

OBSERVATIONS ON THE LENA NEOLITHIC¹

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From the Lake Baikal region on the southern edge of Siberia the Lena River leads north to the Arctic Ocean, providing a great natural artery through two thousand miles of boreal forest, scrub and tundra. It would seem inevitable that the first human settlement of the Lena valley would have followed this same route, especially since the Baikal region was one of the major centers of Paleolithic activity in Siberia. Remains attributed to this earliest occupation, which are scattered along the upper half of the Lena nearly to Yakutsk, do not contradict this view.² It would seem only logical to anticipate a parallel northward spread of Neolithic culture--continuing, in this case, through the previously uninhabited lower valley to the Arctic coast. And this seems to be the current hypothesis in Soviet archaeology. The Lena Neolithic is viewed as sharing a common basic tradition with that of the Baikal region, and as initially developing along similar lines, although (from the 3rd millenium B.C. onwards) displaying increasingly individual features. The latter are thought in part to represent local developments in response to differing environmental conditions, and in part to reflect outside influence from both west and east--from northern Europe as well as the Pacific slope of Siberia.

Such divergences from the Baikal pattern are particularly evident in the burins, and also in types of scrapers and arrow-points. Burins are relatively rare in the Baikal region, and those that do occur are mainly of a peculiar type made on the remnants of a worked-down core. In the Lena Neolithic, on the other hand, they are an important and typical element in the culture. Here burins made on cores are confined to the later stages, while standard blade burins like those of the European Upper Palaeolithic are common during most of the Neolithic. This is a curious situation, inasmuch as blade

burins are apparently not found elsewhere in interior Siberia, not even in the Palaeolithic. The nearest contemporary occurrences would seem to be those in the American arctic or (of more uncertain age) northern Japan and Manchuria. In pottery, divergences from the Baikal tradition are evident in such decorative features as check-stamping and applique (which point toward the Pacific slope) and in the use of hair as tempering material (recalling the Bering Sea area). Certain adze and axe types also have Far Eastern affinities. The oldest remains in the far north (lower levels at Uolba Lake) are thought by Okladnikov to suggest contact with northernmost Europe along the tundra and scrub tundra (forest tundra) belts, indicated by similarities in burial practices and by unusual types of arrowpoints with no nearer parallels. Additional contacts of this nature may have occurred subsequently at an early Bronze Age level.³

On the other hand, there are obvious Baikal parallels on the middle and lower Lena whose significance must be evaluated. They are of varying age, and in no assemblage do they seem predominant. Since the later examples are evidently due to diffusion or trade, this could equally account for those earlier traits which are seen as indication of common ancestry. There is no present evidence that the Lena Neolithic, as claimed, initially followed the Baikal pattern and only subsequently developed its distinctive features. This is pure hypothesis, as long as we know nothing about the formative stages on the Lena. We can only point out that the earliest Neolithic sites reported already reveal a highly distinctive complex, with specific Baikal elements in the minority.

The Lena valley Neolithic cannot at present be subdivided into stages or periods comparable to those of the Baikal region,⁴ although certain sites are thought to be older than others--occasionally by stratigraphic evidence or by cross-dating with Baikal; more often on a typological or more subjective basis. The bulk of our information on the Lena area comes from habitation sites rather than burials (as on Baikal),

and the material is consequently neither as abundant, intact or well-preserved; though such sites should afford a better perspective on the total culture and a better ultimate basis for relative chronology. Already, however, we can clearly discern a northern and a southern variant of the Lena Neolithic--distinctive regional traditions existing contemporaneously in the two major environmental divisions. In the tundra and forest-tundra zones of the north are found the temporary camps and stone workshops of wandering reindeer hunters, while to the south, in the taiga of the middle Lena region, there developed a sedentary lacustrine mode of life based largely on fishing, with some of the population possibly acquiring domestic cattle at an early date.⁵ These two traditions overlap to some extent in the region of Yakutsk. The Lena culture area extended west to the Taimyr Peninsula and east to include the Kolyma River valley, thus embracing a vast region of surprisingly similar culture which is clearly set off from surrounding areas. On the south, the stretch of the Lena between Vitim and Ust Kut constitutes a transition zone to the Baikal cultures.

