

BOTANICAL, TOPOGRAPHICAL AND GEOLOGICAL  
NOTES ON SOME ROUTES OF ALLAN CUNNINGHAM.<sup>1</sup>

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[With Plates V, VI, VII.]

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## I—THE NEPEAN RIVER TO O'CONNELL PLAINS.

THE terminal point reached by Blaxland, Wentworth and Lawson when they succeeded in crossing the Blue Mountains in 1813, was across Cox's River, and a little to the south of Mount Blaxland. From here to Bathurst the country was subsequently explored by Surveyor G. W. Evans, and the track which he followed was used as the main road for some years, being constructed under the supervision of William Cox<sup>2</sup> and was travelled over by Governor Macquarie in 1815, on the occasion of his visit to Bathurst. Surveyor General Oxley<sup>3</sup> passed along this road in April 1817, when on his way to explore the Lower Lachlan and part of the Macquarie Rivers, having amongst his party Allan Cunningham, King's Botanist, and Charles Fraser, afterwards Colonial Botanist, and both of them subsequently Superintendents of the Botanic Gardens, Sydney.

A more direct road from the vicinity of Cox's River to Bathurst was afterwards laid out by Major Lockyer, leaving the old road near Collit's Inn, at the foot of Mount York, and passing through Bowenfels to Sodwalls and eventually joining the original road at O'Connell Plains.

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<sup>1</sup> For particulars of Allan Cunningham see Vol. XLII, p. 99 (1908).

<sup>2</sup> "Memoirs of William Cox, J.P.," (Sydney 1901).

<sup>3</sup> Oxley's "Journal of Two Expeditions, etc." (London 1820).

This second road was deviated by Major (afterwards Sir Thomas) Mitchell in the early thirties just beyond Bowenfels, and passed through Rydal, Meadow Flat and Yetholme to Bathurst, and, with some minor deviations, it forms part of the present Sydney to Bathurst road. (See *Plan.*)

Allan Cunningham's MS. Journal of this Lachlan trip (to the "western interior" as it was called), is still in existence. Extracts from his Journal have never before been published, and are of special interest to botanists in that they indicate some of his collecting grounds. We have, at different times, traversed on foot the route from Emu Plains to near Bathurst, not confining ourselves to the modern road, but, rough as it is, have followed his steps accurately. We will defer consideration of the neighbourhood of Bathurst for another paper.

Allan Cunningham had been sent out as King's Botanist by Sir Joseph Banks, and arrived in Sydney on December 21st, 1816. Governor Macquarie requested him to accompany Mr. Oxley in the expedition to which allusion has been made. They crossed the Nepean River on 6th April, 1817, and from the crossing (Emu Ford)<sup>1</sup> distances as far as Mount York were calculated. Cunningham remarked that the banks of the Nepean are "clothed with spreading trees of the *Melia azedarach*, called by the settlers 'White Cedar'" which is interesting to those who look upon it as an introduced tree, which undoubtedly it is in many parts of New South Wales.

**Springwood.**—Cunningham remarks on the "good pasturage and lofty handsome timber" near the "depôt" at Springwood (12½ miles from Emu Ford). This is owing to the presence of the Wianamatta shale which overlies the Hawkesbury sandstone. He notes that "*Eucalyptus robusta*

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<sup>1</sup> The Ford is now silted up, but a view of it, by Lewin, is in possession of the Antill family.



(this tree is not present and it is impossible to say to which species he refers, without seeing his specimens), *E. resinifera* and *Casuarina torulosa* are predominant, with another species of *Eucalyptus* called by the colonists "Stringy-bark" (*E. eugenioides*).<sup>1</sup>

The original "spring in the wood" is, according to Major Antill (who accompanied Governor Macquarie in 1815) "about a mile down a deep glen." It is at North Springwood, on the late Dr. Norton's property, and Cunningham collected freely here. It is now almost a quagmire from the trampling of dairy cattle and is overrun with *Polygonum*. *Eucalyptus Deanei* is common about the spring, together with *Eugenia Smithii*, *Syncarpia laurifolia*, *Synoum glandulosum* and *Santalum obtusifolium*. The spring is the head of Fitzgerald's Creek.

