

The Origin and Chronology of the Fauresmith Culture

by

T. F. DREYER, M.A., D.Phil.

With Eight Textfigures

The Fauresmith Culture, since its first description by Goodwin ¹⁾, was known as a hybrid culture, the Stellenbosch-like coup-de-poing and cleaver, characteristic of it, being associated with what was called a „Mousterian-like influence from the North.” According to Oakley ²⁾ much of what was at that time called Mousterian, today falls under either the Clacton or the Levallois. To this must also be added the Tayacian (not as yet very well defined apparently) as a fourth possible source for the origin of the flake tools of the Fauresmith.

As an alternative to these possible partners in a hybrid Fauresmith Culture, Van Riet Lowe ³⁾ sees the culture as a development without external contacts, from the latest phase of the Stellenbosch on the Vaal River. This would preclude any suggestion that the Fauresmith may have „borrowed” its triangular fluted flakes (M.S.A.) in South Africa because in the beautifully got-up chronological tables the M.S.A. falls wholly outside the period of the Fauresmith and is later than it.

At Florisbad the most primitive types of implements are of dolerite. In lydianite we have an evolutionary line the series of which are labelled as Phases I, etc., commencing from the oldest. We find that one of the more recent phases has the well-formed „Mousterian-like triangular plan” — the convergent fluting flakes running to a natural point and frequently having the Levallois striking platform. But this has not even been considered as a partner in the hybrid, since (keep this well in mind) it belongs to the Middle Stone Age, which always overlies the Fauresmith on the Vaal.

Since the palaeontological evidence points very definitely to the Florisbad Implements (with their long series of developmental phases) as being at least as old as the S.A. Chelles-Acheulean of the Vaal River, the following facts may be advanced: —

(1) Stellenbosch sites (except in so far as Fauresmith may be called Stellenbosch) do not occur in the dolerite-lydianite area. The Victoria West industry is within the southern limits of the area but its technique is not apparently indigenous to the Stellenbosch. The reports of Macfarlane ⁴⁾, if they prove anything, prove that gravels of the Caledon River carry a Fauresmith assemblage.

(2) The Florisbad series, apart from stages from and after the Triangular Flake phase, do not occur in the Stellenbosch Culture area.

(3) The natural point of contact of the Stellenbosch Culture and the Florisbad series is the confluence of the Vaal and the Riet Rivers. Here, as a matter of fact, is found the most numerous and richest of the Fauresmith sites.

(4) The Acheul-man not only adopted the Middle Stone Age implements and the technique for making these, but also their material: Lydianite. The unsupported claim for a natural development of the Fauresmith into the Middle Stone Age seems rather incredible when one considers that: —

(a) Goodwin ⁵⁾ (also others) is of the opinion that the “improvements” in the Stellenbosch was slow and without any great attainment. When one thinks that the Stellenbosch man got his only appreciable improvement from outside (Victoria West); that the sharp edge right round the side of the hand-axe in its use must

have been productive of much blasphemy; that for hafting almost any other shape of the hand-axe would have been an improvement — when one considers all this one almost ceases to wonder why so few handaxes show any signs of use! The hand-axe man must have been utterly stupid (but not without a good deal of feeling for form and finish) and to assume that he could “overnight” conceive, and produce either a knife, a sharp point, a scraper, a dagger, a digging-point, a lance-head, etc. (each one of these by delivering four blows according to the spacing and the direction of these blows) is simply incredible.

(b) This marvellous invention is presumed to have been made in a territory where the invention had already been made and had been in use.

When one turns to illustrations of Fauresmith implements, the most perfect flakes are always of the type called Middle Stone Age: triangular; the fluting flake scars converging to a point; all fluting flakes struck from the striking platform, which may or may not be faceted.

The names given to such flakes are sometimes very confusing. Thus, Mr. B. D. Malan ⁶⁾ describes amongst others:—

(1) A flat, faceted disc which he rightly calls a levallois core. He notes that flakes from such a type of core are not uncommon but he only illustrates two and nowhere calls such flakes Levallois flakes;

(2) triangular cores from which typical Middle Stone Age points can be produced; he does not call the core a levallois-core but he names, and illustrates about a dozen flakes from such cores and these he calls levallois flakes.

Prof. Van Riet Lowe ⁷⁾, at Sheppard Island, apparently follows (or has followed?) a different line; he associates levallois flakes with the Fauresmith hand-axes and cleavers, but does not do so with Middle Stone Age flakes not separated from the Fauresmith stratigraphically.

Dr. Cooke ⁸⁾ has a praiseworthy attempt to define the terms he is going to use in the archaeological portion of his paper; Van Riet Lowe has a footnote here and seems to have edited this part of Cooke’s paper:

(1) He does not even mention the Triangular core described by Malan ⁵⁾ [the flake core of Van Riet Lowe (Man, vol. XLV, nos. 37—51, 1945)].

(2) He derives the Triangular (M.S.A.) flake from the pyramid-portion of the levallois core!

(3) He states that the parallel-sided fluted flake, or blade, differs from the levallois flake in never showing a prepared striking platform. I presume from the context that he means here, by levallois flake, the points, with convergent fluting flake scars. It is obvious from this that Dr. Cooke has never seen earlier phases of the M.S.A. — or better phases from which the M.S.A. originated.

If Dr. Cooke is correctly reported here and his views are those of members of the Archaeological Bureau with whom he mostly co-operates, one could despair of our newest results at Florisbad “clarifying”* the mess.

Fortunately Malan can be relied upon to give sufficient information so that the reader may form his own opinion, without having to rely on “authoritative” statements. Speaking of the Homestead Site, Riverview Estates, of the thirty flakes recovered from a hole there, Malan says: “the remaining five flakes are more refined and reflect Levallois technique of a degree of development which is amazing at so early a stratigraphical horizon.”

The two illustrations from Homestead and the two from Makapan Caves are very revealing to anyone acquainted with the sequence at Florisbad. It is true the Abbé Breuil at once calls the Makapan fluted flakes “Tayacian”, and Malan does not associate these flakes with the typically Fauresmith hand-axes occurring in the same layers.

If one has only a very few flakes with convergent fluting it is very difficult to determine their horizon at Florisbad. A middle phase (Phase IV) of the lydianite

* FOOTNOTE.—Goodwin’s words about my work at Florisbad and the Prinsloo site after three Johannesburgers had *walked* over the site — [vide Goodwin (9) p. 92.]

series has typical M.S.A. flakes, but they are still somewhat small and do not form anywhere near the 80% of all flakes which Goodwin calls typical of the M.S.A. Phase V is the peak of the Triangular Flake, whilst the Long Flake (the base of the flake much narrower in relation to its length) is characteristic from top to bottom of the huge mass of spring debris of the Prinsloo Site (a mass of debris greater than the collective debris of all the springs in this area that I have opened or seen opened).

The few flakes mentioned and figured by Malan ¹⁰⁾ at Riverton and Makapan's Cave, can only tell us that the people responsible for the Florisbad series contacted the latest Stellenbosch when the former were somewhere near the peak of their lithic development.

Fortunately, evidence as to the period of contact between the late Stellenbosch and the Florisbad series is shown at the Prinsloo site. Round balls the size of cricket balls are found in all the phases of development at Florisbad, all of dolerite. But at the Prinsloo site („Vlakkraal" would be misleading, in including the spring opened by me, as also quite a number of visible but not yet opened springs) there are, near the top of the deposits, smaller faceted balls of Ventersdorp Lava (diabase), the nearest occurrence of which is the Vaal basin!

We consider this use of diabase, (nowhere obtainable within a circumference of approximately 150 miles according to verbal information given by our previous professor in Geology, prof. W. von Bonde), as proof of contact with the people of the Vaal River Basin. The period represented by the Prinsloo site (one spring only), as clearly indicated by the fauna held by the National Museum, is the dry period before the Holocene.

If we are correct in seeing the Fauresmith as arising by a contact of the Late Stellenbosch with the Convergent Fluting Flake, the period of such origin of the Fauresmith is likely to be the period ending the Pleistocene; it may, however, be slightly earlier if the contact was with the Triangular and not the Long Flake.

The reader is advised to refer to the Geological Report of the Vaal for statements on stratigraphy of the Younger Gravels. Attention should also be given to the two Addenda to the report which has a special reference to Younger Gravel III, (named as such by Malan); and to the lack of stratification in the Younger Gravels and the sands of the Vaal River which seems to be ignored in some sections of Malan's description of the contents of the calcified sands.

Such considerations do not, however, concern us here. What is important is that Malan accepts a late phase of the Middle Stone Age (highly evolved Levalloisian, as he calls it) should be associated with a late phase of the hand-axe culture — call it Stellenbosch V or Fauresmith I *) as you please.