The oldest traces of human settlement in the far north seem to be represented by the early Uolba complex, best exemplified in the lower levels at Uolba Lake, just west of the Lena on the arctic circle. Although here it does underlie a terminal Neolithic horizon, its antiquity rests primarily on typological considerations and the possible absence of pottery. The present writer has suggested a dating of around 2000 B. C. as not unreasonable on the evidence adduced.⁶

A number of Lena sites afford some basis for cross-dating with the Baikal Neolithic sequence. From this viewpoint, the seven containing net-impressed pottery of Isakovo-Serovo type (the oldest known Baikal ware) could claim priority, although in assigning actual dates a certain time lag would have to be assumed owing to the distances involved.⁷ It would be unwise, however, to rely too heavily on net wares as an index

fossil. This status may be perfectly valid in the Baikal region, but on the Lena, net wares could have had a different history. In at least some instances they survived late (e.g. at Malaia Munku, where they are associated with check-stamped pottery). Ultimately, we may hope that the Lena net wares will be placed on a firmer basis, which will mean dating them from context instead of vice versa.

Shouldered adzes of a very distinctive type occur at various points in the Lena valley.⁸ These have recently been dated by their discovery in a cemetery at Verkholensk on the upper Lena (within the Baikal culture area) which is regarded as transitional between the Isakovo and Serovo stages of the local sequences (i.e. no earlier than 2500 B.C. according to the chronology followed here; at least 3000 B.C. according to Okladnikov).⁹ The same maximum date can therefore tentatively be applied to the Lena valley settlements containing adzes of this type. Unfortunately, our sources are vague or silent as to the identity of these sites. The shouldered adzes are simply described as "typical for the middle Lena Neolithic", with the implication that they occur at Malaia Munku and comparable sites.¹⁰

Thus, none of the Lena sites possibly amenable to cross-dating by either net-impressed pottery or adzes could with any assurance be older than 2500 B.C.; more likely they would be somewhat younger. In all cases, a well-developed Neolithic complex is represented; and since this was not introduced bodily from outside, but displays many unique local features and borrowings from varied sources, we are forced to postulate the prior existence of formative stages in the area, not yet unearthed. It is true that two sites (Pokrovsk and Kullaty) do give evidence of association with an older soil horizon than the rest, but the cultural remains differ in no way.

The major Neolithic sites on the Lena are ascribed to a stage variously labelled "mature" or "late", although time differentials are assigned to sites within this category,

on no very convincing basis. For instance, the lowest level at Turukta (just north of the Lena on the 115th meridian) has been described by Okladnikov as "one of the oldest known settlements on the middle Lena",¹¹ although this claim is hardly corroborated by the scanty data divulged. The round-bottomed pottery, vertically streaked all over the body and with a wide band of horizontal incised lines encircling the rim, is of little assistance in this respect. In so far as one can judge, the few remaining finds recall as much as anything the Kitoi stage of the Baikal sequence (c. 2000-1650 B. C.). A similar assemblage is said to occur in the lowest level of the Provincial Hospital site in the city of Yakutsk, but is not much better represented.¹² Analysis of the finds here, however, would lead the writer to classify it with the main level at Kullatay (described below).

A number of sites are assigned to a "subsequent and evidently later stage" of this mature or late Neolithic,¹³ perhaps, one suspects, because of their richer content. Among them is the very important site of Malaia Munku, 3 km. above Olekminsk, often referred to as a classic example of the late Neolithic of the middle Lena.¹⁴ Depth of deposit and quantity of finds here indicate a protracted occupation, though apparently confined to a single period. The level of cultural development reflected is described as being the equal of any Eurasiatic forest Neolithic, with the addition of some unique features. Among the latter is the presence of true weaving of vegetable fibres, as evidenced by impressions on potsherds--an art unknown ethnographically in any part of interior eastern Siberia though practiced in the west and on the Pacific slope. More difficult to accept is the presence of domestic cattle, though Okladnikov is positive both as to the identification and the direct association with Neolithic remains. He admits it is a slender basis on which to erect so revolutionary a hypothesis, but is confident that future excavations will eventually confirm it. The economy of Malaia Munku was based primarily on the hunting of forest

