

SUOMEN MUINAIS-  
MUISTOYHDISTYKSEN  
AIKAKAUSKIRJA

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FINSKA FORN-  
MINNESFÖRENINGENS  
TIDSKRIFT

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XXXIX

HELSINKI 1935 HELSINGFORS  
K. F. PUROMIEHEN KIRJAPAINO O.Y.



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# TIDSKRIFT

XXXIX

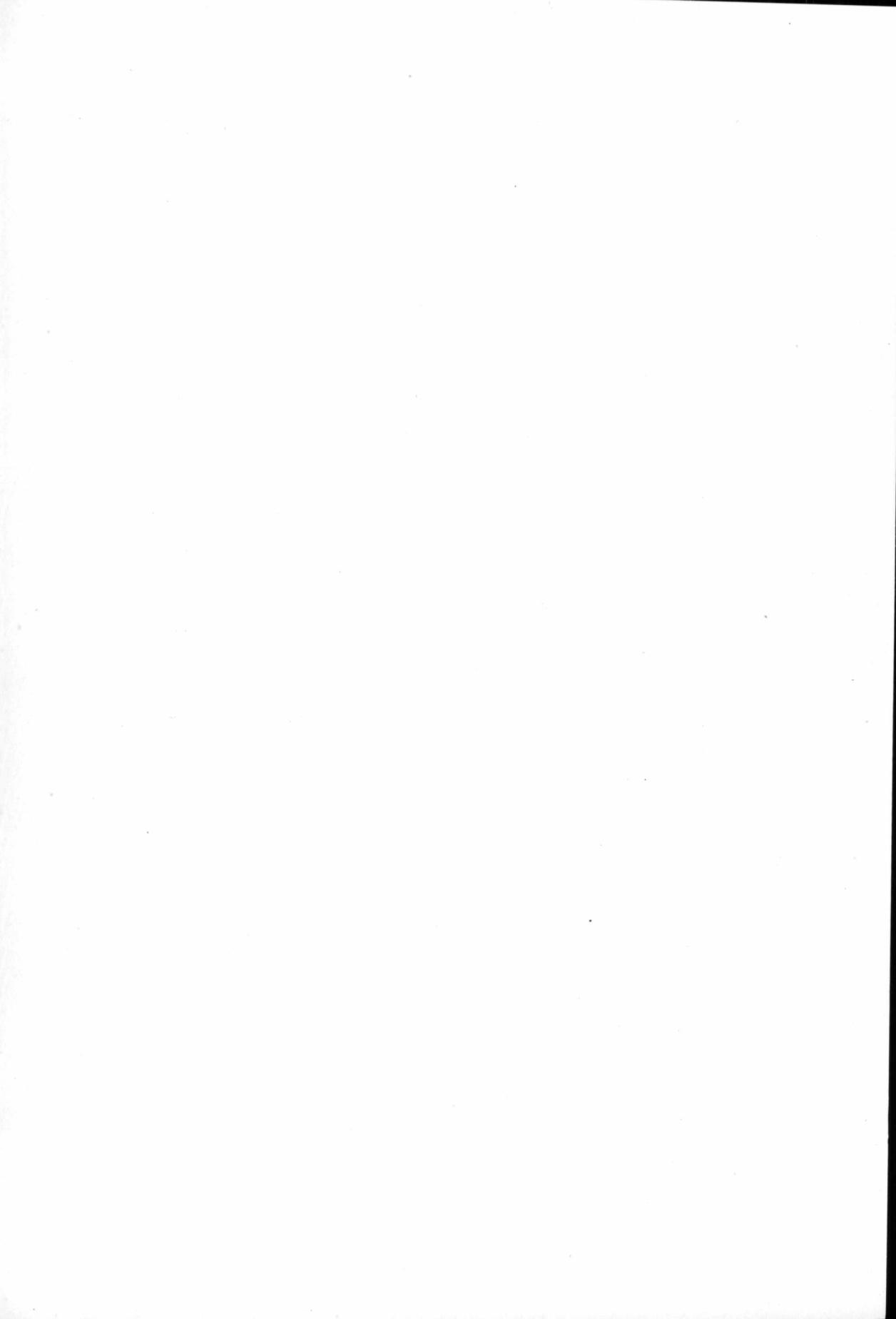
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TOIMITTAJA — REDAKTOR  
C. A. NORDMAN

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SUOMEN MUINAISMUISTOYHDISTYKSEN AIKAKAUSKIRJA  
FINSKA FORNMINNESFÖRENINGENS TIDSKRIFT  
XXXIX:1

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Note sur la position chronologique des  
trouvailles préhistoriques par rapport  
aux étages géologiques dans la région  
côtière de la Fenne-Scandie aux confins  
de l'océan Arctique.

PAR  
V. TANNER

HELSINKI · 1931 · HELSINGFORS

Helsingfors  
K. F. Puromies Boktryckeri A.-B.  
1931

**Note sur la position chronologique des trouvailles  
préhistoriques par rapport aux étages géolo-  
giques dans la région côtière de la  
Fenno-Scandie aux confins de  
l'océan Arctique.**

Par

*V. Tanner.*

Les explorations exécutées le long des côtes du Finmark norvégien et du Petsamo finlandais après que Nummedal eut découvert les gisements paléolithiques fondamentaux d'Alten en 1926, ont abouti à des révélations très importantes. C'est ainsi qu'on a élucidé un nombre considérable de stations habitées par l'homme dans la haute antiquité et fait des trouvailles d'antiquités isolées. Dans plusieurs de ces stations, on a collectionné des inventaires avec des outils de pierre plus ou moins primitifs (voir les reproductions chez Nummedal et ici, Fig. 6), tandis que dans d'autres stations on n'a trouvé que des débris provenant de la fabrication d'instruments (voir Fig. 7 et 8). Les collections rapportées sont déjà si riches qu'il n'existe aucun doute que l'on ne soit en présence même de véritables artefacts paléolithiques, par exemple dans quelques stations énumérées plus loin. C'est prouvé aussi par la matière des artefacts.

Celle-ci provient en premier lieu de la roche en place des alentours. Dans le territoire des terrains cristallins archéens, on a employé différentes variétés de roches vertes, des dérivés de cornéennes, de quartzite, du quartz filonien et une espèce de tuffite

pyroclastique acide, tandis que dans les régions à sous-sol pré-somptivement paléozoïque, aux environs des grands fiords, on a utilisé pour l'industrie des instruments de grès, de schiste pélitique et du prétendu «silex des dolomies» (= quartzite amorphe, intercalé dans les dolomies). Pourtant on peut observer que la matière a aussi été transportée à quelque distance de la roche en place. Le «silex des dolomies», par exemple, figure dans différentes stations sur les terrains cristallins. A Vuorjemi [= Jakobs Grønselv, Præstestuen II] et à Salmijärvi [Niva] on vient notamment de trouver aussi des microlithes-racloires qui se composent d'oolithe silicifiée provenant, sans doute, de la zone dolomitique du Finmark. Cette matière a indubitablement été transportée par l'homme à son emplacement actuel, dans une direction opposée à celle qui fut suivie par le transport glacial.

Sur la côte extérieure tempétueuse de l'océan Arctique, la végétation est clairsemée, et une étude détaillée de la nappe de gravier littorale qui couvre les rochers, est considérablement facilitée. C'est surtout là qu'on peut aisément découvrir des artefactes par endroits. Ceux-ci reposent souvent plus ou moins superficiellement sur la surface de cette nappe, dispersés comme s'ils avaient été ballotés de long en large par les ondes. Mais, par endroits, sur d'anciennes plages marines, ils se trouvent aussi enchâssés dans le gravier littoral et, dans ce cas, les pièces se distinguent par des bords partiellement usés. Ainsi la majorité de ces stations septentrionales auraient dû être de vraies habitations littorales. Par conséquent, une fois l'âge de la plage fixé, il devient possible dans le dernier cas d'établir approximativement la limite chronologique supérieure de la trouvaille. Dans le premier cas, au contraire, il est possible d'établir approximativement la limite chronologique inférieure de la trouvaille, étant donné que la station ne fut prise en possession qu'après que la mer se fut retirée. Cependant la fixation de l'âge est assez incertaine dans ce cas. Etant donné, par exemple, que les outils de pierre polie trouvés dans ces confins sur la terrasse à *Tapes* (II) en toute vraisemblance ne devraient pas se rapporter à une époque plus reculée que dans les parties méridionales de la Fenno-Scandie où les mêmes types apparaissent (environ 70% de l'altitude de la terrasse dite à *Tapes*), il est dans ce cas de rigueur d'attribuer à la trouvaille un âge un peu moins grand que

celui de la terrasse. L'explication du fait que les habitants auraient dans ce cas quitté la plage contemporaine de la mer pour s'installer plus haut devrait être que la large plage à *Tapes* (II) offrait de bons emplacements pour le pied de tourbe qui servait d'habitation, et l'escarpement au-dessus de la terrasse était un excellent abri contre les tempêtes arctiques.