With others we joined in the search for the so-called "**Caley's Repulse**," a name given by Governor Macquarie on his journey over the Blue Mountains in 1815, to a cairn of stones erected by an early explorer. One of us, at pp. 133 to 138 of "Sir Joseph Banks: the Father of Australia," has given the history of this Cairn, and Cunningham refers to it. He says it is "near the 18th mile-mark," and at another place states that it is 6 miles from Springwood and 8 miles from King's Tableland. Near the bend of the road past Mr. Baynes' house (on the hill beyond Linden) is the mile-stone "5½ miles to Springwood," so "Caley's Repulse" was somewhere about here, *i.e.*, between here and Woodford. Some allowance may, however, have to be made from the points at which mileages from Springwood were measured in Cunningham's and our own day.

Cunningham tells us that "*Persoonia* (?) *microcarpa* (*P. microcarpa* is a West Australian plant), a tall shrub, is

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<sup>1</sup> See a paper by the authors "Notes on the Eucalypts of the Blue Mountains." *Proc. Linn. Soc. N.S.W.*, xxx, 190 (1905).

frequent near Caley's Repulse" (this is *P. pinifolia*, R. Br.), and that a "*Styphelia* (closely allied to *S. reflexa*, Rudge) but having a much longer style and mucrone to apex of leaf" is also found there. This is perhaps *Leucopogon collinus*.

**The King's Tableland** (in the vicinity of Wentworth Falls) is 14 miles from Springwood, 26 miles from Emu Ford and this plain, so named by Macquarie, was "considered as the summit of the Western Mountains." It is  $8\frac{1}{2}$  miles west of the "Bluff Bridge" which, Antill says, was half a mile beyond Caley's Repulse, and consisted of an extemporised bridge across a chasm. Cunningham collected freely here in "brushes," "margins of peaty bogs," and "margin of the Cascade," "Ravines," besides on the "King's Table-land" proper.

**Regent's Glen.**—Cunningham collected on the "verge" or "rocky verge" of this glen. What we know at the present day as the Falls or Great Fall at Wentworth Falls is "The Campbell Cataract" of Macquarie, in honour of the maiden name of Mrs. Macquarie, and not of the Colonial Secretary of the period. The name has gone out of use, but it is used in Cunningham's Journal. The "Regent's Glen" or "Prince Regent's Glen" is a north-westerly ravine extending from its intersection with the main Kanimbla Valley back to an abrupt rocky end in the neighbourhood of Campbell's Cataract.

**Weatherboard Hut.**—At the 28 miles (from Emu Ford) they arrived says Cunningham "at a wooden house, erected originally as a store for the preservation of provisions for the use of the men working along the road,<sup>1</sup> and now converted into a Half-way House. This is the celebrated structure whose name is even yet familiar to older people

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<sup>1</sup> Under William Cox, *supra* p. 123.

as the "Weatherboard Hut," the name universally in use until Wentworth Falls was adopted for the locality.

"Some boggy slopes at the back of our wooden house have been called **Lewin's or Jamieson's Plains.**"

It is in the vicinity of Wentworth Falls that most of the notes by Cunningham in regard to specific Blue Mountain plants were made.<sup>2</sup>

**Pitt's Amphitheatre.**—This is another collecting ground of Cunningham, 5 miles from the Weatherboard or 33 miles from Emu Ford; it is a sweep of the Kanimbla Valley, and faces Campbell's Cataract (Wentworth Falls). He observes that he did not notice *Lambertia formosa* further west than about the 32 mile mark.

**Blackheath.**—"We arrived at an open but low bushy tract of country which His Excellency (Macquarie) had named (in 1815) Hounslow Heath, although it is frequently called Black Heath. Halted to-day in this heath, near the 41 mile mark. The water here is far from being good, being the drainings of the low black peat, which constitutes the soil of the slopes from the heath."

It was in these "spongy bogs" that Cunningham found his new species of *Grevillea (acanthifolia)*. Here he records having got seeds of the *Eucalyptus*, afterwards named *stricta*, "a small tree not exceeding 14 feet, forming a close brush, and covering the whole of the Heath and the mountains to the eastward."