animals (especially moose, Asiatic roe deer, and reindeer) and birds, evidenced by abundant faunal remains and hunting equipment. Fish were speared and netted, but fishing apparently played a subordinate role. The inhabitants are portrayed as semi-sedentary (perhaps seasonal occupancy), but on the verge of settling down to a more stable life centered on fish and cattle. The lack of house remains other than hearths suggests impermanent structures such as bark-covered tipis. The level of craftsmanship displayed in the manufacture of polished stone tools at this and comparable sites is very high. A variety of excellent materials was available locally, including pebbles of nephrite from an unknown source. The latter was used for ornaments. Large tool types differ markedly from the Baikal region. In addition to the familiar Siberian lugged axe, there are two distinctive local forms on the middle Lena: an "oar-shaped axe" and the very specialized shouldered adze previously mentioned.¹⁵ The latter is usually made of black siliceous slate polished to an almost mirror-like finish. We do not know which, if any, of these types actually occurred at Malaia Munku. (The presence of shouldered adzes would give some basis for dating the site to around 2400-2300 B.C., if we accept an early Serovo age for this form in the Verkholensk burials). Distinctive among the chipped tools at Malaia Munku are the end scrapers on microblades and the abundant well-made blade burins, chiefly of the lateral type. The latter are thought to represent a later form than the angle burins of the early sites in the far north, but this must be considered hypothetical in view of the very uncertain relative chronology of all the Lena sites. Arrow points are found in quantity, but data are lacking. Pottery is predominantly round-bottomed, although there are occasional pointed bases (an early feature in the Baikal region). In addition to net and fabric impression, new types of surface treatment apparently unknown in adjoining Cis-Baikal make their appearance. These include intersecting striations produced by a corrugated paddle applied at

different angles), possible cord-wrapped stick impressions ("like the North American Indians"), check stamping and imitation cord applique. (The last two traits are regarded elsewhere on the Lena as belonging to the very close of the Neolithic). The Malafa Munku wares are viewed as classic examples of the late Neolithic pottery of the middle Lena, and are considered ancestral to all subsequent pottery in the area, including that of the Bronze Age. Despite the evident importance of this site, it is difficult to make any definite assessment of its significance in the absence of better documentation.

A more definitive picture of the late Lena Neolithic emerges from the excavations at Kullaty, 35 km. south of Yakutsk. Despite its confused stratigraphy and other shortcomings, this settlement better fulfills the role of a type site, being one of the most fully investigated (158 sq. m. uncovered) and best documented¹⁶ Neolithic sites in Siberia. As such, it merits rather detailed analysis here.

Protracted occupation is indicated by a cultural deposit up to 1.5 m. deep, whose lower levels reportedly underlie the chernozem-like soil horizon to which all other Lena sites (except Pokrovsk) and most of the Baikal Neolithic are restricted. Only in the far north at Uolba Lake is there another site clearly reflecting a succession of Neolithic phases. Stratified sites containing metal periods overlying Neolithic remains are not uncommon, but the Lena Neolithic sites themselves represent only single phases elsewhere. Kullaty is considered to reveal a mature or late stage followed by a terminal Neolithic, and topped off with a Bronze Age occupation. This sequence, plus the quantity of material obtained, have made Kullaty the keystone for the relative chronology of the Lena valley.

According to Okladnikov, the cultural succession is represented as follows: the lowest (fourth) level contains only chips and bone fragments, and merely attests the presence of man at some early time. Level three represents a very

early occupation, since it lies in the horizon of sandy loam underneath the chernozem; the cultural remains, however, are identical with those of the overlying main occupation level. The pit identified as a subterranean dwelling is associated with this level. The lower part of the second level, which is not contaminated by later material, represents the main occupation of the site and the classic mature Neolithic of the middle Lena, of which Kullaty was the northern outpost. The complex here is said to be very similar to that at Malaia Munku, 700 km. to the southwest. Kullaty, however, is seen as the ultimate development of this stage into a primarily fishing economy, and is therefore by implication slightly later. The succeeding terminal Neolithic occupation lies in the upper part of level two and the lower part of level one. Bronze age remains are represented by the upper portion of level one.