This for us extremely illuminating association in the Riverton Sand and in the Makapan Cave deposits is further accentuated by Prof. Van Riet Lowe in his 1952 Presidential Address to the Archaeological Society at Cape Town. In this address he adds to the Riverton Section of the Geologists a pimple from a section of some small tributary of the Riet River and a bit of Kalahari sand, the two carrying Lower and Upper Fauresmith, L.F. and U.F. thus overlies Stellenbosch V **), but incidentally also flake points indistinguishable from certain flakes evolved at Florisbad.

* FOOTNOTE.— But why is Mr. Malan then amazed, seeing that *all* Fauresmith occurrences show such an association of Late Stellenbosch with M.S.A.?

** FOOTNOTE.— It is curious and noteworthy that Prof. Van Riet Lowe here, as elsewhere, accepts (or should it be, propagates?) the view that the Fauresmith develops directly out of the highest phase of the Stellenbosch. There can thus, as far as the hand-pick and hand-axe are concerned, be no *primitive Fauresmith*, unless it be also primitive Stellenbosch. His shifting Stellenbosch V (really Fauresmith unless his chronology of the M.S.A. is all skew) from later, then to earlier than, and back again all according to the demands and concessions of his geological co-workers, should make us rather sceptical about his authoritative determination of extremely crude hand-axe-like implements from Cornelia as "Fauresmith bifaces", although these are not associated with the otherwise invariably present convergent fluted flakes. Or is Prof. Van Riet Lowe going to present to us a Fauresmith Industry without convergent fluted flakes? We ought not to be surprised if he does this; for has he not presented us, at Florisbad with a Middle Stone Age assemblage (without even the beginnings of a fluting technique, not to speak of his favourite leit-motif — a prepared striking platform)? These two determinations were submitted to us in an official letter from the Director of the Archaeological Bureau to the Director of the National Museum under date 6th May 1953).

Does L.F. overlie Stellenbosch V in this "section"? Then it also overlies M.S.A., or does L.F. overlie a still lower Fauresmith? The shiftings made by Van Riet Lowe (addendum 2 to Survey of Vaal, his Presidential Address, and Malan's ⁶⁾ paper) are irreconcilable.

GENERAL CONSIDERATIONS ON THE ORIGIN OF THE FAURESMTIH CULTURE

To minds not conditioned to look for contacts with cultures from the North (at first "Mousterian", now "Levalloisian" or "Tayacian") it will seem that Malan in his study of transitional forms (at Riverton and at Makapansgat) between the Late Stellenbosch and the Fauresmith has given sufficient evidence that the transition was due to the contact between the Stellenbosch and a particular form of fluted flake (the convergent) evolving in the almost immediate neighbourhood of natural contact between the Vaal and the South-Central Free State — the lower reaches of the Riet River.

This area is not only the one from which handpicks and handaxes first reached the Old Free State Museum *) and the South African Museum, Cape Town, but it is also the area most densely spotted by Fauresmith Culture sites. It is also the area where lydianite of the best quality is readily available, for besides offering the later people of the Smithfield Culture almost unlimited scope for their home and factory sites, it also saw the development of the rather small tool of the Florisbad series into forms of beauty and size (here in association with the easily recognized Fauresmith handpicks and handaxes) unrivalled in the known cultures of Africa and Europe. The implements to which such glowing reference is here made, were collected by expeditions of the National Museum under Dr. E. C. N. van Hoepen, then Director of the Museum.

At the time when the Fauresmith Culture came into being as a hybrid between the cultures of the Vaal and of the Florisbad series the latter had reached the peak of their development at their homesites, the Triangular phase with its long dagger-cum-pick, and equally long lancehead at Florisbad and the Long Flake of the Prinsloo site. They had already, at the Prinsloo site, begun to concentrate more on secondary trimming than on form and size of the flake — a process reaching its peak in the last known pure phase of the Florisbad series — the Wolwesuij phase — possibly as a result of the use of the arrow.

That branch of Florisbad man which wandered south to meet the Late Stellenbosch man on the Riet River initiated a new evolutional side line — their own implements reached sizes exceeding, at least in length, bi-faced picks and axes of the Stellenbosch side of the Lineage. A fine assemblage of these extraordinarily long implements was made by Dr. E. C. N. van Hoepen and A. C. Hoffman at Swartfontein, between Luckhoff and Philippolis, O.F.S., and are now in the National Museum, Bloemfontein. At the same time there was a gradual reduction in size of the Stellenbosch elements till the handpick can only be recognised at the South Coast as a short (about 4"), thick handpick in the advanced phases of the Mossel Bay assemblages.

We have expressed the opinion that the Triangular Flake of Florisbad is the „Mousterian" contact from the North on Late Stellenbosch which Goodwin postulated when he first described the Fauresmith. We are told, in a footnote by Goodwin, that even at that time Van Riet Lowe did not agree with this hybrid nature of the Fauresmith. Today Prof. Van Riet Lowe speaks of the „Levallois" character of associations of the Fauresmith and claims a direct development (no external contacts apparently assumed) of the Fauresmith from the latest phase of the Stellenbosch. For instance, his Stellenbosch V is now apparently Fauresmith I.

*) FOOTNOTE.—The memory of the late Mr. M. Levisseur, whose wife still graces our city, has not been nearly sufficiently honoured by either the city or by the authorities of the National Museum, Bloemfontein.

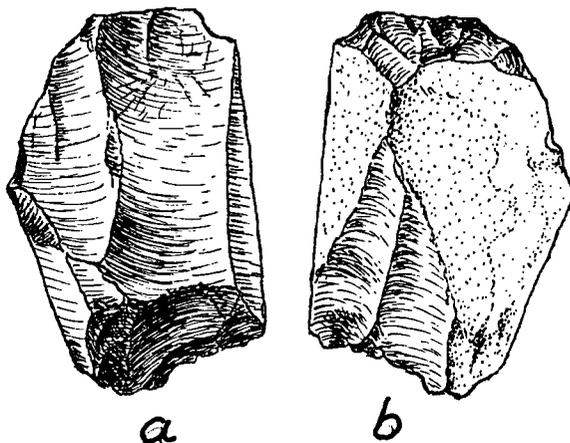
What further reason or reasons can we adduce in support of the Convergent Fluting Flake of the Florisbad series as one element of the Fauresmith Culture of which the other principal elements are the typical coup-de-poing and the just as typical biseau?

TYPOLOGICAL AND TECHNOLOGICAL CONSIDERATIONS

PRESUMED SMITHFIELD CONTACT

The Fauresmith and the Smithfield have in common not only the exceedingly specialized and highly evolved concavo-convex scraper (Slagmes i.e. flaying knife of Van Hoepen's Koning Kultuur), but also the duckbilled endscraper.

If this common heritage is due to borrowing, it could according to the chronology of Prof. Van Riet Lowe, have been only in one direction, viz., the picking up and copying of Fauresmith implements by Smithfield Man.



TEXTFIGURE 1 Two views of a Blade Core from Florisbad, showing (a) flake scars and, (b) faceted platform. Natural size.