L'étude des antiquités, au point de vue typologique et technique, faite surtout par Nummedal et par Bjørn (voir la bibliographie) démontre qu'une classification chronologique détaillée des trouvailles serait excessivement difficile et incertaine dans plusieurs cas. En général, on est à même d'établir une limite entre les outils néolithiques, souvent polis, et les instruments taillés de formes primitives, typologiquement correspondant aux formes trouvées dans le paléolithique de l'Europe centrale et méridionale. De plus, pour ce qui est du groupe d'outils néolithiques, une répartition des trouvailles septentrionales entre les différentes périodes est aussi possible dans quelques cas. Au contraire, si l'on cherche à subdiviser le grand groupe d'instruments taillés, on se heurte à des difficultés apparemment insurmontables.<sup>1</sup> C'est que des types qui caractérisent des périodes tout à fait différentes dans le paléolithique de l'Europe centrale et méridionale, se trouvent ensemble dans la même station dans les parages septentrionaux de la Fenno-Scandie, sans que l'on réussisse à prouver que ces stations aient été habitées à plusieurs reprises, pendant des périodes différentes. L'ensemble des trouvailles paléolithiques dans ces parages donne pour ainsi dire une coupe de tout le paléolithique et, par conséquent, il faudrait le considérer comme étant tardipaléolithique.

Je passe ici sur les questions nettement archéologiques, formes, technique, etc. en renvoyant le lecteur aux élucidations, présentes et futures, toujours intéressantes de Nummedal. En revanche, j'attire l'attention sur la question de la position chronologique des trouvailles au point de vue géologique.

Depuis longtemps, on a essayé en Fenno-Scandie de tirer au clair les relations qui existent, dans différentes stations, entre les artefacts et les assises géologiques; cf. Ramsay (1926), *Europæus-Åyräpää* (1930, p. 166 et suiv.). De règle une relation très nette se

<sup>1</sup> Cf. Westerby (1931, p. 56 et suiv.).

manifeste à cet égard. Une association de formes spécifique est caractéristique pour chaque étage, et, par exemple, quand on passe à un étage plus jeune, certaines formes disparaissent et d'autres se glissent dans l'inventaire. Pour les étages récents, on a observé une régularité si frappante à ce sujet que quelques savants ont même été disposés à employer l'occurrence ou l'absence de certaines formes d'outils dans les couches quaternaires pour établir l'âge géologique des couches, donc comme substitut des fossiles. Cette manière de procéder, appliquée schématiquement, fait pourtant surgir des doutes. Pour le bien concevoir, souvenons nous qu'en Fennoscandie, après l'époque glaciaire, la dissémination des animaux et des plantes fut soumise à des influences modifiantes inégales, provenant des variations des conditions de concurrence, de la latitude, des facteurs édaphiques et peut-être aussi d'autres circonstances. Pour ce qui est des animaux marins, par exemple, il est établi que la première invasion d'une espèce du sud est séparée par un laps de temps plus ou moins considérable — des millénaires — du temps de sa première arrivée sur les côtes septentrionales. Ainsi des millénaires se sont écoulés entre les époques de la première apparition du mollusque *Zirphaea crispata*, soit de *Aporrhais pes pellicani* dans les parties S. et N. En toute vraisemblance, l'extinction de *Tellina Torellii*, par exemple, se produisit plusieurs millénaires plus tôt au sud de la Norvège que dans la Finlande septentrionale. En conséquence, on se demande si l'on pouvait s'attendre à ce qu'une civilisation spécifique humaine se fût propagée en un «clin d'oeil» sur tout le vaste territoire fennoscandien. Serait-il même raisonnable de s'imaginer qu'elle eût expiré, en traits généraux, simultanément dans toutes les parties fennoscandiennes? Evidemment il n'est pas admissible de calquer directement les expériences dérivées de la paléontologie sur le phénomène de la propagation humaine, vu la mobilité beaucoup plus grande et le pouvoir d'accomodement extraordinaire de l'homme. Cependant, il ne devrait pas être justifié d'éliminer catégoriquement ce point de vue, à plus forte raison parce qu'on a trouvé des outils en pierre polie dans un tombeau de l'âge de fer, justement au bord du Varangerfjord. N'existait-il pas des *habitats spécifiques* pour les différents genres de civilisation de l'âge de la pierre taillée comme pour les cultures récentes? Nous n'en savons encore rien de précis.

Dans de pareilles circonstances, une tentative d'établir la classification chronologique des trouvailles par voie géologique, me paraît non seulement admissible, mais proprement désirable pour le contrôle des données obtenues par voie archéologique.

\* \* \*

Afin d'arriver à fixer la position chronologique des trouvailles, on se sert du *spectre épéirogénique* de la Fenno-Scandie; voir Fig. 9.

*Photo. V. Tanner, 1930.*

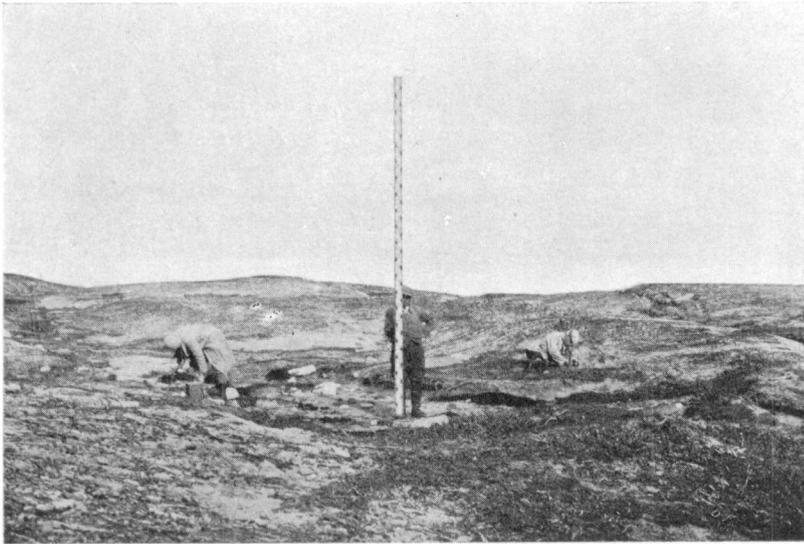


Fig. 1. Gisement paléolithique à 33.97 m au-dessus de la mer. Vuorjemi, Finlande.

Dans cet abaque, la série des traces représente les anciennes surfaces de rivages marins synchrones, successivement élevées obliquement de leur position primordialement horizontale à la suite de la surrection inégale de la lithosphère fenno-scandienne. La succession des traces correspond précisément à leur âge relatif, dérivé par des moyens géologico-paléontologiques (voir Tanner, 1930, pp. 272, 370, 501, 511), les traces les plus anciennes étant les plus déformées. Tout le système de lignes représente ainsi les positions réciproques actuelles des anciennes hydrosphéroïdes. Pour ce qui est des considérations théoriques à ce sujet, et de la construction

du diagramme, s'en référer à mon ouvrage récent (Tanner, 1930, p. 274 et suiv., 356 et suiv., 501 et suiv., 511), où la question vient d'être épuisée.