However, no such clear picture is revealed by the actual stratigraphy of the site as published. We may disregard level four at the outset, as it scarcely merits separate status. Level three, as described to us, presents an enigma. An earlier soil horizon should reflect antecedent cultural stages. It is a little difficult to accept the hypothesis of a typical "late" complex extending back unchanged over such a span of time that its bearers witnessed major changes in the landscape, especially when numerous related sites reveal no corresponding picture. Such timeless stability is in marked contrast to the rapid changes in the topmost strata of the site. We can accept the unmixed lower portion of level two as reflecting a purely Neolithic occupation, corresponding in general to Malaia Munku and similar "mature" sites. However, the apparent absence at Kullaty of such conventionally late elements as applique and check-stamped pottery would suggest that level two is older than Malaia Munku, where these are reported. Any argument for a reverse relative dating of these two sites based on predominant economy is unconvincing. Hunting equipment is as well

represented at Kullaty as at Malaia Munku, and fishing tackle no more so. The abundance of fish remains at the former site is hardly surprising in any settlement advantageously situated for fishing. The whole concept of an evolutionary development from a hunting pattern of life to a fishing pattern has simply not yet been demonstrated for the Lena valley, whatever the situation may be in the Baikál region.

The mixed upper levels obviously present the worst problem of all. Extensive pitting by local inhabitants in search of fire flints, as well as marmot burrowing, may have been contributory factors. At any rate, materials of evidently differing age are found indiscriminately at all levels of this zone. Associations here can have little significance, and one wonders how anything in the inventory could qualify as an "index fossil" for dating. Subtracting typical Bronze Age specimens (already known from local metal sites) and Neolithic material identical with that in the lower levels, we are left with a residue that is identified as terminal Neolithic. The latter phase is thus differentiated on a typological rather than an actual stratigraphic basis, and may well include unrecognized Bronze Age material. Happily, a generally similar complex has been unearthed in pure form and better represented at Lake Ymyiakhtaakh (see below), so that the concept of a terminal Neolithic stage is substantiated at least in its main outlines.

A major handicap in any analysis of the Kullaty site is that the finds from the upper (mixed) and lower (unmixed) portions of level two are not segregated in the report; it is thus impossible to check Okladnikov's formulations. Bronze Age, terminal Neolithic and mature Neolithic materials are found scattered throughout levels one and upper two; therefore, specimens labelled simply "level two" (as the vast majority are) may pertain to later stages as well as to the unmixed Neolithic occupation. It is impossible in many places to draw any line between levels one and two, and sherds of the same pot lie in both. Confusion is compounded when, in

comparisons with other sites, Kullaty is often treated as if it were a single-period site, without indication of the level or stage intended.

A careful perusal of Okladnikov's publications resulted in the following roster of elements apparently diagnostic for the various stages at Kullaty.

Mature Neolithic: net ware common (usually smoothed over, like the Baikal Serovo ware); striated ware; decoration by linear incising (horizontal, oblique, triangles); rims thickened by addition of a wide band; absence of check stamp or applique; end scrapers on microblades; concave-edged semilunar knives (pre-Glazkovo in the Baikal region); one specific Serovo arrowpoint type.

All Neolithic stages: fabric-impressed pottery; perforated rims; sharply pointed base on vessels, sometimes by addition of a separate clay spike (unique in Siberia, apparently; the Baikal pointed-base ware is paraboloid).

Specifically terminal Neolithic: net ware rare; no striation; no incised decoration like previous stage (some double-line); first appearance of smooth-surfaced wares, check stamp, pits (round or oval) on sides of vessels, and applique; core burins; partially-retouched tanged flake points of "arctic" type and trihedral points.

Bronze Age: smoothed-surfaced, check-stamped and applique wares continue from terminal Neolithic; perforations are rare, incising dies out, fabric impressions are unknown; typical vessel shape has round base and concave neck.

Found throughout entire site: comb-stamping, pitted or notched lips, most types of arrowpoints, angle burins, side blades, lamellar flakes.

The fallacy of employing the "archaic appearance" of certain artifact types as a criterion for dating is indicated by the presence in the upper levels of such "early" items as angle burins, "arctic type" tanged and trihedral points, and pointed-base pottery.

The mature Neolithic stage at Kullaty cannot be placed earlier than the Serovo of Baikal, on the basis of shared elements (i.e. last half of the 3rd millenium B.C.). The terminal Neolithic stage is equated by Okladnikov with early Glazkovo of Baikal (which we place around 1600-1500 B.C.), and the Bronze Age occupation is considered to be post-Glazkovo (sometime after 1300 B.C.).

