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of Aboriginal spears, it is in one piece, and not with the head separately formed, and lashed or cemented on. I take it to be a hand-thrown weapon, and not propelled with the assistance of a womerah. The head of the spear, for eight and a-half inches from the apex, is blackened, then five alternating white and black bands follow occupying in the aggregate one foot, three of the bands white and two black. From this point downwards, to within nine inches of the proximal end, are six serpentine, but not encircling, continuous grooves, each bearing a series of close, backwardly directed, incised barbs, or teeth, and rendered prominent by having been coloured black. Spears similarly banded at the apex have been figured before, but neither Angas, Eyre, Wood, Smyth, or Knight, in their respective works, have given an illustration of one similarly ornamented with incised sculpture or decoration. With the exception of this feature, it is one of the type of such simple spears as the *Uwinda*, of the Murray River,\* or the *Koy-yun*.† Mr. E. M. Curr, however, states‡ that the Blacks of Hinchinbrook Island, and the adjacent mainland used carved spears, but he does not give particulars.



Smyth figures a simple spear with the distal end, or apex, segmented by white and black bands from West Australia,§ but otherwise it completely differs from the present weapon.

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#### AN ACTINOCERAS FROM NORTH-WEST AUSTRALIA.

BY R. ETHERIDGE, JUNR., Curator.

(Plate iii.)

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I am not aware that this interesting genus has so far been recorded from the Carboniferous rocks of West Australia. A rather fine example exists in our collection from the Lennard

\* Angas; S. Australia Illustrated, 1846, t. 51, f. 34.

† Smyth; Aborigines of Victoria, i., 1878, p. 307, f. 83.

‡ Australian Race, ii., 1886, p. 418.

§ Smyth; *loc. cit.*, p. 337, f. 143.

River, less the oldest and youngest chambers of the shell, and unfortunately it has been crushed, more particularly in the upper portion of the specimen. The length is six inches, and there are within this space nineteen or twenty chambers, the upper with a breadth of one-quarter of an inch, and the lower a trifle less. At both ends the large beaded siphuncle is visible, above in the round, below in partial cross-section.

The siphuncle is nearly marginal in position, or in a perfect specimen would probably be sub-marginal. At the younger end it stands out from the crushed and partially denuded shell exhibiting portions of three of the "beads," or segments, so characteristic of the genus. The diameter in its present condition is nine-sixteenths of an inch, but at the older or lower end of the shell it is only three-sixteenths. The siphuncular segments to the naked eye are grooved and ridged, and where not abraded, the ridges are very slightly convex. An examination of the partially and naturally sectioned siphuncle at the older end of the shell, as well as in a cut section, reveals the fact that these grooves are the infolding of the siphonal membrane, as described by Mr. A. H. Foord\* who says: "The calcified lining membrane of the siphuncle is thrown into a series of folds, which impart to it a puckered appearance, which is very characteristic." The same Author also observes that the shelly covering of the siphuncular segments, or "beads" composed of several layers, is very rarely preserved, but at the oldest end of the present specimen it is distinctly visible. Some good figures of the infolding of the membrane are extant, and foremost amongst these may be mentioned *Actinoceras Bigsbyi*, Stokes, as represented by Barrande.† In some of the infoldings, the membrane seems to expand into vertical sac-like cavities protruding inwards. When subjected to microscopic examination, in a thin section, the inflected portions of the siphonal membrane are seen to be comparatively thick, each one increasing slightly in width as it proceeds inwards, becoming somewhat truncheon-shaped, leaving in the centre a narrow free space filled with impalpable matrix. They are variable in length, some long, some short, but never approaching the centre of the siphuncle. At the point through which the section is taken there are seventeen of these inward prolongations, but they do not appear to be developed with equal regularity as to distance apart around the rather oval siphuncle. Furthermore, these prolongations appear to be open to variation in shape, for along one side are two assuming a decidedly pyriform outline, and a third that seems to show signs of bifurcation at its inward end, although too much stress must not be laid on this point. There is no trace of the endosiphon,

\* Cat. Foss. Ceph. Brit. Mus., 1888, Pt. i., p. 166.

† Syst. Sil. Bohême, ii., t. 231.

nor remains of its tubuli. The chambers are narrow, about four-eighths of an inch in the upper portion and three-eighths of an inch in the lower portion of the shell. There are four and six septa to the inch respectively in the parts referred to, increasing very slowly in their distance apart, and with plain edges. The siphuncle is a good deal inflated between the septa, wider than long. The external shelly-layer is not preserved, and in consequence the sculpture is not known.

I propose to call this species *Actinoceras Hardmani*, in honour of the late Mr. E. T. Hardman, who acted as Geologist to Forrest's Kimberley (N.W. Australia) Exploring Expedition in the years 1883-84, but who was perhaps better known through his connection with the Geological Survey of Ireland.

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THE DISCOVERY OF BONES AT CUNNINGHAM CREEK,  
NEAR HARDEN, N. S. WALES.

BY R. ETHERIDGE, JUNR., Curator.

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The Cunningham Creek Gold-field is situated about fourteen miles south-east of Murrumburrah and Harden. The "diggings" lies along both sides of the creek, above and below the Jugiong Road—crossing to Cunningham Plains, reaching almost down to its junction with the more important Jugiong Creek. The whole of this district is composed of grey granite cropping out here and there in bosses and tors, otherwise a thick granitic detritus hides the bedrock completely, and in consequence a subsequent denudation has given rise to gently rolling downs and hills. It is in this detritus that the bones of extinct Marsupials have been found for some time past, generally lying immediately above the auriferous wash-dirt of the old subsidiary branches of Cunningham Creek. The claim of Messrs. J. F. Wilson and Party, who first reported the discovery, is situated on the north bank of the creek, the shaft mouth being about seventy feet above the creek bed, and on the Cunningham Creek Common, barely a mile south-west of Cahill's Hotel. The shaft is down sixty feet in fine granitic detritus, interspersed with large boulders of granite. The bones are usually met with at fifty-eight feet from the surface, and, as before stated, immediately above the wash-dirt, but from the wet

EXPLANATION OF PLATE III.

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*Actinoceras hardmani*, Eth. Fil.

- Fig. 1. Lateral view showing the septa, and beaded siphuncle at the distal or younger end.
- „ 2. Beaded siphuncle— × 2.
  - „ 3. Section of the siphuncle showing involutions of the membrane— × 3.
  - „ 4. Pyriform involutions at the proximal or older end of the shell, seen in weathered section— × 5.
  - „ 5. Involutions and intermediate ridges at the proximal or older end of the shell, seen in partially oblique weathered section— × 5.