Les différents groupes d'antiquités sont distribués le long des côtes sur les terrasses littorales successivement élevées, suivant leur âge présumé, les groupes les plus jeunes à des altitudes inférieures, les plus âgés en haut. A ce sujet, on peut prendre comme exemple la distribution aux alentours de l'embouchure de la rivière Vuorjemi (en finlandais) ou Jakobs Graenselv (en norvégien), rivière formant la frontière entre la Finlande et la Norvège. Nummedal qui, en 1929 et en 1930, fit explorer archéologiquement ces parages eut, en 1930, l'amabilité de me démontrer sur place les différentes stations. En partant de la limite supérieure du *Balanus balanoides*, je déterminai alors par un nivellement l'altitude aussi bien des trouvailles que des formations littorales. Voici le résultat:

Finlande	Altitude en mètres au-dessus de la mer.	Norvège
	11.59	1. Entre les ruisseaux Storbækken et Leirbækken: un poignard de tuffite acide (du même type que la Fig. 10) et une pointe polie de schiste pelitique.
	14.87	Débris de poterie.
	14.89	» Eclats avec des marques de coups.
	17.97	Pointe polie de pélite.
	18.01	Terrasse limitée par
	19.06	un cordon littoral.
	19.67	Belle pointe polie en pélite.
	[23.26]	Limité supérieure des outils néolithiques actuellement connus.
	29.34	Terrasse à <i>Tapes I (c)</i> .
1. Près de la ligne téléphonique des maisons habitées à l'ancien beffroi russe, ancien foyer, indiqué par un cercle de pierres brûlées et par des éclats épars de diabase avec des marques de coups ( $\varnothing 69^{\circ}47'8.4''$ ; $\lambda 9^{\circ}53'19''$ )	29.28	

	30.63	Cordon littoral de l'assise à <i>Tapes</i> I (c).
	31.54	Terrasse.
2. Place avec beaucoup d'éclats provenant de la fabrication d'instruments; voir Fig. 1	33.97	
( $\varphi$ 69° 47' 8.6"		
$\lambda$ 5° 53' 19.6'' <sup>1</sup> )		
3. Eclats de quartz reposant sur une petite dune déflaée	33.88	
( $\varphi$ 69° 46' 38.8"		
$\lambda$ 5° 54' 30.9'' <sup>1</sup> )	38.50	2. Station paléolithique (Præstestuen II).
	42.73—	Station paléolithique (Præstestuen I).
	47.10	
4. Eclats de diabase	53.65	
( $\varphi$ 69° 46' 50.1";		
$\lambda$ 5° 54' 22.3'' <sup>1</sup> ); voir Fig. 3.		
5. Station paléolithique dans la passe entre Vuorjemi et Lapinhamina (Finbugten); voir Fig. 2.	51.67—	
( $\varphi$ 69° 46' 48.0"	53.86	
$\lambda$ 5° 54' 31.8'' <sup>1</sup> )		
		3. Stations paléolithiques du côté de Kobbholmsfiord.
	60.77—	III,3.
	62.39	III,2.
	64.61	II.
	65.70—	III,1.
	67.16	

La plus haute formation littorale du côté de Kobbholmsfjord (III, 2 ci-dessus) se trouve à 75.13 m. Toutefois il est vraisemblable que la limite, n'ayant pas été dépassée par la mer après l'époque glaciaire, se soit trouvée un peu plus haut, et que la terrasse s'y rapportant ait été oblitérée par l'abrasion marine pendant la régression.

Les trouvailles indiquées plus haut ont été introduites dans le spectre dit épéirogénique suivant l'échelle verticale, par rapport

<sup>1</sup> Voir la nouvelle carte topographique finlandaise à l'échelle de 1 : 20000, sect. Vuorjemi, 1925—26.

Cf. aussi Tanner, 1929, a, p. 17 (où l'on renvoie à Wessel, 1904; Brögger, 1909 et Solberg, 1909).

à l'ordonnée érigée sur le point de la trace *b* ou *c* qui est à la même hauteur au-dessus de la mer que la terrasse de l'assise à *Tapes*, *b* ou *c*, (*b* correspondant à la période Ertebölle en Danemark avec les débris de cuisine). Ceci fait, il ressort du diagramme, Fig. 9, que ces trouvailles littorales s'y distribuent en deux groupes assez nettement délimités, savoir:

*Photo. V. Tanner, 1930.*



Fig. 2. Gisement paléolithique à 51.67—53.86 m au-dessus de la mer. Vuorjemi, Finlande.

trouvailles de type paléolithique 67.16—38.50 m, soit 33.97 m  
 » » » néolithique 29.28, soit 23.26—11.50 m

Au dernier groupe, il faut adjoindre la trouvaille en Finlande (1) à 29.28 m sur la terrasse de l'assise à *Tapes*. Les éclats (3) à 33.88 m appartiennent aussi à ce groupe, étant donné qu'ils se trouvaient sur un amas de sable accumulé selon toute vraisemblance pendant la formation de la terrasse à *Tapes*. Au contraire, les éclats (2) à 33.97 m se trouvaient en partie ensevelis dans le gravier littoral, où ils s'étaient accumulés à une époque sensiblement plus vieille que la déposition des quartz à 33.88 m; on les attribue sans

hésitation à l'époque paléolithique (cf. plus haut). Parmi les trouvailles néolithiques, la zone 18.01—11.50 m peut être détachée pour former un groupe spécial auquel l'ancienne dénomination de *civilisation de la pierre polie arctique* paraît toujours convenir — du moins provisoirement.

Dans le spectre épéirogénique, on a aussi introduit, suivant le principe indiqué, les trouvailles suivantes:

*Photo. V. Tanner, 1930.*



Fig. 3. Gisement paléolithique à 53.65 m au-dessus de la mer. Vuorjemi, Finlande.

EN FINLANDE AUX CONFINS DE L'Océan Glacial.

Vaitolahti	(Tanner 1930, s. 49,584) <i>n</i> <sup>1</sup> , 23,67 m.
Väliniemi	( » » , s. 464) <i>p</i> <sup>2</sup> , 57.07, 61.68 m.
Grottug	( » 1929, s. 13; 1930, s. 105, 478) <i>n</i> , 14.5—18.5 m.
Maddemuetke	[ » 1930] <i>n</i> , appr. 15—17 m.
Salmijärvi, Niva	(Tanner 1930, s. 140 <sup>3</sup> ) <i>p</i> , 40.0—41.0 m.

<sup>1</sup> *n* = néolithique.

<sup>2</sup> *p* = paléolithique (incl. mésolithique).

<sup>3</sup> Recherches supplémentaires faites en 1930 avec Nummedal (Musée National, Helsingfors, No 9303).

- Salmijärvi, Harju ( » » , s. 470, 469<sup>1</sup>) *p.* 34.00, *p.* 36.50 m.  
 » Svanvik (Tanner, 1930, s. 470; Björn, 1930, s. 15) *n.* 24.00 m.  
 » Karhula ( » » , s. 475) *n.* 24.00 m.  
 » Menikkasaari, *n.* 25.00 m.  
 » Menikka (Solberg, 1916; Tanner 1930, p. 474; Björn 1930, s. 15) *n.*  
 35.15 m.  
 Saarikoski (Tanner 1930, s. 195) *n.* 14.00—15.51, [*n.* 23.00] m.  
 Kumpula ( » » , s. 477), *n.* c:a 15.0 m.  
 Jäniskoski ( » » , s. 475) *n.* 22.3 m.

Dans le Finmark norvégien.

Kirkenes (Tanner, 1930, p. 463) <i>p.</i> 60—70 m	au-dessus de la mer.
Næsseby (Nummedal, 1929, s. 97) <i>n.</i> 25 m; <i>p.</i> 45 m	» » » » »
V. Jakobselv (Tanner 1930, p. 478, 467; Björn 1930, s. 15) <i>n.</i> 8 m, 12 m; <i>p.</i> 45 m	» » » » »
Vadsö (Nummedal 1929 a, p. 94; 1929 b, p. 34) <i>p.</i> 30, 50—60 m	» » » » »
Vardö (Tanner, 1930, p. 478) <i>n.</i> env. 12 m	» » » » »
Baadsfiord ( » » , » p. 467) <i>p.</i> 20 m	» » » » »
Steinneset (Nummedal, 1929 a, p. 75) <i>p.</i> 60 m	» » » » »
Børselv ( » » , Tanner, 1930 p. 467) <i>p.</i> 40—50 m	» » » » »
Storbugten ( » » , » » , » p. » ) <i>p.</i> 42 m	» » » » »
Kolvik-Russedal (Nummedal, Tanner, 1930, p. 467; Björn, 1930, s. 14) <i>n.</i> 12 m; <i>p.</i> 49 (44) m	» » » » »
Repvaag (Nummedal, 1929 a, p. 38) <i>p.</i> 20—26 m	» » » » »
Honningsvaag ( » » , » » , p. 37) <i>n.</i> 8—10 m	» » » » »
Alten-Furubakken (Nummedal, 1929, p. 23; Björn, 1930, s. 14) <i>n.</i> 23—27 m	» » » » »
Alten-Kongshofmark (Nummedal, 1929, p. 26; Björn, 1930, p. 13) <i>n.</i> 25 m	» » » » »
Bossekop-Hjemmeluft (Nummedal, 1929, p. 29; Björn, 1930, p. 10) <i>n.</i> 26.61; <i>p.</i> 30 m	» » » » »
Alten (Nummedal, 1929, p. 8) <i>n.</i> 26 m, <i>p.</i> 52.4—57 m	» » » » »
Langfjordbotn-Nordskog (Nummedal, 1929, p. 2; Björn, 1930, s. 8) <i>n.</i> 20 m, <i>p.</i> (?), 30 m	» » » » »