**Mount York.**—This place is important for botanical and other reasons. Cunningham collected freely in the vicinity. Here is what he terms the "abrupt termination of the Mountains," Cox's Pass, the Vale of Clwydd, and here starts (inconveniently decreed by Macquarie) the third

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<sup>1</sup> The name of *Eucalyptus stellulata* should be added to our list of Eucalypts on the Blue Mountains, as it occurs close to the railway line a few hundred yards beyond Wentworth Falls Station.

series of mile-marks between Sydney and Bathurst. This is also a well-defined botanical boundary, for we have hitherto been traversing the sandstone, with its showy flora; we now (at Cox's River) get on to the granite with its larger trees (except in the sandstone gullies), and very much sparser flora. Let Allan Cunningham speak :

"Here was observed the very remarkable change of country, differing from that on the mountains both in the vegetable productions and nature of soil. The *Banksia serrata* ceases to exist further westerly than the summit of Mount York, and *B. compar* (*B. marginata*, is really meant), succeeds, throughout the Vale (Clwydd). *Eucalyptus perfoliata* of Kew Gardens is very frequent, and another species with cordate sessile leaves, and others lanceolate and inserted on a petiole." (Doubtless *E. dives* and *E. Gunnii* var. *rubida* are referred to).

He collected freely in the Vale and at five miles (from Mount York) arrived at Cox's River. "About three miles to the westward of Cox's River, where is a depôt and storehouse, three remarkable hills present themselves connected together. The Governor has called them Mount Blaxland, Wentworth's Sugar Loaf and Lawson's Sugar Loaf." It is about Cox's River and Mount Blaxland that Cunningham made perhaps the most interesting collections and most detailed botanical notes between Sydney and Bathurst. They are dealt with in his Journal, and some of his scientific results are published in a volume<sup>1</sup> which is of especial interest to our members, since it contains the only records we possess of the Proceedings of the Philosophical Society of Australasia (founded in 1821), of which our Society is the lineal successor.

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<sup>1</sup> "Geographical Memoirs on New South Wales"; Barron Field (1825). Practically the whole of the plants enumerated by Allan Cunningham in this work as having been collected by him along the route referred to in the present paper were collected by us and are now in the National Herbarium, Sydney.

On the top of Mount Blaxland we collected *Eucalyptus pulviger* and *haemastoma*, *Acacia verniciflua*, *Brachyloma daphnoides*, *Dodonaea attenuata*, *Grevillea triternata*, *Stypandra glauca*, *Eriostemon myoporoides*, and *Helichrysum bracteatum*. The remarkable *Eucalyptus pulviger*, discovered and named by Cunningham, and existing in very few localities, as far as known, is a feature of the hills named. The easiest way to reach Mount Blaxland is by train to Bowenfels, and then drive (five miles).

**Clarence's Hilly Range.**—We now ascend “a range of hills of difficult and fatiguing ascent, which the Governor has named Clarence's Hilly Range.” Clarence's Hilly Range does not occupy much attention in Cunningham's Journal; this is accounted for by his references to the arduousness of the journey, such as “very severe and oppressive to our horses, the whole being sharp, lofty hills, and narrow boggy valleys alternately,” and the comparative monotony of the vegetation.

As far as Mount York, the road is familiar to many people (parts of it, at least), for the way over the Blue Mountains follows a ridge, and one cannot get very far off the road. But we have walked over every foot of it and have traced the various deviations of the road necessary in a century's development. But when we come to Cox's River, the modern Bathurst road is very different to that of the old track which Allan Cunningham followed over “Clarence's Hilly Range.” The modern road goes to the right by a scientifically graded path; the old track is a dangerous road, in parts, with practically no settlement upon it, and it can only be found by close attention to the Parish Map, accompanied by technical knowledge. The best way to get on to the track is to make Rydal the temporary headquarters, then drive along the Hampton road for 8 miles. On the left hand side is a gate opposite marked tree, broad

arrow over E over 91. On our way to Mount Blaxland we cross Mary Ann's and Jock's Creeks. There is no bridge over the latter, as stated on the map, and the descent into it is severe.