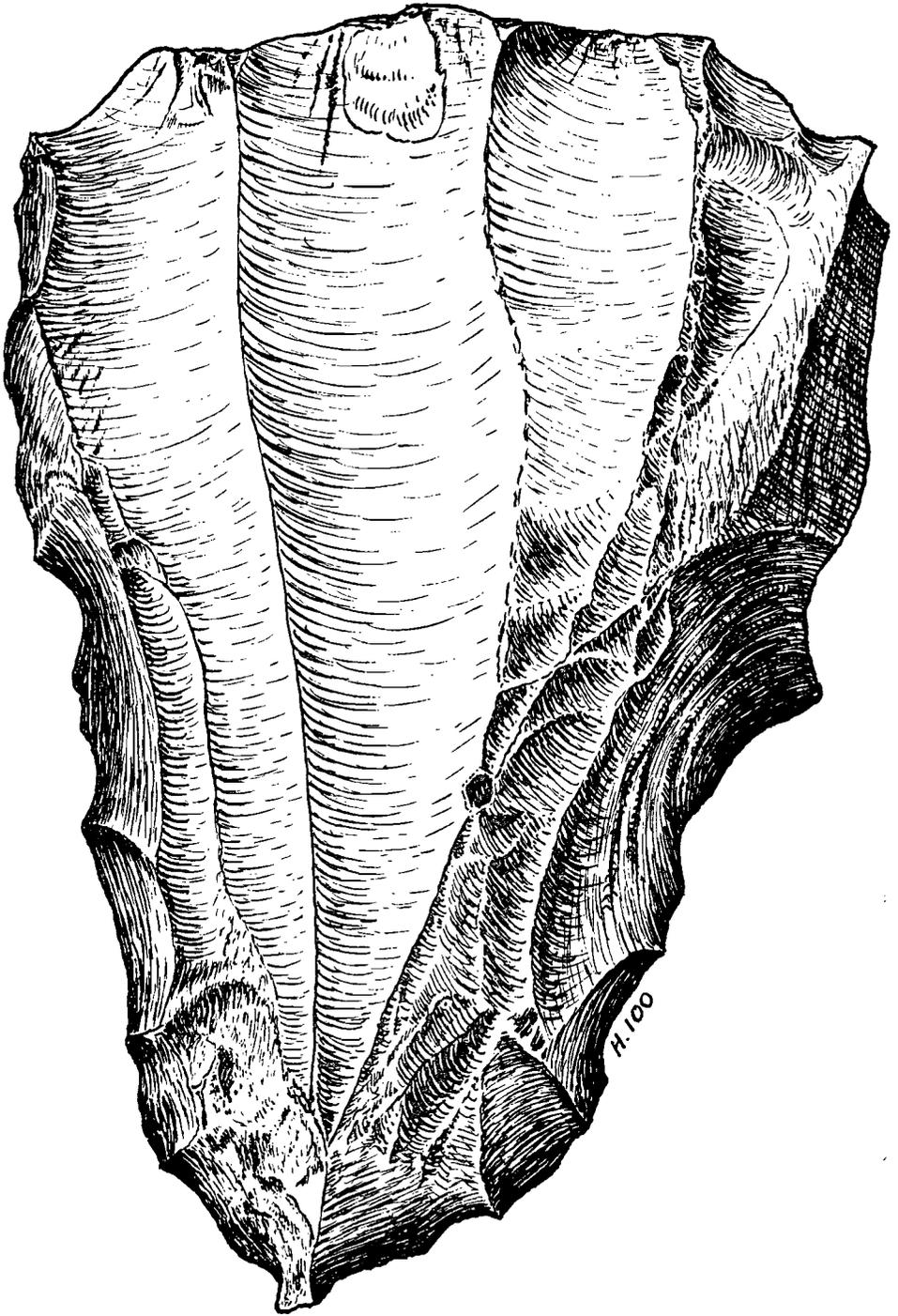
The end-scraper is, however, the most plentiful and characteristic implement (also with the most beautiful bevelling of the working edge) of the Smithfield Culture. Borrowing in this case seems incredible. The difficulty, however, disappears when one finds that similarly shaped implements, but with a far inferior method of secondary trimming, are not common but nevertheless present in the oldest phases of the Florisbad lydianite series.

As for the concavo-convex skinning-knives, which are so perfect in both the Smithfield I (or Koning of Van Hoepen) and in die Fauresmith, the oldest Florisbad phases have very primitive flakes of this nature. One such — certainly better shaped than the average — from Florisbad has been exhibited in the National Museum, Bloemfontein, for years by Dr. E. C. N. van Hoepen as a "slagmes", his name for such concavo-convex tools.

CORES

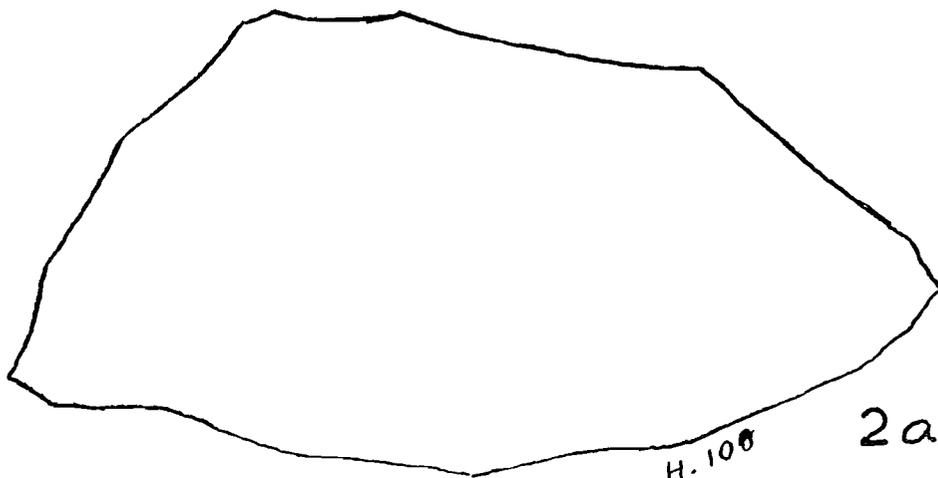
The Triangular Core of the Convergent Fluted Flake is, in our opinion, the most complicated and highly evolved artifact in stone in South Africa, if not in the world! This would be true even if based only on the associations each part evokes in the mind of the archaeological observer.

Neither the Florisbad, nor the Prinsloo sites were factory sites for the advanced



TEXTFIGURE 2 Core of the Triangular Flake Phase from Swartfontein near Luckhoff. Natural size.

phases of the Florisbad series. They were home sites as evidenced by the masses of mammalian teeth and bones recovered also in the less ancient "eyes" (the Prinsloo eye, being the very youngest eye opened, still carries a Florisbad phase). We have thus to go to the Southern Free State sites of the Fauresmith Culture to obtain the fullest information about the cores of the Convergent Fluted Flake Phases of the Florisbad series.



TEXTFIGURE 2a Cross-section through Triangular Core of figure 2. Natural size.

The uncommon core in the advanced phases at Florisbad is one common in the basal layer which carries the dolerite artifacts. This has a single flat striking platform from which end-flakes, non-fluted, longish, rather elongated ovals ending in points, are struck. A second form has two parallel flat platforms from either of which flakes, such as just mentioned, may be struck. In so far this second core also agrees with a form got from the dolerite, or phase I of the Florisbad series.

This "blade-core", however, in the end-phase of the Florisbad series (the phase associated with the Latest Stellenbosch to form the Fauresmith) shows one feature which is already fully developed in the first lydianite phase of the Florisbad implements, namely the trimming at the edge of the striking platform which is necessary after the removal of a flake, to restore the angle between the striking platform and the face of the core to the same value as it had before the flake was struck off (fig. 1); in other words, the edge of the striking platform was "faceted" before the removal of each flake so that previous experience in the direction of the fluting and the detaching blow may have full value.

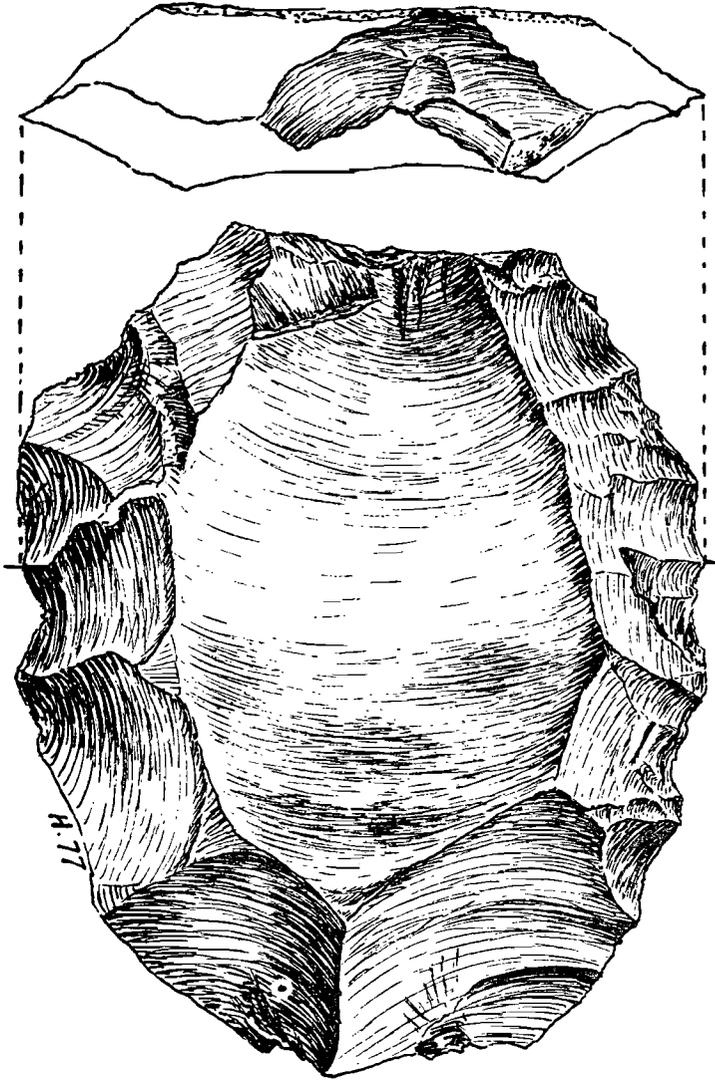
This angle is difficult to measure with any degree of accuracy; but to the eye it always seems to have the same value; whether we are dealing with the very small amorphous cores of the Florisbad earliest lydianite phase or the huge cores from the Riet River, figured in this paper, makes no difference. This value is to the eye approximately 60 degrees.