Je passe sur maintes stations paléolithiques que Nummedal a découvertes aussi le long de la côte de l'Atlantique, ainsi que sur les observations correspondantes de Kaldhol (1925, 1930) à Möre

<sup>1</sup> Deux différentes trouvailles. Dans la dernière place, les antiquités, selon la description orale de Pälvi qui y fit des fouilles, se trouvent disposées sur une surface morainique directement sous la couche de tourbe, et sont dans ces circonstances-là plus jeunes que la transgression *c*, mais, à en juger d'après les types, pourtant paléolithiques.

et d'Enqvist (1922) à Bohuslän (cf. Asklund, 1929, p. 44)<sup>1,2</sup>, vu que dans ces régions je ne connais pas par autopsy les conditions géologiques quaternaires qui s'y rapportent. Par contre, la très intéressante station paléolithique de Sörli, dans le district de Ski, à l'Est d'Oslofiord, à l'altitude de 168.7 m au-dessus de la mer (cf. Nummedal, 1929 c, p. 480) a été introduite dans le spectre

*Photo. H. Rosendahl, 1928.*



Fig. 4. Gisement paléolithique à 61.68 m au-dessus de la mer découvert par Nummedal, à Väliniemi, Finlande. L'emplacement se trouve enseveli sous le cordon littoral clair un peu à droite du centre de la photo. Musée National à Helsingfors, N:o 8975.

épéirogénique selon le principe exposé plus haut. Il va de soi que, vu l'état actuel des recherches, la position des gisements dans le spectre est, à un certain degré, approximative.

\* \* \*

En examinant l'abaque complété, Fig. 9, on se souviendra que chaque station littorale même partiellement ensevelie dans le gra-

<sup>1</sup> Pour la Finlande voir Pälsi (1920) et Europæus-Åyräpää (1930, p. 170).

<sup>2</sup> Cf. Isberg.

vier déposé par la mer sur les anciennes plages, est plus vieille (ou au moins contemporaine) que la transgression durant laquelle elle fut enfouie.

Nummedal compte avec la possibilité qu'il y ait dans le Finmark des stations plus vieilles que «l'affaissement senglacial», c'est-à-dire la transgression à *Portlandia* (= mer dite à *Yoldia* dans la Baltique). En principe, j'adhère à cette opinion, ayant déjà auparavant (Tanner, 1930, p. 466) fait ressortir que les observations faites

Delin. V. Tanner, 1928.

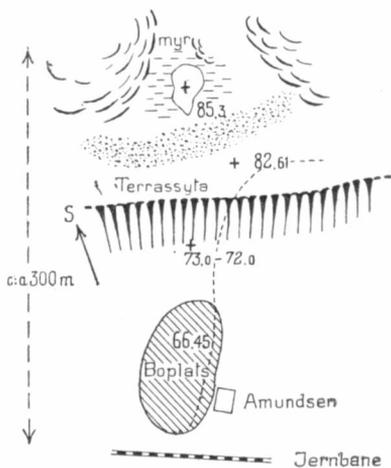


Fig. 5. Gisement paléolithique (=»Boplats») à environ 66 m au-dessus de la mer découvert par Nummedal à Kirkenes, Norvège.

par Kaldhol (1924) à Möre, rendent fort probable que l'homme ait séjourné aux alentours de Gjermundnes avant cette période du temps tardiglaciaire<sup>1</sup>.

Selon les faits actuellement connus à l'auteur et introduits dans le spectre, Fig. 9, l'homme ne serait pourtant arrivé à s'installer sur les côtes feno-scandiennes de l'océan Arctique que quelque temps après que la transgression à *Portlandia* se fut produite. Pour-

<sup>1</sup> Kaldhol (1924, p. 73; Björn, 1928) émet l'avis que ces vestiges humains datent déjà de l'époque interglaciaire, idée à laquelle je ne puis adhérer, l'interglaciaire de M. Kaldhol étant considéré par moi comme des périodes interstadias de la dernière glaciation (Tanner, 1929, p. 15; 1930, p. 375 et suiv.). Cf. Schwantes (1928, p. 163); Björn (1928),

tant, cette invasion eut lieu, selon ce qu'on connaît actuellement à ce sujet, à un moment où l'inlandsis recouvrait encore les parties du centre de la Fenno-Scandie.

A la lisière septentrionale du continent, les plus anciens indices de l'homme paléolithique actuellement connus dans ces régions, se trouvent à Våliniemi, dans la presqu'île des Pêcheurs, voir Fig. 4 En appliquant l'échelle dite géochronologique (dont les limites de

*Leg. A. Nummedal, 1928.*

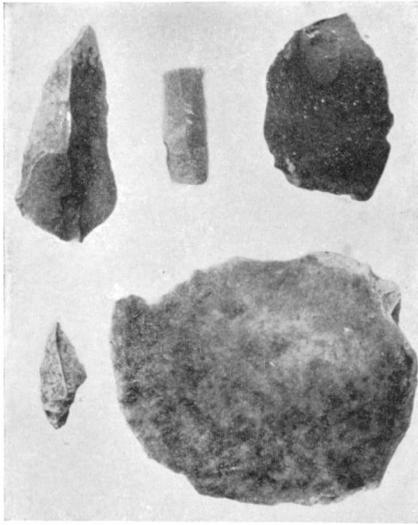


Fig. 6. Artefactes de la station paléolithique de 66 m au-dessus de la mer à Kirkenes, Norvège. Musée National à Helsingfors, N:o 8976. 1/2

validité ne pourront être discutées ici; voir De Geer, Lidén, Munthe, Ramsay, Schwantes, et d'autres) on pourrait en gros évaluer que l'homme y vécut environ 9500 ans avant nos jours<sup>1</sup>. Néanmoins on ne devrait pas s'arrêter à généraliser des conclusions prématurées; présentement nous ne connaissons que trop superficiellement les circonstances archéologiques de ces contrées pour être en état, surtout en ce qui concerne le paléolithique, d'établir de manière pro-

<sup>1</sup> Cette évaluation est toutefois très incertaine, vu que la régularité générale de l'exhaussement épérogénique a été troublée dans la presqu'île des Pêcheurs par des mouvements discontinus plus récents.

bante les niveaux d'invasion, les temps d'invasion, les routes de migration, etc.; seules des suppositions seraient maintenant possibles à ce sujet.

Dans les dépôts dénommés par Øyen *assise*[océanique] à *Littorina*, et datant de la période de régression intégrale qui suivit la

Leg. A. Nummedal & V. Tanner, 1930.

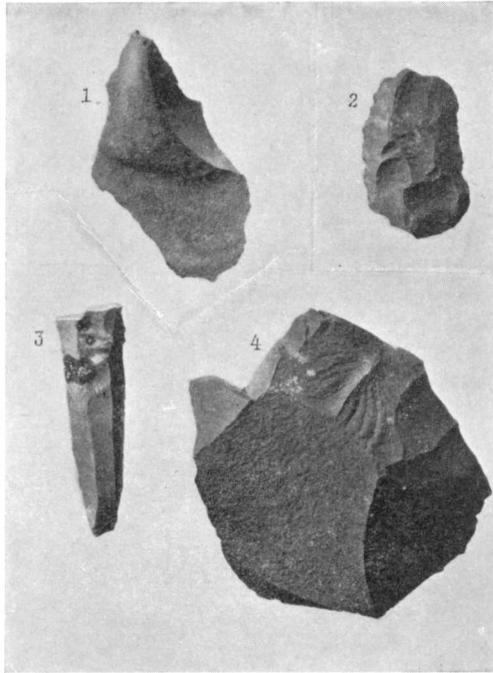


Fig. 7. Eclats-débris provenant de l'industrie paléolithique. Vuorjemi, Finlande. Musée National à Helsingfors, N:o 9303. 7/8.