The trees between Mount Blaxland and the present Rydal-Hampton road are *Banksia marginata*, *Exocarpus cupressiformis*, *Eucalyptus melliodora* (near Mount Blaxland), *stellulata* (at the creeks), *viminalis*, *regnans* var. *fastigata* (two trees seen between Mary Ann's and Jock's Creeks) *coriacea*, *amygdalina*, *dives*, *Gunnii*, var. *rubida*, and *Stuartiana*, *Acacia decurrens* var. *dealbata*, *melanoxylon* and *penninervis*, *Casuarina suberosa*. Innumerable individuals of the little yellow-flowering shrub, *Hibbertia linearis* var. *obtusifolia* were in full flower in the district in April. Rydal may again be reached by continuing the old road as far as Mount Blaxland and crossing over Cox's River, then viâ Bowenfels village along the new Bathurst road to Rydal.

To continue Cunningham's track in the direction of Bathurst we drive again from Rydal eight miles along the Hampton road and turn to the right. Its (western) gate is about 200 yards north of the gum tree marked broad arrow over E over 91. The trees on the stage to Fish River are much the same as those from Mount Blaxland to the Rydal-Hampton road. We took a sulky, but found Clarence's Hilly Range as steep as Cunningham described it, and recommend the journey to be undertaken on horseback.

**The Fish River.**—A crossing over this river was a stage (on the Oxley-Cunningham Expedition) and hence plants were collected in the vicinity and notes made. A little further the picturesque amphitheatre of rocks called by Macquarie "Mount Evans," and now "Evans' Crown" comes into view. At the back of this (*i.e.*, on its convex

side), is Tarana. On the last slope descending into the Fish River are noticed *Eucalyptus melliodora*, *Indigofera australis*, *Xerotes longifolia*, *Hardenbergia monophylla*, *Cassinia quinquefaria*.

The crossing of the Fish River is awkward to approach owing to its proximity to Hobby's Creek, but is not dangerous (Plate 5). It was not more than twenty yards wide when we crossed it (April, 1909) and in it are small islands with *Arundo phragmites*. Around the crossing are *Acacia decurrens* var. *dealbata*, *Eucalyptus viminalis*, *melliodora*, *Stuartiana*, *Gunnii* var. *rubida* and *stellulata*, *Xerotes longifolia*, *Rubus parvifolius*, *Stellaria pungens*, *Leptospermum flavescens*, *Callistemon paludosus* and *Lomatia longifolia*. In the water was *Potamogeton tricarinatus* and *Polygonum hydropiper*. Sweet briar is in the greatest profusion. We were surprised that we could see no sign of *Casuarina Cunninghamiana* lining the banks of the Fish River as far as our vision extended. After passing the Fish River, *Swainsona galegifolia* was not rare, and this is probably the supposed "Indigofera" of which Cunningham speaks in his Journal. (*Indigofera australis* has already been noted). After a somewhat steep hill we cross the Tarana-Oberon road. Here it is five miles to Tarana, where we put up for lodging.

Resuming our journey from Tarana, we proceeded along the old Oberon road for about two and a half miles, where there is a sign-post, "O'Connell 10 miles," and soon cross the Fish River once more, and shortly afterwards meet *Eucalyptus tereticornis* for the first time since Penrith, a sure sign that we are descending. At four miles from Tarana along the O'Connell road, we see *Eucalyptus Cambagei* for the first time. In a little distance we are abreast of Sidmouth Valley, say a couple of miles to the left. We turn off here to the scene of Surveyor McBrien's gold

discovery in 1823 (see below, p. 137). The trees in the vicinity are *Casuarina Cunninghamiana*, *Leptospermum flavescens*, *Eucalyptus Stuartiana* and *viminalis*, and *Acacia decurrens* var. *dealbata*. Arrived back on to the road, in another mile we cross the Sidmouth Valley Creek which flows into the Fish River a few yards away. *Datura tatula* is in surprising abundance about here, and there is a sprinkling of *Echium violaceum*.