It is further noteworthy that in the basal layer (dolerite artifacts) there are two parallel-sided slabs, one of dolerite and one of quartzite; on each of these two slabs there is a corner with an angle approximating the above value — in both cases attempts were made to strike flakes from **this corner and this one only!**

The second type of core, fig. 2, (triangular core of B. D. Malan; flake core of Van Riet Lowe; not even mentioned by Cooke) is very plentiful on Southern Free State sites. In one huge core (not figured, weighing $5\frac{1}{2}$ lbs.) the one unworked end is more or less pointed whilst the other end has a surface acutely inclined to the axis of the core. The first flakes to be struck were from the acute-angled edge.

The characters of the Triangular core are:—

1. Flakes struck from an acute-angled edge, the angle being chosen or trimmed to equal approximately 60 degrees.



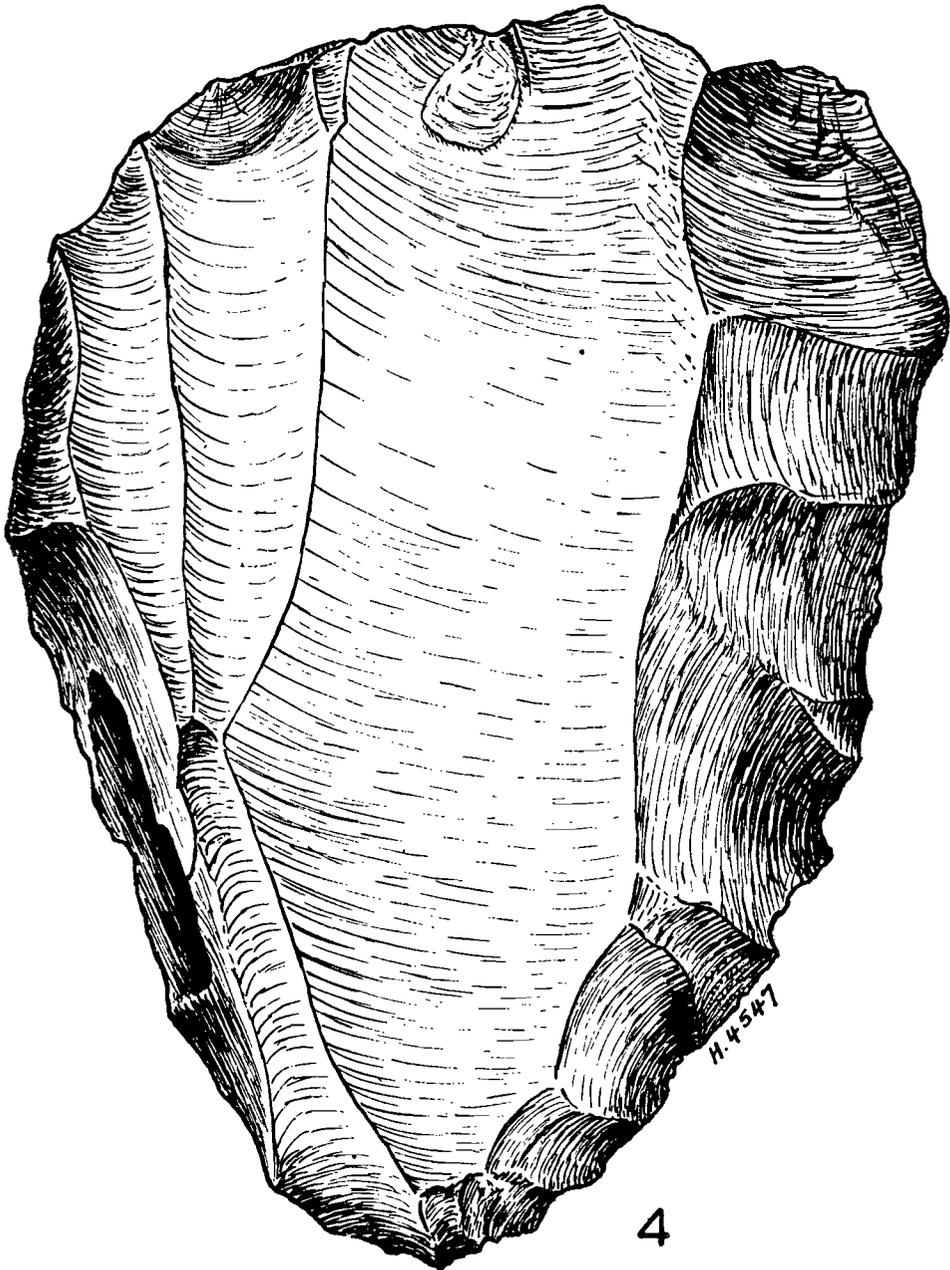
TEXTFIGURE 3 Triangular Flake Core from Swartfontein with untouched back. Natural size.

2. The striking platform is thus practically always “faceted”.

3. The “back” face of the core, if flat, is left untouched (fig. 3) — if too convex it is roughly trimmed like the face of a coup-de-poing (figs. 4 and 4a).

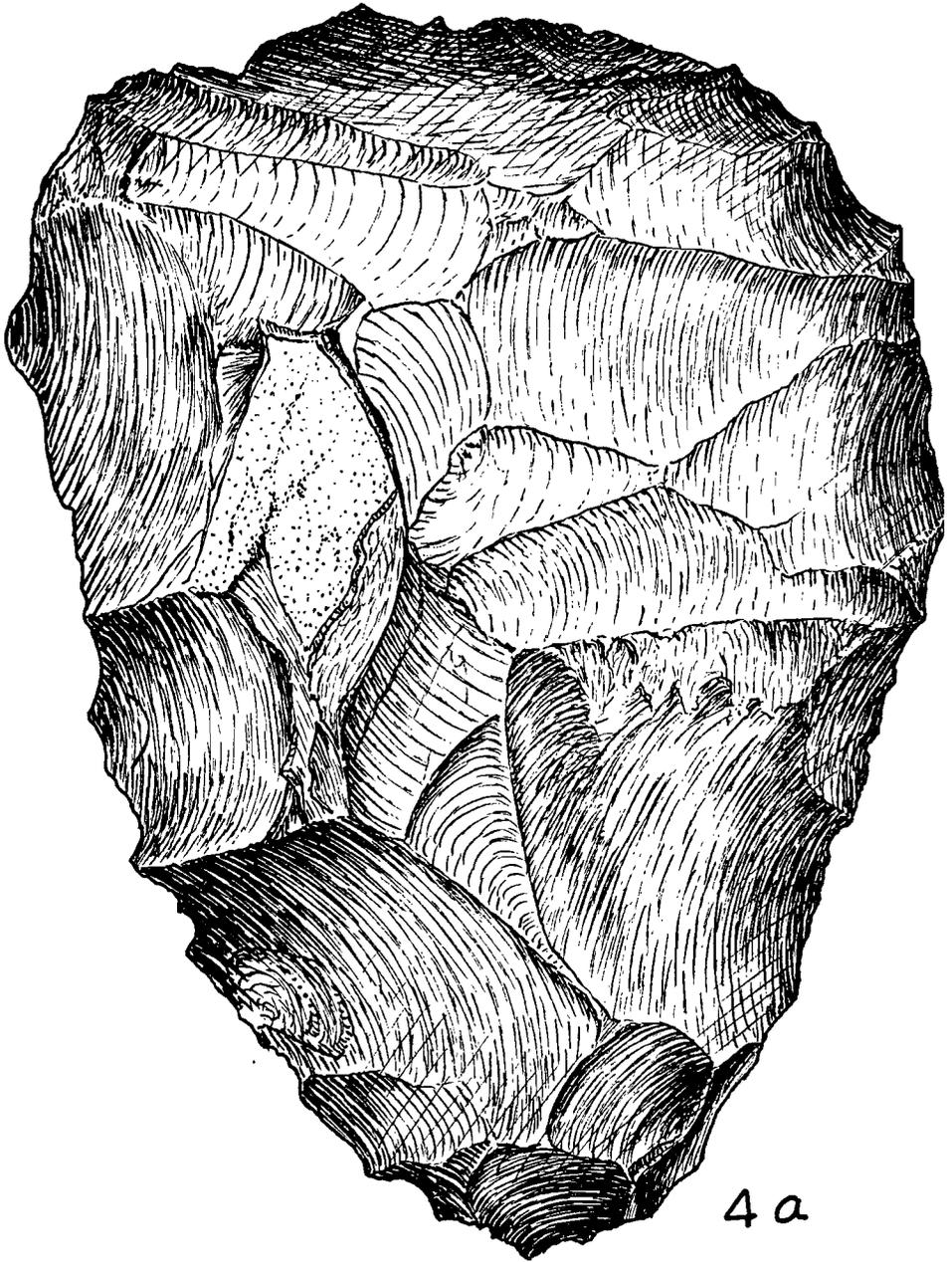
4. The fluted face naturally shows the scars of converging fluting flakes, if unstruck; or the much more extensive scar left by the removal of the Convergent Fluted Flake.