1 & 4 = 53.65 m. 2 & 3 = 51.67 m.

transgression à *Portlandia*, on trouve à plusieurs endroits de la côte des vestiges de l'homme; cf. Figg. 5 & 6. Assurément, ce n'est pas une simple coïncidence que la position épéirogénique de la station de Sörli (voir Fig. 9), par exemple, corresponde à celle de plusieurs stations arctiques dans la Fenno-Scandie, malgré qu'elle soit presque diametralement opposée.

La période de régression fut interrompue par une inondation

générale considérable — la *transgression à Pholas* — survenue un peu avant que la *transgression à Ancylus* de la Baltique n'atteignît son maximum (Tanner, 1930, p. 350, fig. 66). On ne sait encore quelle fut la position du rivage marin avant que le niveau marin ne commençât à s'élever; pourtant il est évident que l'homme dut reculer

Leg. A. Nummedal & V. Tanner, 1930.

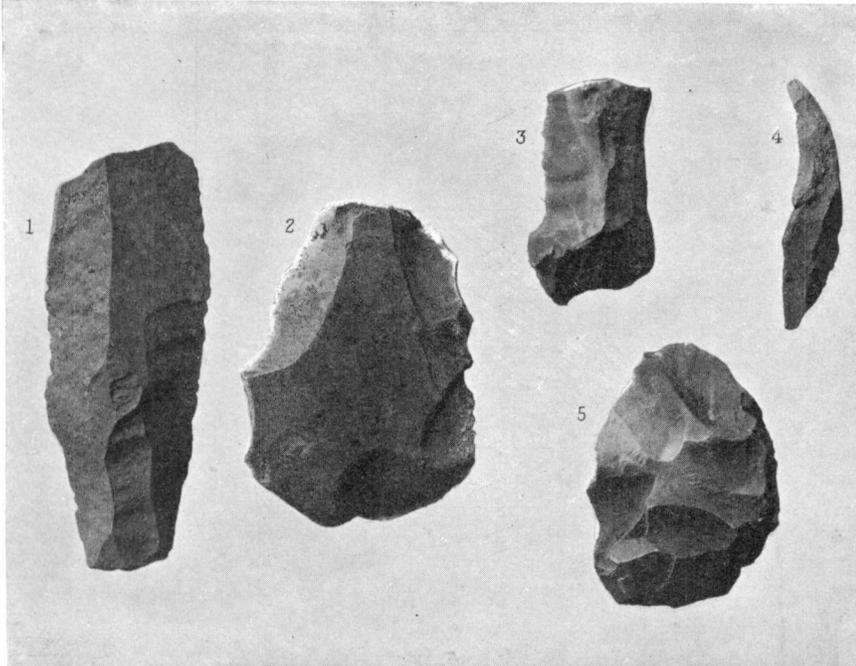


Fig. 8. Eclats-débris provenant de l'industrie paléolithique. Vuorjemi, Finlande.  
Musée National à Helsingfors, N:o 9303. 7/8.  
1, 2, 3, 5 = 51.67—53.86 m. 4 = 33.97 m.

devant la mer, jusqu'à l'endroit où celle-ci atteignit sa limite maximum. Selon l'échelle géochronologique, la transgression aurait été accomplie environ 9200 ans avant nos jours (avec la même réserve que ci-dessus); cf. Ramsay (1926, Fig. 8).

Plusieurs stations paléolithiques attribuables à l'époque de régression qui suivit la transgression à *Pholas* sont connues, (voir le diagramme).

A Salmijärvi j'ai trouvé en 1928 des débris de l'industrie paléolithique dans le gravier littoral de la plage formée pendant le maximum de la transgression à *Tapes la plus ancienne* (= à *Clypeus* dans la Baltique); voir Fig. 11. Les trouvailles d'instruments

*Delin. V. Tanner, 1930.*

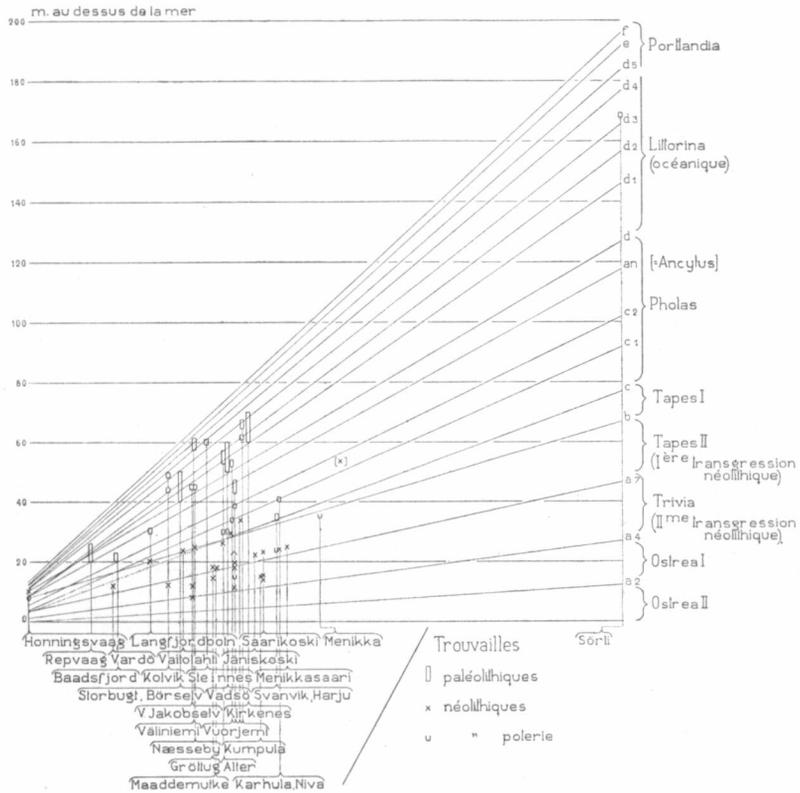


Fig. 9. Diagramme représentant les relations entre les trouvailles préhistoriques dans les parties septentrionales de la Fénno-Scandinavie et les assises géologiques.

paléolithiques reposant sur la surface de gravier littoral de la terrasse et faites en 1929 à Harju par Pälsi, doivent être expliquées par le fait que l'industrie paléolithique persistait encore pendant la régression qui suivit. La transgression à *Tapes* la plus ancienne aurait atteint son maximum environ 7300 ans avant nos jours, selon l'échelle géochronologique.

Nous parvenons maintenant au stade très important qui est marqué par le rivage maximum de la transgression à *Tapes la plus jeune* (= à *Littorina* dans la Baltique), enregistrée, suivant l'échelle géochronologique, à environ 5900 ans avant nos jours. Dans l'Europe centrale et méridionale, c'est à cette époque que se produisit généralement la transition entre l'industrie lithique avec des instruments uniquement taillés, et l'industrie des outils polis, en partie du moins. Autant que je sache, on ne connaît pas encore, sur la côte arctique de la Fenno-Scandie, d'ustensiles polis attribuables au maximum de cette transgression; les outils de pierre polie trouvés avec des grains de charbon dans des couches de cailloutis sur la terrasse maximum de *Tapes la plus jeune* proviennent évidemment d'une période plus récente (voir ci-dessus) dont la date exacte est inconnue. Dans ces régions, les stations, à présent connues, avec des outils de types néolithiques (avec poterie) et situées sur des terrains plats, n'ont en tout cas pu être occupées avant que la mer n'eût régressé au moins jusqu'à une altitude de 76—73 % du maximum de l'assise à *Tapes la plus jeune*. Pour ces raisons, je suis enclin à faire remonter provisoirement la limite entre l'âge de la pierre paléolithique et l'âge néolithique dans la région côtière fenno-scandienne de l'océan Arctique, à un stade de régression d'environ 70 % (?) de l'altitude du dit rivage maximum. Cela correspondrait à peu près aux conditions observées dans les parties plus méridionales de la Fenno-Scandie.