Lake Ynyiakhtaakh is a segment of a former channel of the Lena, 60 km. northeast of Yakutsk. The terminal Neolithic site¹⁷ (evidently a seasonal fishing camp) is represented by a deposit up to 60 cm. deep, in which four soil horizons have been distinguished. Although their formation would seemingly have involved a considerable period of time, the cultural remains throughout appear to be identical, and are viewed as transitional to the Bronze Age, with which they share a number of diagnostic elements. 150 sq. m. of the site were excavated in 1944, being stripped by soil levels. An interesting feature was the discovery of human remains among the refuse whose condition strongly suggests cannibalism. Stone-working techniques are said to show a decline from the mature Neolithic. Workmanship is cruder, the former diversity of types and forms is lacking, and many typical Neolithic artifacts have disappeared. The most striking feature is the relative abundance of burins, all of which are of the polyhedral core variety. Arrowpoints are comparatively uncommon at this site, and are predominantly straight-based (Bronze Age type). One large unifacial flake point was found, identical with the "archaic" points of the far north. Bone artifacts are mainly confined to short points, thought to have formed part of compound fish hooks. Pottery is mostly check-stamped; typically, the squares are small, the paste contains hair tempering, and plant impressions are sometimes noted. One sherd tempered with fish scales was found--the only known occurrence. Vessel form was apparently almost globular, rims were perforated, and the standard decoration was a band of incised zigzag lines. There

are also some smooth-surfaced wares with rather crude rounded fillet applique, comb stamping, and circular pits. The absence of such characteristic mature Neolithic ceramic techniques as net impression, fabric impression, striation, elaborate incised decoration, thickened rims and pointed bases further confirms the later age of this complex. It also suggests that these traits should be excluded from the hypothetical terminal Neolithic assemblage at Kulliaty.

The contemporary stage on the arctic circle is probably represented by the upper level at Uolba Lake¹⁸ and the neighboring sites on Lake Kylarsa.¹⁹ Whereas in the lower Uolba level black slate is used almost exclusively for artifacts, it is largely displaced in the later period by fossil wood and, to a lesser extent, quartzite and chalcedony. Concave-based triangular bifacial arrowpoints, polyhedral core burins, and specific forms of scrapers, side blades and semilunar knives are found. At the Lake Kylarsa sites, several types of tanged points occur, including partially-retouched flake points reminiscent of the oldest stage in this region, though much smaller in size. Grindstones suggest polished tools, although only two fragments were discovered.²⁰ The rather crude round-bottomed pottery is mostly hair- or vegetable-tempered; usual surface treatment is some form of check-stamping (large, small, rhombic) and (at the Kylarsa sites) corrugation or linear stamping. Smooth sherds (sometimes showing hair imprints) predominate at Kylarsa I, and some incised decoration occurs at Kylarsa II. These sites do not represent a uniform complex, but are roughly equated by the presence of stamped pottery and core burins.

Still farther north, beyond the arctic circle, the prehistoric sites are of a different character. Instead of relatively stable settlements of lake fishers, we find only temporary campsites and workshops of the wandering reindeer hunters of the tundra, concentrated in certain favorable localities. Attempts to classify these remains chronologically must resort to typology and rather tenuous cross-dating.

The possible early sites in this area have been summarized elsewhere.²¹ Of the remaining sites,²² the Khaingas workshop below Bulun is outstanding. Two bluffs here are littered with immense quantities of debris: chips, rejects, blanks, and raw materials--but no trace of finished products. Evidently, only the preliminary stages of stone-working took place at these sites, the aim being to produce blanks for various tool types (chiefly points and scrapers), a supply of which was carried on the long treks across the stoneless tundra following the movements of the game animals. River cobbles provided an ample supply of material (black siliceous slate), and the elevated bluffs afforded some respite from the summer plague of mosquitoes. Workshop sites of this nature are apparently unique in Siberia. All those further south (e.g. in the Baikal region) show protracted occupation and produced finished artifacts.