5. The breadth of the future flake seems to be controlled by steep trimming of the edge of the core, all but the striking platform portion (fig. 4). This trimming



TEXTFIGURE 4 Triangular Flake Core from Swartfontein. Natural size.

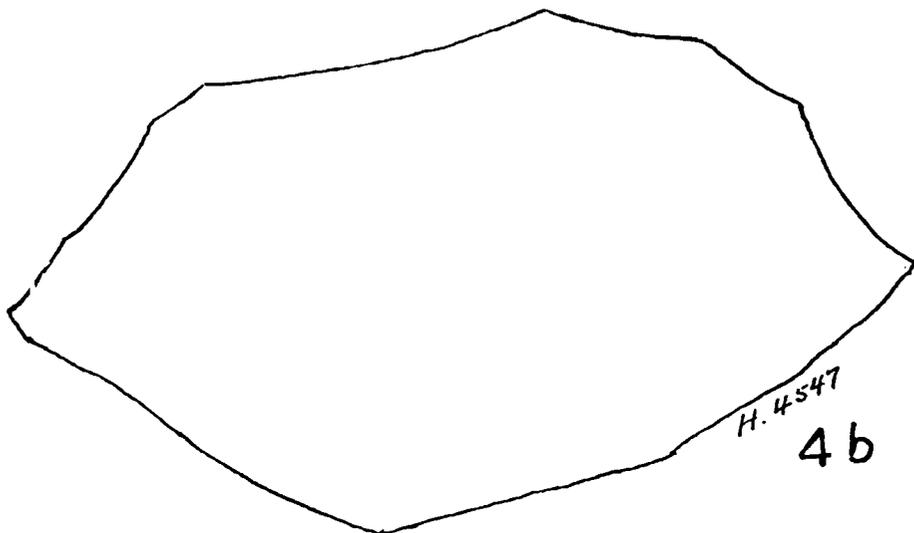
technique might, of course, be compared to that of the "choppers" of very Early Florisbad Man. But the evenness of the edge, the spacing of the blows and the equality in size of the scars, remind one forcibly of an unfinished edge of a S.A. Acheulean hand-axe.



TEXTFIGURE 4a Obverse side of Triangular Flake Core of Figure 4. Natural size.

In the National Museum collection we could find only one core of the above nature that was probably made on a Victoria West Side-flake, such as the Faure-smith Man continued to use for making bisseaux as long as these were made. The obverse face retained a flat half circle of cortex bordering on a large rounded elevation. The secondary trimming of this face was just too extensive to be certain whether this elevation was a bulb of percussion or not (fig. 4a).

The following type of core is, however, by far the most interesting, and is, we believe, unknown in the literature (fig. 3). The smaller cores of the above (smaller by reason of continued use?) is oval, and the smallest circular. The Acheul-like trimming of the edge now forms a circular edge interrupted only at the faceted striking platform. The struck cores show the removed flake to be oval or round,



TEXTFIGURE 4b Cross-section through Triangular Flake Core on Figure 4. Natural size.

according to the shape of the core. Such flakes (fig. 5) are present in the collection; they are from very thin (for their surface area) to fairly thick. They are of the same order of size, shape and thinness as the "Levallois" Flake recorded by Van Hoepen from Thaba 'Nchu, Cat. No. H.90 (vide figs. 5 and 6 for measurements).

The trimming of such a flake is quite characteristic. The removal of the surface (whilst the flake is still on the core) of very thin irregularly shaped flakes can be called a smoothing technique. The flake and core ought therefore to be readily recognisable if present in earlier phases of the Florisbad series. Now a flake in every way similar to these large "levallois" flakes is present in Phase I of the Lydianite Florisbad series. The question of types of cores in the early phases of the Florisbad series is too big a question to touch on in this paper but it may be stated here that the circular "Levallois" flake of the early Florisbad phases has, apparently, more than one type of core, not of course the one found in the Southern Free State which is of much later date.

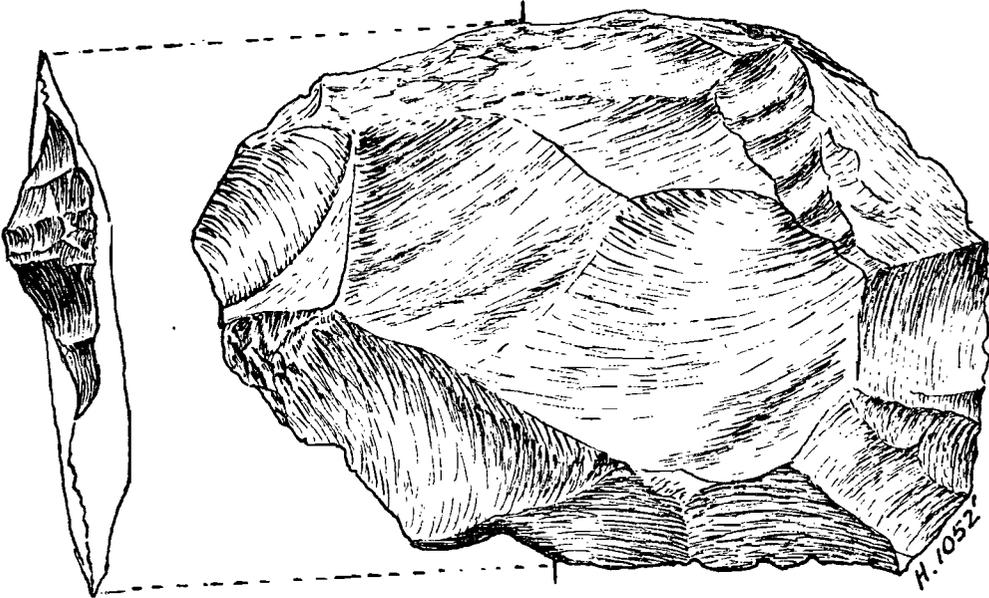
The most surprising artifact found amongst this unique Fauresmith assemblage collected by the National Museum at Swartfontein is, however, a type of point, quite new to us (fig. 7).

The ordinary triangular core (with the Acheulean edge) must have been used and the form of the flake to be struck was not determined by a "relief" plan created on the core by means of convergent fluting scars, the M.S.A. method. This form of the flake (as in the case of the oval and circular blades already mentioned) was determined by the shape of the Acheulean trimming of the edge! Further, the "point" was "thinned" like the circular and oval "blades", but this thinning was partly by the removal of longish, flat, narrow, "fluting" flakes in the general direction of the longer axis of the flake, but also by the removal of irregularly shaped and spaced flat flakes, as in the case of the Levallois circular blades. This particular flake shows a working of the butt to fit the fore-finger, showing direct use by the hand itself — a preparation very common in the older forms of the Florisbad series.

The cores show the following evidence of their hybrid nature:—

ARCHAIC FLORISBAD FEATURE

1. A striking platform of approximately 60 degrees obtained by:—
 - (a) Chosing an edge with such an angle;
 - (b) trimming a fairly large part of the striking platform, the scars left being fairly deep and long;
 - (c) regaining the desired angle after each flake has been detached, by removing thin resolved flakes (stepflaking) from a thin strip of striking platform above the new edge of the core.



TEXTFIGURE 5 *Oval flake from Swartfontein. Natural size.*

This type of faceted core is absent in the Dolerite phase at Florisbad, but is present, either in amorphous cores with a number of flake-scars (at all angles to each other, each surmounted by such a prepared platform) in Phase I Lydianite; or in elongated cores for striking single, parallel-sided flakes, Phase II Lydianite.

The preparation of the striking platform in the case of the Fauresmith triangular flake is precisely the same.