La régression ayant fini par dépasser un peu le 60 % de l'altitude du rivage maximum de *Tapes plus jeune*, une nouvelle transgression survint en Fenno-Scandie, celle que Ramsay nomme (1926) la *deuxième transgression de l'âge de la pierre* [néolithique], et Øyen (1915) l'assise à *Trivja*. Cette transgression qui, dans les parties méridionales de la Fenno-Scandie, coïncide à peu près avec la transition de l'âge de la pierre à l'âge du bronze, serait survenue environ 3750 (cf. Rydbeck, 1928, p. 30) ou 4200 ans (cf. Ramsay, 1926, p. 31 et suiv.) avant nos jours. Sur les plages fenno-scandiennes de l'océan Arctique, on trouve pour cette époque un inventaire à outils polis en schiste-pélite surtout, ou en os, et de la poterie, représentant une culture de chasse et de pêche, généralement connue sous la dénomination: *l'âge de la pierre arctique*, cf. Fig. 10 & 11. Le type des habitations (cf. Tanner, 1929 b, Fig. 4) rappelle vivement

les tentes des Esquimaux, observation très importante pour les recherches futures et tirée au clair par les fouilles de Pälvi en 1929.

Comme je viens de le dire, l'époque de la pierre polie paraît avoir expiré dans les parties méridionales de la Fenno-Scandie quand la transgression à *Trivvia* atteignit à peu près son maximum. Au contraire, dans la région côtière de l'océan Arctique, l'emploi des outils en pierre polie se prolongea encore pendant des millénaires. A l'ouest de Skittenelv (Nordvaranger) Nummedal trouva en

*Leg. V. Tanner, 1929.*

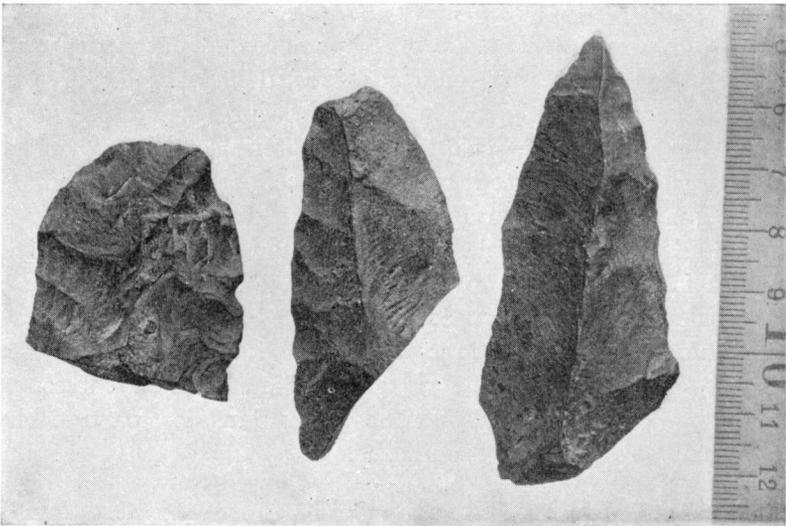


Fig. 10. Pointes. Saarikoski, Finlande. Musée National à Helsingfors, N<sup>o</sup> 9071.

connexion avec une ancienne terrasse littorale à 8 m au-dessus de la mer, une pointe de navette qui correspond aux formes de la période à cistes funéraires en dalles (hällkisttiden), type qui a aussi été trouvé dans des tombeaux de l'âge du bronze. On peut en conclure que le niveau marin était alors à moins de 30 % de l'altitude du rivage de l'assise à *Tapes* la plus jeune. L'usage de la pierre polie dans le ménage n'avait pas même alors discontinué dans ces parages. Dans un ancien tombeau à dalles de type lapon à Varanger, Saba trouva un couteau de schiste pélitique dans l'inventaire se composant principalement d'ustensiles de fer. A

moins que le couteau n'ait servi d'amulette ou d'instrument sacerdotal — ce qui n'est pas exclu, mais paraît peu probable, — on devrait en conclure que les outils en pierre et en os étaient utilisés dans ces contrées au moins encore pendant l'âge du fer (cf. Solberg, 1910).

\* \* \*

Pour pouvoir établir définitivement les limites chronologiques par rapport aux assises géologiques entre les différentes phases de

*Leg. V. Tanner, 1928.*

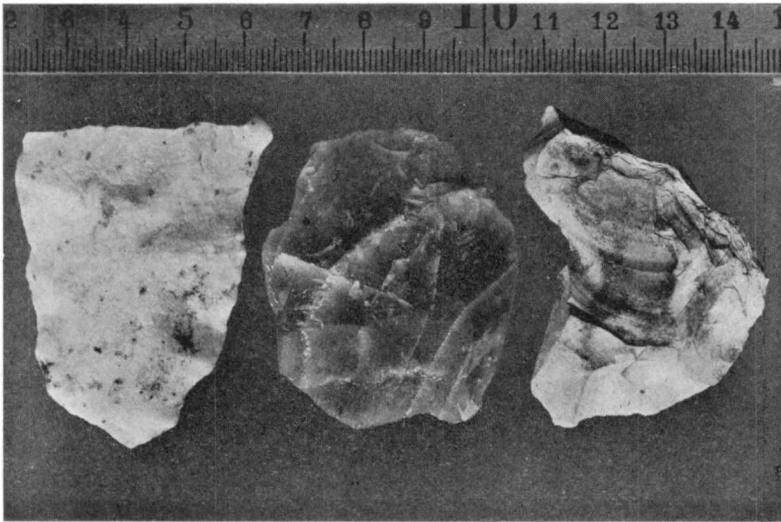


Fig. 11. Pointe et racloir de Saarikoski; (plus à gauche) éclat de l'industrie paléolithique de Niva, Finlande. Musée National à Helsingfors, N:o 9072.

civilisation préhistorique dans la région de l'océan Arctique, et pour réussir à débrouiller les questions nettement archéologiques, routes d'immigration<sup>1</sup>, relations ethniques<sup>2</sup> et autres questions, les recherches sur les lieux devront être sensiblement élargies. Cela concerne

<sup>1</sup> Cf. Björn (1928, p. 76 et suiv., 1930). Cf. Isberg (p. 399).

<sup>2</sup> Björn (1930, p. 54, note 1) écrit: Tanner suppose que la civilisation dite Komse (= des paléolithiques du Finmark) fut introduite par les ancêtres des Lapons, supposition que je ne peux partager.

Il me paraît toujours qu'on peut envisager une telle éventualité — «tanke» (Tanner, 1929, p. 287) —; pourtant j'ai textuellement annoté (1929, p. 14): Rien

aussi et tout particulièrement les parties russes de la Fenno-Scandie septentrionale, actuellement presque complètement inconnues au point de vue archéologique. On peut de plus affirmer qu'un intérêt extraordinaire s'allie aux conditions en question justement dans ces régions; car, tant qu'on ne possèdera pas des informations exactes, la discussion des migrations dans le paléolithique fenno-scandien et d'autres circonstances restera en l'air.

Deux conclusions générales se dégagent pourtant déjà.

D'une part, les recherches récentes ont nettement confirmé la découverte capitale, faite par Nummedal en 1926, des vestiges d'industrie paléolithique très répandus dans ces parages arctiques. Il est aujourd'hui hors de doute qu'au delà de l'époque néolithique en Fenno-Scandie, il y avait, du moins dans la région côtière océanique, des outils très variés et des éclats-débris provenant d'une époque de civilisation paléolithique. Cette époque remontait jusqu'aux temps où des parties considérables de la Fenno-Scandie centrale étaient encore ensevelies sous les résidus de l'inlandsis ou submergées sous des nappes d'eau. Les traces les plus anciennes de cette industrie paléolithique devraient, suivant l'échelle dite géo-chronologique, remonter à une dizaine de millénaires avant nos jours.

Mais, d'autre part, il est aussi indubitable que l'invasion de l'homme paléolithique n'eut lieu en Fenno-Scandie qu'après que la fonte du dernier inlandsis avait commencé, quand l'exhaussement épéirogénique s'était produit depuis longtemps. La dernière glaciation régionale fut notamment une catastrophe qui supprima toute manifestation de vie en Fenno-Scandie (éventuellement à l'exception de quelques plantes alpines).

\* \* \*

En achevant ces lignes, je ne peux manquer d'adresser mes remerciements sincères pour toute son amitié et pour tous ses renseignements pendant nos rencontres sur les lieux ci-dessus abordés, à M. Nummedal, l'érudit pionnier de l'étude du paléolithique en Fenno-Scandie.

