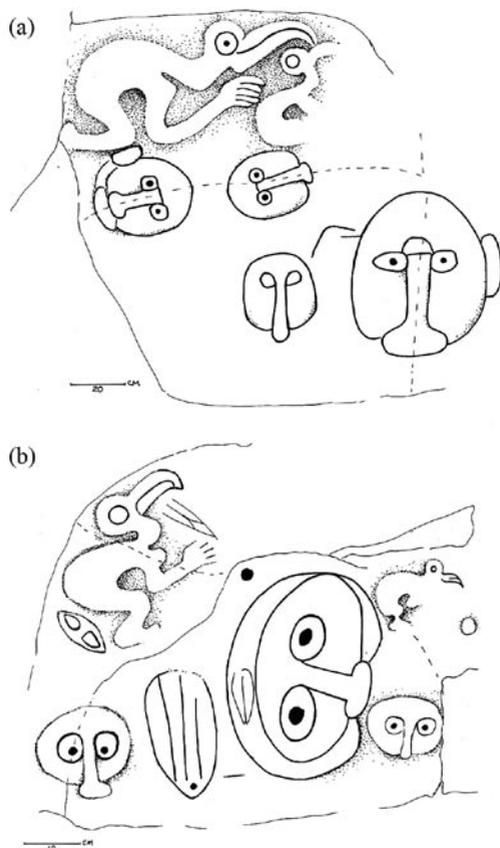


Figure 6. Face masks from Mata Ngarau (drawings by G. Lee):
(a) Locus #26, (b) Locus #46.

the rock (Figure 7a). Referring to the tracing, one can calculate that the length of the segment AB between the lines is about 37 cm, suggesting that the size of birdman carving in the lower left of Figure 7a is about 40 cm long. Using the latter as a scale unit, one can estimate from Figure 4a that the broken part of Locus #16 was at least four times the length of the birdman carving – that is, about 1.6 m. Bigelow's photograph shows traces of numerous carvings on the now-missing part of the rock, however, there is no chance to decipher their shape owing to the angle at which the photograph was taken.

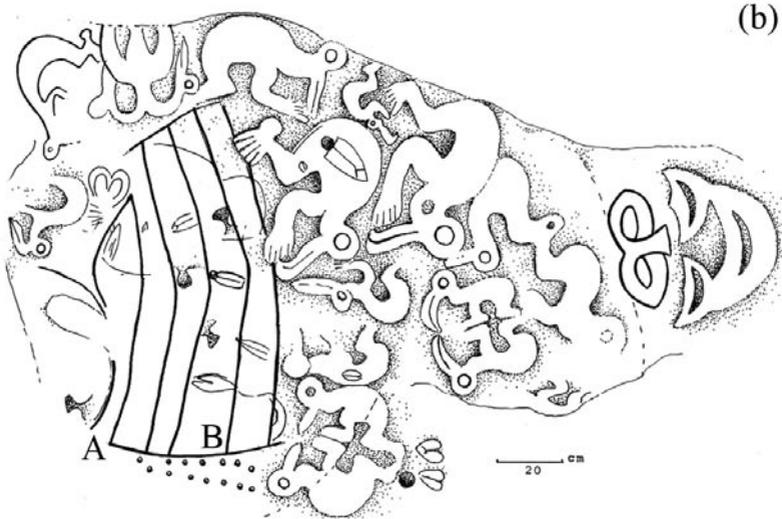


Figure 7. Locus #16: (a) photograph showing birdman carving with double outline and incised lines; (b) tracing of the same panel (images by Georgia Lee).

It is worth explaining why we are so sure that the missing boulders we discuss in this paper did indeed fall down the cliff and into the sea below and were not intentionally removed from their original location to some museum, etc. The petroglyph site of Mata Ngarau has a very peculiar location on top of precipitous cliff which drops some 300 metres to the sea below. The missing boulders were extremely large and heavy, precluding any possibility of moving them by manpower and/or the technical aids available in the late 1800s on Easter Island (there was no crane that had the potential to lift such huge stones). Analysis of the historical photographs shows that Mata Ngarau boulders are not firmly attached to bedrock but lie atop the rocky soil, being held in place by their own weight. The ground underneath is exposed to rain and wind, so erosion is to be expected. In addition, the now-missing boulders were located at the outskirts of Mata Ngarau's court area, downhill from the site and the path that runs through 'Orongo village and continues along the ridge of the crater. Any of the other boulders uphill and near the path would have been far easier to handle, had this been the intent of someone. To remove the now-missing boulders would have entailed considerable effort to raise them uphill and over the rest of the boulder cluster of Mata Ngarau, which, in our opinion, precludes any scenario of their disappearance other than falling down-slope into the ocean.

Needless to say, it is sad that so many rocks from the sacred precinct of Mata Ngarau have fallen into the sea. We are lucky to have historical photographs that allow us to extract at least some information about these carvings. The present results confirm the high priority of the exhaustive documentation of Mata Ngarau using modern techniques such as 3D laser scanning, which has already been successfully employed on other Easter Island sites (see O'Brien 2009). It is imperative to have such scanning done soon, because the basalt outcrop of Mata Ngarau is in a precarious, unstable situation on a cliff top that is undergoing continuous erosion.

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ABSTRACT

A study of various early photographs of the petroglyphs at 'Orongo taken by several 19th century visitors to Easter Island enabled us to identify some missing carved stones from the ceremonial site, Mata Ngarau. After comparing photographs from the different expeditions, we discovered that a large carved boulder was missing—

apparently lost to the sea somewhere between 1904 and 1914. In addition, further study also showed that considerable parts of rocks forming the courtyard at Mata Ngarau did not survive up to the time of the Norwegian Archaeological Expedition in 1955. However, using the existing photographs of the now missing boulders, we were able to study a drawing of the petroglyphs that once covered them.

Keywords: Easter Island, 'Orongo, Mata Ngarau, petroglyph, cultural resource management