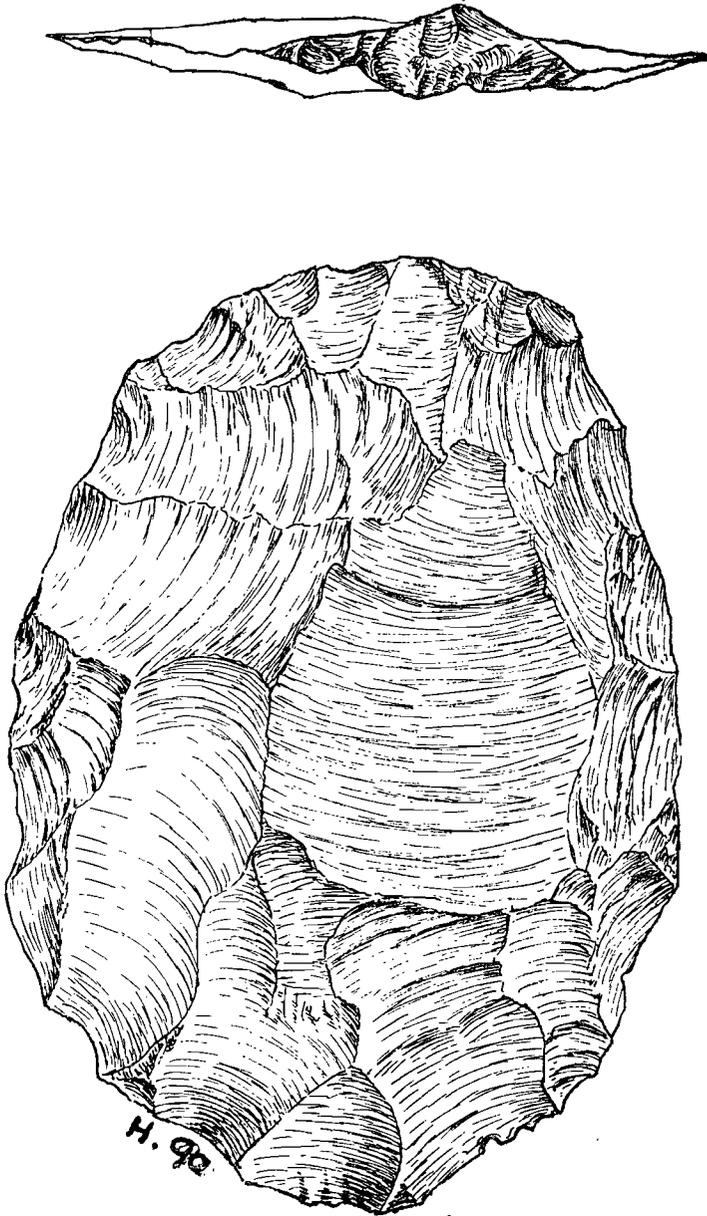
2. Although the circular blade (struck from a different core in the Lydianite II phase of the Florisbad series) and its "smoothing" trimming is rare in this early stage at Florisbad, it reappears in the Fauresmith, but here struck from the triangular type of core.

"PEAK" FLORISBAD FEATURE

The blocking out of the proposed triangular flake in relief on the core (i.e. determining the shape of the future flake by trimming the surface of the core that is to form the flake) is already present in the blade core of Lydianite I and II of Florisbad; but it reaches perfection in the triangular core of Lydianite III and IV. It is the latter technique that is so perfectly used in the Fauresmith Hybrid.

Derived from the **Late Stellenbosch** are quite important improvements on the Florisbad Triangular core. These are:—

1. The core is made more handy by, whenever necessary, the surface trimming of the back face of the core like a face of a hand-pick.

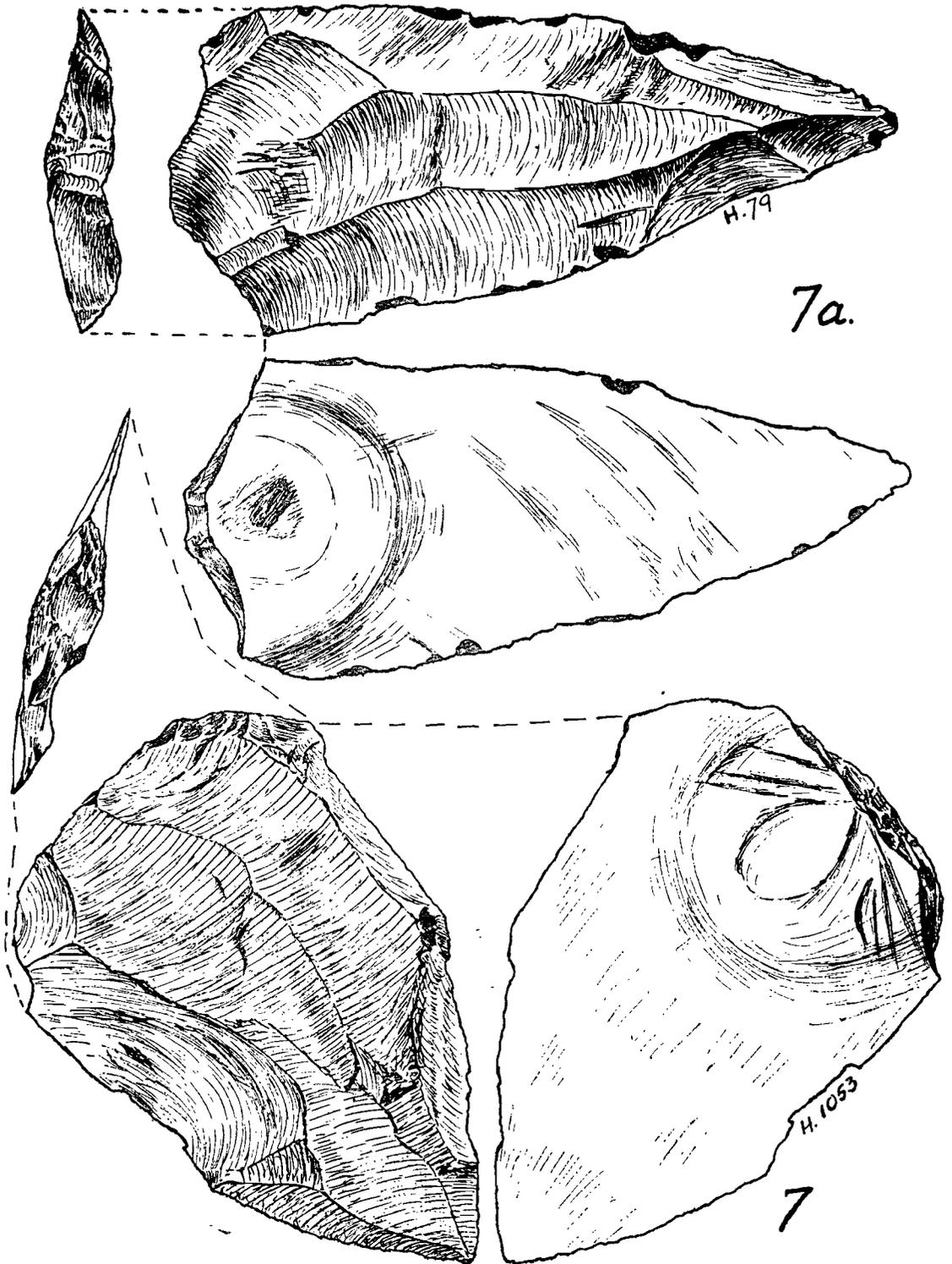


TEXTFIGURE 6 *Van Hoepen's Thaba 'Nchu Flake. Natural size.*

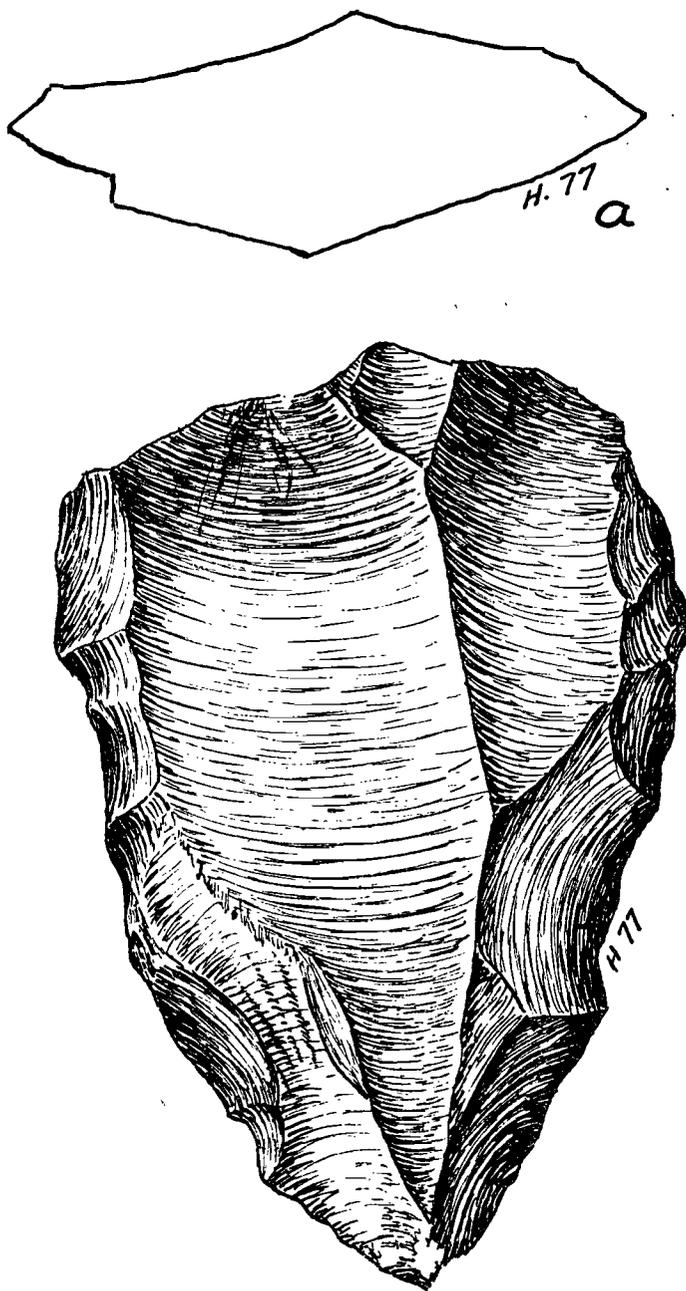
2. The steep trimming of the whole edge of the core (except the striking platform) in a way identical to the preliminary trimming of an edge of a Late Stellenbosch hand-axe.