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n'est encore connu qui puisse confirmer ou infirmer l'idée d'une connexité entre les paléolithique de la Fenno-Scandie du Nord et les ancêtres des Lapons (cf. *ibid.*, p. 16, 17, 419). Cette conception s'applique aussi aux néolithique (Tanner, *ibid.*, p. 17; cf. Björn, 1930, p. 51 et suiv.).

## BIBLIOGRAPHIE.

- Asklund, Bror. *Stenåldern och nivåförändringarna*. Geolog. Fören. i Stockholm Förhandl., Bd. 51, s. 37. Stockholm 1929.
- Björn, Anathon. *Træk av Søndmørs stenalder*. Bergens Mus. Aarb. 1919—1920. Hist.-antikv. række, No 4. Bergen 1920.
- —. *Landsænkninger i yngre stenalder eller lokale oscillationer*. Naturen, 1921, s. 84. Bergen 1921.
- —. *Nogen norske stenaldersproblemer*. Norsk. geol. tidskr., Bd. X, h. 1. Oslo 1928.
- —. *Studier over Fosnakulturen*. Bergens Mus. Årb. 1929, No 2. Bergen 1929.
- —. *Nye boplassfund fra yngre stenalder i Finnmark*. Instit. f. sammenligng. kulturforskning, ser. C II—3. Oslo 1930.
- —. *Noen bemerkninger om Komsakulturen*. Fornvännen, 1930, p. 342. Stockholm 1930.
- Brøgger, A. W. *Den arktiske stenalder i Norge*. Vidensk.-Selsk. Skr. II, 1909, N:o 1. Christiania 1910.
- De Geer, Gerard. *Om den definitiva forbindelsen mellan den svenska tidsskalans senglaciala och postglaciala tid*. Geol. För. Förh., Bd. 46, s. 439. Stockholm 1924.
- —. *Förhistoriska tidsbestämningar och kulturutvecklingen*. Ymer, 1925, s. 1. Stockholm 1925.
- —. *On the Solar Curve as dating the Ice Age, the New York moraine and Niagara falls trough the Swedish time scale*. Geografiska Annaler, 1926, s. 253. Stockholm 1927.
- —. *The finiglacial subepoch in Sweden, Finland and the New World*. Sep. Ibid. 1930, s. 101. Stockholm 1930.
- Ekholm, G. *Ett nordskandinaviskt paleoliticum?* Fornvännen, 1929, p. 196. Stockholm 1929.
- Enqvist, A. *Stenåldersbebyggelsen på Orust och Tjörn*. Akademisk avhandling. Uppsala 1922.
- Europæus-Åyräpää, Aarne. *Die relative Chronologie der steinzeitlichen Keramik in Finland*. I. Acta archæologica, Vol. I., Fasc. 2., p. 165. København 1930.
- Isberg, Orvar. *Till frågan om människans och renens första uppträdande på den skandinaviska halvön under postarktisk tid*. Ymer, 1930, s. 381. Stockholm 1930.
- Kaldhol, H. *Møre Fylkes kvartærgeologi*. III. Kgl. Norske Vidensk.-Selsk. Skr., 1924, N:o 4. Trondhjem 1925.
- Lidén, Ragnar. *Om isafsmältningen och den postglaciala landhöjningen i Ångermanland*. Geol. Fören. Förh., Bd. 33, s. 271. Stockholm 1911.
- —. *Geokronologiska studier öfver det finiglaciala skedet i Ångermanland*. Sveriges Geolog. Undersökning, Ser. Ca., N:o 9. Stockholm 1913.
- Munthe, Henr. *Några till den fennoskandiska geokronologin och isavsmältningen bundna frågor*. Ibid., Ser. C., N:o 358. Stockholm 1929.

- Nummedal, A. *Om flintpladsene*. Norsk geol. tidskr., Bd. VII, s. 89. Kristiania 1923.
- ». *Stenalderfundene i Alta*. Ibid., Bd. IX, s. 43. Oslo 1926.
- ». *Et steinalderfund i Ski*. Ibid., Bd. X, s. 474. Oslo 1929.
- ». *Stone age finds in Finmark*. Instituttet for sammenlignende kulturforskning. Ser. B, N:o XIII. Oslo 1929.
- ». & Rosendahl, H. *Beretning om en reise i Østfinnmark 1927*. Norsk geolog. tidskr., Bd. X, s. 458. Oslo 1929.
- ». *Noen stenredskaper fra Finmark*. Sep. Universitetets Oldsakssamlings skrifter, Bd. II, s. 17. Oslo 1929.
- Pälsi, Sakari. *Ein steinzeitlicher Moorfund bei Korpilahti im Kirchspiel Antrea, Län Viborg*. Suomen Muinaismuistoyhdistyksen Aikakauskirja XXVIII, 2. Helsinki-Helsingfors 1920.
- Ramsay, Wilhelm. *Nivåförändringar och stenåldersbosättning i det baltiska området*. Fennia 47, N:o 4. Helsingfors 1926.
- ». *Silmäys Suomen syntyyn*. Kutsu Maisterin- ja Tohtorinpromotionsieihin toukokuun 31 päivänä 1927. Helsinki 1927.
- Rydbeck, Otto. *Stenåldershavets nivåförändringar och Nordens äldsta bebyggelse*. Sep. Kgl. Humanist. Vetensk.-Samfundets årsberättelse, 1927—1928. Lund 1928.
- Sandegren, R. *Ragundatraktens postglaciala utvecklingshistoria*. Sveriges Geol. Unders., Ser. Ca, N:o 12. Ny upplaga. Stockholm 1924.
- Sauramo, Matti. *The Quaternary Geology of Finland*. Bull. Comm. Géol. Finlande, N:o 86. Helsinki-Helsingfors 1929.
- ». *Till frågan om Yoldiagränsen och isrecessionen i Finland*. Geol. För. Förh., Bd. 52, s. 269. Stockholm 1930.
- Schwantes, G. *Nordisches Paläolithikum und Mezolithikum*. Mitteil. aus dem Mus. f. Völkerkunde in Hamburg, Bd. XIII. Hamburg 1928.
- Solberg, O. *Eisenzeitfunde aus Ost-finmarken*. Lappländische Studien. Vidensk.-Selsk. Skr., II. Hist.-filos. Kl., 1909, N:o 7. Christiania 1910.
- ». *Mennikkafundet. En stenåldersboplads ved Pasvikelven i Sydvaranger*. Oldtiden, 1916. Kristiania 1916.
- ». *Finmarkens oldtid*. Nordlandet. Kristiania 1920.
- Tanner, V. *Om Petsamo-kustlapparnas sägner om forntida underjordiska boningar, s. k. »jennam vuolas kuatt»*. Finskt Museum, Bd. XXXV, N:o 1, 1928. Helsingfors 1929.
- ». *Antropogeografiska studier inom Petsamo-området. I. Skott-lapparna*. Fennia 49, N:o 4. Helsinki-Helsingfors 1929.
- ». *Studier över kvartärsystemet i Fennoskandias nordliga delar. IV. Om nivåförändringarna och grundragen av den geografiska utvecklingen efter istiden i Ishavsfinland samt om homotaxin av Fennoskandias kvartära marina avlagringar*. Bull. Comm. Géol. Finlande, N:o 88. Helsinki-Helsingfors 1930.
- Westerby, Erik, *Den mesolitiska Tid i Norden*. (Mellemstenalderen). Ymer, 1931, p. 41. Stockholm 1931.
- Øyen, P. A. *Kvartær-studier i Trondhjemsfeltet*. III. Kgl. Norske Vidensk.-Selsk. Skr., 1914, N:o 6. Trondhjem 1915.

SUOMEN MUINAISMUISTOYHDISTYKSEN AIKAKAUSKIRJA  
FINSKA FORNMINNESFÖRENINGENS TIDSKRIFT  
XXXIX: 2

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ZU DEN SOGENANTEN  
PRÄHISTORISCHEN  
STEIGEISEN

VON

*A. MAHR*

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HELSINKI 1934 HELSINGFORS



## Zu den sogenannten prähistorischen Steigeisen.

In der Literatur wohlbekannt sind schon seit geraumer Zeit einige eigentümliche Geräte aus Eisen oder auch Bronze, die zuerst aus kärntnischen Fundkomplexen der Hallstattzeit besser bekannt wurden und unter dem Namen »Steigeisen« gehen.