As stated previously, remains as far west as the Taimyr peninsula (Khatanga River) and as far east as the Kolyma River valley show close similarity to those of the Lena. Excavations at Khatanga²³ revealed a complex whose parallels lie primarily in the main level at Kullaty rather than on the lower Lena, as might be expected. Okladnikov's 1946 field work on the Kolma has unfortunately not yet been published, but complexes analogous to the upper and lower levels at Uoiba Lake are reported.²⁴

NOTES

1. As used here, "Neolithic" denotes simply a pre-metal culture stage possessing pottery. The Lena Valley as a culture area comprises only the lower two-thirds north of Vitim (roughly the territory of the present Yakut ASSR). The headwaters belong culturally to the Baikal region. Our knowledge of the Lena Neolithic is based entirely on the works of Okladnikov,

the pioneer investigator--primarily those cited 1945-50 and 1955. A convenient tabular chart of the type artifacts for this area by periods (from Paleolithic to ancestral Yakut) will be found in the latter volume, facing page 428.

2. These are described in Okladnikov, 1953a. Their paleolithic status is not always beyond criticism: see Formozov's review in Vestnik Drevnei Istorii, 1954, No. 3, p. 103.

3. See Okladnikov, 1955, pp. 131-133 and 170-173.

4. For a convenient English summary of the Baikal sequence, see American Antiquity, Vol. 18, No. 3, pp. 283-285. Okladnikov's dates require downward revision, however. The chronological table in Gimbutas (1957) appears reasonable, and forms the basis for all dates proposed in the present paper.

5. The latter assertion is based on the discovery of teeth identified as those of domestic ox in the Neolithic site of Malaia Munku.

6. The early sites north of Yakutsk are summarized (with illustrations) in Chard, 1956.

7. These seven sites are, from south to north on the Lena: Malaia Munku (3 km. above Olekminsk), Pokrovsk (60 km above Yakutsk), Kullaty (35 km above Yakutsk), Bestiakh (22 km above Yakutsk), the site by the shooting range in the city of Yakutsk, Zelenoe (20 km above Sangar-Khaia) and Lake Syalakh I (90 km above Zhigansk).

8. According to one source (Okladnikov, 1953b), only north of Yakutsk and the Viliui River. This is not consistent with his statements elsewhere.

9. Okladnikov, 1955, pp. 78-79. An identical adze was also found in 1952 in a Neolithic burial on the Shilka River (upper Amur basin). Ibid., p. 129.

10. Ibid., p. 85. Detailed site reports have been published only for the lower half of the Lena (below Pokrovsk). No adzes of this type are catalogued from any of these sites, except for a fragment reported in the distant Khatanga region (Okladnikov, 1947a), where the assemblage is compared to the main level at Kullaty. When comparable information is available

for the middle Lena, we may anticipate more specific context for these distinctive artifacts, which have potential value for dating purposes.

11. Okladnikov, 1955, pp. 79-80. Only a brief reference to this site is available, with no illustrations.

12. Ibid., p. 80. The site is described in Okladnikov, 1945-50, Part 3, pp. 90-109, figs. 13, 14, 25 and 26.

13. Okladnikov, 1955, p. 80.

14. We have as yet only an unillustrated summary (Okladnikov, 1955, pp. 80-88) and scattered references for this site.

15. These three types are pictures (right to left) in ibid., p. 78. None is identified with any specific site.

16. Okladnikov, 1945-50, Part 3, pp. 21-79, 145-153, plates 3-38; 1955, pp. 88-91, fig. 16 (1-3, 6, 7), 17, 20-25.

17. Okladnikov, 1945-50, Part 1, pp. 27-36; Part 3, pp. 124-145, 151-153, figs. 29-32; 1955, pp. 91-96, figs. 26-27.

18. Okladnikov, 1945-50, Part 2, pp. 3, 10-35, 142-144, plates 1 and 3; 1955, pp. 114-116.

19. Okladnikov, 1945-50, Part 2, pp. 40-58, plates 6 and 7.

20. There is an amazing dearth of large polished tools in the excavated sites of the Lena valley; one deduces that the existing whole specimens are largely surface finds. It is thought that such implements were resharpened until used up, and that if broken, the fragments were reworked into other artifacts.

21. See Chard, 1956 (based on Okladnikov, 1945-50, Part 2, pp. 126-131 and plate 20).

22. Described in Okladnikov, 1945-50, Part 2, pp. 109-121, 144-147, and plate 19; 1955, pp. 117-123.

23. Described in Okladnikov, 1947a.

24. See Chard, 1956. References to the Kolyma work appear in Okladnikov, 1947b, and 1955, pp. 123-124.

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