3. An improved Victoria West *) (?) technique, derived through the Late Stellenbosch (?) of determining the shape of a flake to be struck from the surface of a core by steep trimming of the core edge around the flake (circular, oval or point) to be struck from the core.

*) FOOTNOTE.—Very small lydianite cores, both rounded and oval, which, if very large, could be called Victoria West, are found in the early Florisbad lydianite series.



TEXTFIGURE 7 Unique flake from Swartfontein Fauresmith Assemblage.
 TEXTFIGURE 7a Long thin flake the same site. Natural size.



TEXTFIGURE 8 Triangular Flake Core from Swartfontein, near the end of its usefulness for procuring flakes. Natural size

NEW METHOD OF STRIKING OFF A POINT

Having now given us a thoroughly "international" core this particular group of Florisbad-Stellenbosch proceeded to give us an "international" triangular flake.

Having mastered the process of shaping circular or oval Levallois flakes by a modified Victoria West *) (?) manner on a Florisbad Triangular core, it was just one step further to shape a triangular flake instead of an oval one in the new manner. Such a flake (fig. 7) is present among this most unique Fauresmith assemblage, collected by Dr. E. C. N. van Hoepen and Dr. A. C. Hoffman. It is very thin for its size comparable in this respect with some of the circular and oval flakes of the same assemblage. It has, of course, a butt indicating that the striking platform had been prepared. Its outer face shows a few small, very shallow, and very narrow fluting flakes, just enough to remind us we are dealing with a Florisbad Fluted Flake, but not nearly enough to let the flake stand out in relief, as usual, on the face of the core. The form of the flake could thus have been determined in only one way, the steep trimming around the edge of the core. The thinning, or "smoothing" of this outer face of the flake is done not only by the removal of the few small, very thin fluting flakes in the general direction of the long axis of the flake, but also by means of the flat, irregular "scaling" of the surface, a technique characteristic of the Levallois circular blades, both in the oldest Florisbad as in the much more evolved Fauresmith.

The origin of the Fauresmith, at least in part from the Late Stellenbosch has never, we believe, been doubted by anyone who knows these two kinds of assemblages in South Africa. On the other hand, is it possible for any reader of the above analysis of a particular assemblage of Fauresmith tools, whose mind is not impenetrably obscured by dogma, to doubt that the Fauresmith is also just as intimately related to the peak phases ¹⁾ of the Florisbad series?

If the obscuring dogma has been swept away the problems put at the beginning of the paper will hardly require answers.

The Stellenbosch—Fauresmith—M.S.A. sequence in the Stellenbosch areas can now be readily understood: the Florisbad Man had "overtopped" his neighbours on the Vaal to such an extent with long, light dagger, his long, strongly hafted lance-head and his two-edged knife (as long as a steel table knife and almost as thin) that he could easily invade, overrun, or hybridize with the more ill-equipped Stellenbosch Man. The sequence **must** therefore be as above, Fauresmith being the transition between Stellenbosch and M.S.A. in the Stellenbosch area.

In the Lydianite area there is a sequence *Fauresmith—M.S.A.* Here very definite reservations must be made:—

(1) The Middle Stone Age assemblages here referred to are definitely M.S.A. agreeing in all respects with the definition of the M.S.A. by Goodwin.

(2) Van Riet Lowe, particularly where he deals with the chronology of the Vaal industries, states emphatically that it seems impossible at times to determine whether you are dealing with the end stages of the Stellenbosch or with the M.S.A.

(3) Pre-M.S.A. stages at Florisbad have been known for years; their presence has been amply proved by the 1952 excavations. A Flake industry with no fluting technique has been found (but not yet described) in the pebble banks of a meandering river on a flooded plain, 130 feet above the present Sand River.

(4) Where Pre-M.S.A. stages may perhaps have been found, they may be looked through for prepared striking platforms; if such are found, they are labelled levallois rubbish from some M.S.A. or Fauresmith assemblage.

*) FOOTNOTE.— These still carry a number of archaic features of the older phases of the Florisbad series: just as the latest phase of the Stellenbosch still carries signs of the more ancient Victoria West technique.

PALAEOLOGY AND CHRONOLOGY OF THE FAURESMTIH CULTURE

The Middle Stone Age was established by Goodwin on an almost purely technological basis — its predominantly convergent fluting resulting in approximately 80% of points; its fluting flakes being all struck from the frequently prepared striking-platform.

The Fauresmith was likewise, also by Goodwin, established typologically from material on sites, principally along the Riet River — the sites at first grouped as Stellenbosch. The Fauresmith was found, however, to differ from the Stellenbosch in the invariable association of the former with flake-implements, then ascribed by Goodwin to a "Mousterian influence from the North" on the latest phase of the Stellenbosch, with a footnote, however, that Van Riet Lowe did not agree with this hybrid nature of the Fauresmith.

If we look at chronological tables published nowadays (e.g. by Van Riet Lowe or by Cooke) and read papers on South African Anthropology we come across the fact that the M.S.A. (Middle Stone Age) is put in the late Pleistocene and that wherever M.S.A. flakes are found, there the term Pleistocene is used. In the foregoing it has, we hope, been proved that the Fauresmith is a hybrid culture; that the "Mousterian contact from the North" is in reality a contact with an endemic South African Culture; that this contact did not only have the convergent fluting technique first seen in Europe in the Mousterian, but that the fluting technique was not much older (if at all) than the levallois technique which is associated with it. (This is really matter for the report on the 1952 excavation but was so important for a judgment on the Fauresmith that I have used it here); and when I speak of levallois here I do not refer merely to the prepared striking platform of Prof. Van Riet Lowe, but to the preparation of the core and to the secondary trimming of the flake.

When we find M.S.A. placed in the Late Pleistocene and Fauresmith in the Middle Pleistocene, we must not forget that:—

1. The M.S.A. so referred to is the peak form (Prinsloo phase of Long Flakes) of the Florisbad series.
2. That no ashy cave, no matter what its archaeological horizon, has ever been proved to show any climatic change, such as is generally recognized to have occurred between the Pleistocene and Holocene.
3. That the presence of certain faunal elements are not positive proof of a Pleistocene age, e.g. *Equus capensis*, including as it now does — according to Haughton — *E. helmei*, is given an age to which it is certainly not entitled. *Homoio-ceras baini* does occur in the Pleistocene but also in the siltbanks which are still being added to, and are certainly Holocene. The teeth of *Peloroceras helmei* found in some caves, e.g. at Kuruman, might prove to be of value but teeth practically indistinguishable from these are described in this issue by Dr. A. C. Hoffman from another hartebeest genus which is not yet archaeologically dated. All this indicates that there is no proof of a Pleistocene element in the ashy caves, thus that the peak form of the M.S.A. with, or without, a dwindling Late Stellenbosch form of implement, extends deeply into the Holocene.

As for the small extension towards the Middle Pleistocene in the case of the Florisbad and the Cornelia sites, so-called M.S.A., indicated in the latest chronological tables, there is a tendency to call this earlier M.S.A., "Pre-M.S.A.". Such a name is, both as to extent, as to relative position to the Fauresmith, and as to the name itself not justifiable.