A mile further on we come to Rainville Creek. Say one mile beyond this we passed through sliprails to the left at Portion 164, followed the fences easterly for under half a mile, then passed through sliprails on the right into a beautiful open paddock for say three-quarters of a mile when we came to a weak place in the fence and got into the old Bathurst road once more. We have gone into details as the road is not easy to find if the site of the first gold discovery be included in the trip. Thus we were once more on Allan Cunningham's track, and this track meets the Tarana-O'Connell road (along which we had been travelling) at O'Connell, four miles further on; we were say three quarters of a mile west of Rainville Creek.

Proceeding east (*i.e.*, going back in the Fish River direction) we arrived at Sidmouth Valley, which, though not an extensive one, is very beautiful, and has rich black soil flats. At two miles from the Oberon road, we found the only *Eucalyptus macrorrhyncha* trees we had seen on the trip. In one and a half miles from this we cross Snakes' Valley Creek and in half a mile cross the old Oberon road (from Mutton's Falls). Crossing the road, in another quarter of a mile we come to the new Tarana-Oberon road, at a place five miles from Tarana. Here the prospect is extensive, and one can view for at least half a mile the old Cunningham track in the direction of Fish River.

**Sidmouth Valley.**—Turning back to Sidmouth Valley, following is what Allan Cunningham says of it:—

"Eight miles west of Fish River is a fine spacious valley running N.W. and S.E. bounded by hills of easy ascent and thinly covered with timber. This vale, which the Governor called Sidmouth Valley is an exceedingly fine and rich grazing spot."

The soil is too rich to have much variety of plants. Cunningham proceeds to say "Onward, diminutive forest lands prevail, which are open rising grounds, and fine grassy plains." Going westerly from Sidmouth Valley, we approach O'Connell Plains and are in the Bathurst district.

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We found *Banksia marginata* (Honeysuckle) was common along the roadside, but strictly confined to the granite formation. It was absent from those parts of the Main Divide which were covered by the Devonian conglomerates, and being a lover of sandy soil, its advent was a sure indication of the presence of the granite.

*Casuarina Cunninghamiana* (River Oak) while absent from the old crossing place on the Fish River and for a mile or so below, was exceedingly common along the banks from the Oberon road to O'Connell. The species seems unable to withstand extremes of heat and cold, and probably its absence from the upper parts of the river is owing to the more rigid conditions of climate. After the Fish River joins the Macquarie the River Oaks continue, and are found some distance below Dubbo, but cease before the Macquarie enters the reed beds where the channel is lost. As an evidence of the effect of aspect upon certain species of our native flora, some of which prefer an eastern or moist climate, while others favour a western or dry atmosphere, it was noticed that *Eucalyptus amygdalina* (Messmate or Peppermint) gradually disappeared after the Main Range was crossed, while *E. dives* (Peppermint) occurred at intervals the whole way, and is known to be common as far west as Orange. Though both are mountain species,

the former slightly favours the eastern aspect, and the latter the western.

**Geological Formation.**—About two and a half miles to the south of Bowenfels, Cox's River has entrenched itself through a mass of aplitic granite, leaving steep walls of 600 or 700 feet high on either side, the bed of the river being about 1,000 feet below the village. The eminence thus formed on the southern side is known as Mount Blaxland, and being steep and somewhat rounded, presents a remarkable appearance when viewed from the valley, and according to the records, was an object of interest to the early travellers. It is perhaps most attractive, however, from the south-western side at a point a mile or so along the old road where it stands out as a beautiful cone.

From Cox's River to O'Connell the geological formation consists of granite, practically the whole way. Passing to the south of Mount Blaxland, the road bears south-westerly over several spurs, and in about six miles, after ascending more than 1,000 feet, reaches the top of the Main Divide. The road continues on a south-westerly course till the vicinity of the Fish River is reached, and bears thence westerly to O'Connell. The summit of the Main Range where crossed, is capped with Devonian conglomerate, as also is the ridge previously crossed, and which divides the waters of Jock's and Mary Ann's Creeks. This old road intersects that from Rydal to Hampton at about eight miles south of Rydal (*supra*, p. 130). The latter road follows the summit of the Main Divide, which is for the most part covered with the Devonian formation, though in places this has been removed by denudation and the granite laid bare.

It seems probable that the presence of this Devonian conglomerate has been an important factor in determining the position of the Main Range at this point, as, owing to

its hard nature, it has tended to protect the granite from weathering and being removed by the action of water. It was noticed at several points along the track, where sections of the formation were visible, that the granite was decomposed *in situ* to depths of 10 and 20 feet, or as far down as the rock was exposed. It is not surprising therefore to find the country much dissected into deep valleys, and the name of Clarence's Hilly Range, which was bestowed by Governor Macquarie on the area between Cox's River and the Main Divide, was suggested by the number of steep ridges encountered. A few hundred yards beyond the summit of the Main Range the Devonian formation ceases and is not met again the whole way to O'Connell, or even to Bathurst, though northerly from Rydal it is well known to extend over a very large area. It is significant, however, that in crossing the Fish River, some five or six miles south-easterly of Tarana, typical Devonian fossils (*Spirifer disjuncta*) were found in some of the water-worn stones forming the shingle beds along the banks, thus proving that the river drains a Devonian area to the south.

About three miles northerly from this old crossing are the remarkable granite rocks known as Evans' Crown, or Peak (in some maps) and which have been left on the summit as residuals, while the adjacent formation decomposed and weathered away. Although this crown is well seen from the railway line near Tarana, it presents a more majestic appearance when viewed from the southern side, where Evans first saw it. The valley of the Fish River, as it sweeps round to westward under the hills, forms a sort of amphitheatre in the foreground, and with some additional rocks, not seen from the northern side (one of which is suggestive of a gigantic pelican in an attitude of semi-repose), lends an additional grandeur to the scene.

Sidmouth Valley is composed of black soil derived from the decomposition of some basic rocks on the mountains to the south, and before being cleared, it probably supported a vegetation differing somewhat from that of the surrounding granite hills. At the point crossed it is what the physiographer terms an immature valley, owing to its steep sides, but develops into a broad mature valley lower down.

**First Official Record of Gold in Australia.**—The road again meets the Fish River at O'Connell, and at a point on the opposite side of the river about six miles above this little village is the site of the first officially recorded gold discovery in Australia. In the Mines Department Annual Report for 1877 (p. 202) Mr. C. S. Wilkinson, F.G.S., Government Geologist, refers to the first discovery of gold, and mentions the record by Assistant Surveyor McBrien in his field book, as the earliest notice on record of the discovery of Gold in Australia. The entry was made by Surveyor James McBrien when surveying the Fish River, and is dated 15th February, 1823. The entry reads:—"At this place I found numerous particles of gold in the sand in the hills convenient to river." The field book is still in the custody of the Department of Lands, but a facsimile of the page recording the discovery may be found in "The Mineral Resources of New South Wales" by Mr. E. F. Pittman, A.R.S.M., Government Geologist.

In March, 1909, Mr. Licensed Surveyor T. G. Wilson, Sr., having some leisure at his disposal, obtained a copy of the field book with which he proceeded to the district, and by making a re-survey established the position indicated by Mr. McBrien. From Mr. Wilson's study of the field notes he concludes that the sign like an 8 or an *ℓ* after the word "at," which occurs so many times, means "end of line." The remainder of the particular entry referred to would

therefore signify an offset, and would read:—"At end of line, 1 chain 50 links to river and marked gum-tree." The locality of the first official record of gold in Australia has been fixed by Mr. Wilson on portion 42 Parish of Eusdale, Country of Roxburgh.

The spot is nearly a mile and a half above the junction of Sidmouth Valley and the Fish River, or a little more than a quarter of a mile above the residence of Mr. W. R. Hutchison, the owner of the property. It is about midway between Tarana and O'Connell, and three miles above Locksley. The original survey followed the right bank of the river (*Plates 6 and 7*). The geological formation for some miles around the locality is granite, over which area gold in limited quantities, has from time to time since been won. The small boulders brought down from the Devonian country towards Rydal may be found in the river, and also on the sides of the granite hills, at elevations sufficient to show that in pre-historic time the bed of the river was from 100 to 200 feet above its present level.

#### EXPLANATION OF PLATES.

Plate V.—Site of first bridge over Fish River.

„ VI.—Site of first recorded gold discovery in Australia.

„ VII.—Locality of first recorded gold discovery in Australia.

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