As to the relative position of the M.S.A. and the Fauresmith, this has been discussed and it is practically certain that the contact between Late Stellenbosch and M.S.A. to form the Fauresmith took place in the Late Pleistocene at the commencement of the arid conditions indicated by (a) the fauna of the Prinsloo site; (b) the calcification of the surface of the Riverton sand in which Malan found well-developed levallois (i.e. Florisbad) flakes and from which came typical Fauresmith

hand-axes; (c) the clear-cut time of separation between a surface layer (very dark coloured) and an underlying red-sand layer (Dreyer ¹⁰) on the South Coast at various localities between Mossel Bay and Plettenberg Bay.

It is therefore certain that there can be no primitive Fauresmith. According to Van Riet Lowe, primitive Fauresmith must be Stellenbosch IV; according to ourselves the forerunners of Fauresmith must be Stellenbosch IV and the Long Flake of the Florisbad series.

It must be remembered that Malan states that he was given the task of investigating transitional forms; that with the vast mass of material in the Bureau of Archaeology at his disposal he could only pick out two sites for this purpose: the deep sand layer at Riverton and at Makapansgat. At the former he was astonished at the high level of development of some levallois flakes (convergent fluted flakes as illustrated); at the other site (Makapansgat) the same kind of flakes (L'Abbé Breuil speaks of Tayacian) gave him qualms, since he says they must be mentioned.

Now what is this "Pre-M.S.A." period? A period which now must take up the position in the chronological tables at present taken in by the Fauresmith and the time parallel to the Stellenbosch?

If we take the basal layer of clay carrying the dolerite assemblage, and the basal layer of "peat" over it at one place, as one of the sand-"peat" cycles, then there are five (5) such cycles at Florisbad. The Prinsloo Long Flakes (one of the parents of the Fauresmith) is correlated with the third "peat" layer. The Prinsloo and the later Wolwesuij phases thus take up $1\frac{1}{2}$ cycles of the 5 that are present, say 3/10. To speak of 7/10 of a sequence as Pre-sequence seems inadvisable.

This new name Pre-M.S.A. is at least better than the old Early M.S.A. since the cycle just below that of the Long Flake, of Prinsloo, is typical M.S.A. as defined by Goodwin (it is what Dreyer ¹⁰) calls the Triangular Flake phase of the Florisbad series) but the earlier phases are not M.S.A. at all — not as the M.S.A. is defined.

As an indication of the length of time that must have passed between the basal clay, with dolerite implements (faunal remains, even when lying in it, e.g. teeth of horses, are dissolved and only papery sheets of enamel are left), and the Prinsloo spring, may be indicated faunistically as follows:—

AT FLORISBAD

1. *Equus lylei* (Dreyer ¹¹). Type is the oldest fossil at Florisbad; referred to *E. quagga wahlbergi* by Houghton ¹²) and was followed by Wells and Cooke ¹³) who referred it to *E. burchelli* on procedure and method wholly unscientific. Now recognised by Cooke on finds in Tropical West Africa.
1. *E. helmei* (Dreyer ¹¹). Reference by Houghton ¹²) to *E. cawoodi* (Broom), and by Wells and Cooke ¹³) to *E. capensis* (Broom), indefensible.
3. *Hippopotamus* spp. Hooijer ¹⁴) states that both the larger and the smaller specimens mentioned in Dreyer and Lyle ¹¹), as also *H. westphali* from Pniel are merely *H. amphibius* in the opinion of Cooke ¹⁵). This we will leave over for the report on the 1952 excavations. In the meantime we can state that we have:— a pigmy Hippo: occipito-frontal of a skull up to front of the orbits and the teeth of two other individuals. This was not even mentioned in the publication on the 1932 material for want of comparative material and literature.
4. *Phacochoerus helmei* (Dreyer ¹¹). Now allowed by Wells, Cooke and Malan ¹³).
5. *Peloroceras helmei* (Lyle ¹¹): huge-horned Hartebees.
6. *Cobus venteri* (Broom ¹⁶).
7. *Connochaetes antiquus* (Broom ¹⁶). See also Wells, Cooke and Malan ¹³).
8. *Aonyx robustus* (Lyle ¹¹).
9. *Pedetes hagenstadti* (Lyle ¹¹).
10. *Sivatherium* sp. See reference to large, giraffe-like teeth from Eastern Sand-cap (Dreyer ¹⁰), page 71). (*Griquatherium* of Houghton ¹⁷)? *Orangiatherium* of Van Hoepen ¹⁸)?
11. *Homoioceras baini* (Seeley), 1891.
12. *Homo (Africanthropus) helmei* (Dreyer ¹⁹) — the Florisbad Human Skull.

AT THE PRINSLOO SITE

Numbers 2, 3, 7, 8, 9, 10 and 12 have not been found in the Prinsloo spring.

E. lylei is there, but appreciably larger.

E. helmei is involved in what can only be called an efflorescence of tooth-forms during the Triangular Flake Phase at Florisbad — a process continued at the Prinsloo spring. A similar process seems to have taken place among horses at Pniel at more or less the same time. Antelopes of the grasslands were taking the place of the older fauna at the time represented by the Prinsloo spring.

There is still a very large collection of teeth of the smaller antelopes collected in 1932 and not yet determined; but up to the present not a single living species has been determined at Florisbad, except possibly the hippo (see Dreyer and Lyle ¹¹) which Dreyer and Helme found in the huge sand cone over an eastern eye which was, however, "blown", i.e. the whole sand cone was not covered, as it should have been to judge by its archaeological contents, by Peat III, Sand IV and Peat IV.

The percentage of extinct species is in any case amazing at the Florisbad deposits. The disappearance of certain ancient species (e.g. *Connochaetes antiquus*) and the presence there today of what appears to be a descendant species (Florisbad Man and the Bushman appears to be just as good an example). The change within species even between the early Florisbad phases and the Prinsloo (i.e. early Fauresmith) period as seen in the case, say of *Equus lylei* — the teeth of which remain very homogeneous but become appreciably enlarged; the complete change of a whole type of fauna — all this is no mere indication, but proof that the Florisbad Series occupies a time-period within the Pleistocene — besides its continuance into the Holocene as the M.S.A. — of very respectable dimensions.

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ADDENDUM

The excellent book of O. Menghin: „*Weltgeschichte der Steinzeit, 1931*” only became available to me after this paper was already in the press. I therefore have to give as an Addendum the expressions of opinion on the Fauresmith Culture from such an authoritative source, as below.

Page 26: “Es gibt hier eine als Fauresmith-industrie bezeichnete Fazies, die nach europäischen Massstäben als ein Faustkeilmoustérien anzusprechen wäre. Aber ihre chronologische Stellung innerhalb des Paläolithikums ist recht wenig gesichert und es könnte sich auch um eine teilweise verspätete protolithische Kultur handeln.”

Page 37: „Dass die Fauresmith-Kultur, trotz ihres protolithischen Charakters, eventuell der miolithischen Zeit angehören konnte, wurde schon oben gesagt (s. S.25)”

Page 113: „Die zentralafrikanischen Faustkeilkulturen sind vorderhand noch zu wenig bekannt, um weiter gegliedert werden zu können. In Südafrika dagegen lassen sich eine Victoria-West-, eine Stellenbosch- und eine Fauresmith-industrie auseinanderhalten.”

Page 118: „Die Fauresmithkultur, im Oranje-Freistaat beheimatet, verarbeitet hauptsächlich “indurated shale” (Kieselschiefer). Ihre Fäustel sind sehr gut ausgeführt und oft ziemlich klein. Daneben kommen Geräte vor, die der Moustérienhandspitze und dem Moustérienschaber sehr nahe stehen. Kurz, die ganze Kultur macht den Eindruck eines europäischen Spätacheuléen oder Faustkeilmoustérien. Es ist aber möglich, dass sie viel länger gedauert hat und als Epiprotolithikum aufzufassen ist.”

Page 133 — 134: “Spätacheuléen und Combe-Capellekultur sind bereits typische Kreuzungsprodukte. Im Verlauf des Moustérien wird dann die Faustkeilerologie mehr und mehr beseitigt. In Afrika und Vorderasien dürfte mit einem analogen Entwicklungsverlauf zu rechnen sein, und selbst Vorderindien scheint sich ähnlich zu verhalten. Ein besonders auffallendes Ergebnis der Vermischung zwischen Klingen- und Faustkeilkultur sind die dünnen, blattartigen Spitzen, wie sie vor allem im östlichen Spätacheuléen Europas, im Esbaikien und zum Teil auch in der Fauresmithkultur Südafrikas auftreten.”

Page 135: Speaking for the world outside Europe, Menghin says: „Vor allem epi- und opiprotolithische Klingen-kulturen sind allenthalben nachweisbar. Epiprotolithische Faustkeilkulturen fehlen bislang, wenn man von der Fauresmithindustrie Südafrikas absieht, deren Altar nicht feststeht.”