Diese Deutung ist, soviel ich sehen kann, niemals angefochten worden<sup>1</sup> und es ist in der Tat schwer erkennbar, welchem anderen Zwecke diese Geräte gedient haben könnten. Dazu kommt, dass sie bisher niemals in einem Fundzusammenhang zutage gekommen sind, der ein Licht auf ihre Zweckbestimmung hätte werfen können. In Ermanglung anderer Anhaltspunkte legte die Formähnlichkeit mit heutigen Steigeisen ohneweiteres die offensichtlich richtige Erklärung nahe.

Nun ist aber neuerdings ein Paar »Steigeisen«, oder wie es in diesem Fall von vornherein richtiger heissen müsste, »Steigbronzes«, wissenschaftlich erfassbar geworden, das geeignet ist, berechnete Zweifel an der Richtigkeit der Steigeisenerklärung überhaupt zu erwecken.

Der vorliegende Aufsatz bezweckt, diesen Fund vollinhaltlich zur Kenntnis der Fachgenossen zu bringen und in Anschluss daran alle vor- und frühgeschichtlichen »Steigeisen«, die dem Verfasser bekannt sind, in Kürze zusammenzustellen. Es wird sich erweisen, dass das Ergebnis nicht befriedigend eindeutig ist und dass an Stelle der bisher widerspruchslos geltenden Steigeisenerklärung in mehreren Fällen nichts besseres als ein Fragezeichen tritt. Aber vielleicht werden uns künftige Funde in die Lage setzen, klarer zu sehen, zumal der neue Fund andeutet, in welcher Richtung die Erklärung zu suchen sein dürfte.

Wir wollen zunächst die neue Fundtatsache kennen lernen.

Im Sommer 1933 hatte ich Gelegenheit, die überaus grosse

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<sup>1</sup> Zustimmend z. B. P. Reinecke, *Altertümer unserer heidn. Vorzeit*, V, 366.

Privatsammlung krainischer Funde, die von weiland Ihrer Hoheit der Herzogin Marie von Mecklenburg ergraben worden ist, wissenschaftlich zu registrieren. Die Sammlung befand sich damals in Lagerräumen in Zürich um nach Amerika zur Versteigerung befördert zu werden.<sup>1</sup>

Zur Zeit als unsere Arbeit begann, präsentierte sich die Sammlung als eine furchteinflössende Anhäufung von rund 25.000 Objekten, die, in ihrer Zusammendrängung auf dicht gepflasterten Stellbrettern, auch dem flüchtigsten Beschauer einen Vorgeschmack von der heillosen Plage gaben, die unser da harrte. Es musste jedem halbwegs erfahrenen Museumsmann klar sein, dass hier nur radikales Durchgreifen zum Ziele führen konnte. Eine oberflächliche Ordnung dieser Fundmassen vom beliebten eklektischen Standpunkte verbot sich von selbst, umso mehr als z. B. die ganze Keramik sich noch in dem Zustand der seinerzeitigen Einlieferung befand (Scherben um einen Kern steinhart gewordenen Lehms, in Papierpacken usw.), während die Bronzen in ihrer auch für hartgesottene Hallstattspezialisten unerhörten Formenfülle deutlich erkennen liessen, welche wissenschaftliche Werte hier in Gefahr standen, durch unsachgemässe Zersplitterung und Zerstörung der noch rekonstruierbaren Verbände endgiltig verloren zu gehen.

Das traurige Schicksal der krainischen Hallstattfunde ist wohl bekannt und es genügt, in diesem Zusammenhange die Bemerkung Menghins<sup>2</sup> zu zitieren: »Über Krain, das vor einem Menschenalter das Dorado aller Raubgräber und ein Mittelpunkt wissenschaftlichen Interesses war, ist es in der Literatur sehr still geworden. Die Art, wie hier zugegriffen wurde, hat die spätere Forschung

<sup>1</sup> An dieser Arbeit beteiligte sich, in wechselnder Zeitdauer, eine ganze Anzahl von Fachgenossen aus verschiedenen Ländern, nämlich G. Bierbaum-Dresden, S. Gallus-Ödenburg und Budapest, F. Holste-Marburg a. L., R. Lantier-Paris, G. v. Merhart-Marburg a. L., J. M. de Navarro-Cambridge (England), F. v. Tompa-Budapest, E. Vogt-Zürich, sowie als Vertreter der Eigentümerin Dr. G. v. Samsonoff-Paris. — Siehe den Katalog: *Collection of Prehistoric Antiquities excavated by H. H. the late Duchess Paul Friedrich of Mecklenburg*. New York 1934. American Art Association-Anderson Galleries, Inc. (Sale 4081); erstellt vom Schreiber dieser Zeilen und mit Beiträgen von Lantier, v. Merhart, de Navarro, B. Saria-Laibach, v. Tompa und Vogt (131 pp., 30 Taf.).

<sup>2</sup> Moriz Hoernes und Oswald Menghin, *Urgeschichte der Bildenden Kunst in Europa*, 3. Aufl. Wien 1925, 842.

stark gehemmt. Eine zusammenfassende Darstellung der überreichen Materialien wurde niemals gegeben». — In einem verwerflichen! Wettrennen der hauptsächlich beteiligten Museen, richtiger gesagt der durch sie ausgehaltenen Raubgräber, ist diese wichtigste Fundprovinz gründlich zerstört worden und die in Wien und Laibach erliegenden Fundmassen werden auch im günstigsten Falle nie mehr recht zum Sprechen gebracht werden können.

Wie ich in der Einleitung zum Mecklenburg-Kataloge ausführlich darlege, können die Funde der Herzogin von Mecklenburg



Abb. 1. Magdalenaberg.

heute beanspruchen, das bestbelegte Material aus der krainischen Hallstatt- und La Tènezeit zu enthalten. Diesen potentiellen Tatbestand galt es aber erst zu erarbeiten, und hiefür standen nur sieben kurze Wochen und ein stets wechselnder Stab von Helfern zur Verfügung. Die Arbeit wurde nach dem von mir im irischen Nationalmuseum geübten Verfahren durchgeführt; der etwa 4 m lange Zettelkatalog weist 996 gesicherte Grabinhalte aus, die sich z. T. auf wohlbekannte Fundstätten wie Magdalenaberg bei St. Marein (Magdalenska Gora oder Šmagdalena pri Šmarju), St. Veit bei Sittich (Št. Vid pri Stični), Watsch (Vače) usw. verteilen (alles fast ausschliesslich hallstättische Materialien), z. T. aber auch aus Krain bisher noch kaum vertretene Kulturen nordwestbalkanisch-japodischen Gepräges zeigen (die 353 Gräber der Nekropole

Weinitz-Vinica). Dazu kommen dann noch sehr viele kleinere Fundplätze und die Massen nicht näher zuzuweisenden Materiales aus den genannten Plätzen (Zufallsfunde usw.), die die Gesamtzahl der vorhandenen Grabinhalte auf mindestens 1325 ansteigen lassen.

Die Grabungen der Herzogin währten von 1905 bis zum Ausbruch des Weltkrieges; der 2. August 1914 ist der letzte belegte Grabungstag. In den zwanzig seither vergangenen Jahren hat die Sammlung recht wechselvolle Schicksale mitgemacht, auf die hier nicht näher eingegangen werden kann.

Uns interessieren hier nur die Gräber vom Magdalenenberg, denn eines von ihnen enthält den Fund, von dem hier ausgegangen werden soll. Vom Magdalenenberg<sup>1</sup> liegen in der Sammlung Mecklenburg Funde aus zehn grossen Grabhügeln vor, die sich auf 355 gesicherte Grabinhalte verteilen.<sup>2</sup> Hügel IV (ergraben 1908), mit 65 Gräbern, und Hügel X (1913), mit 79 Gräbern, waren die ergiebigsten. Das uns hier beschäftigende Grab ist Grab 43 in Hügel IV, gehoben am 3. Juli 1908. Es ist aller Wahrscheinlichkeit nach ein Reitergrab (der Grabungsbericht gebraucht die Bezeichnung »Pferdegrab«, doch handelt es sich nicht um eine eigentliche Pferdebestattung) und es ist der Erwähnung wert, dass der Hügel noch drei ähnliche Bestattungen mit Pferden barg.

Das Grab enthielt die folgenden Beigaben:

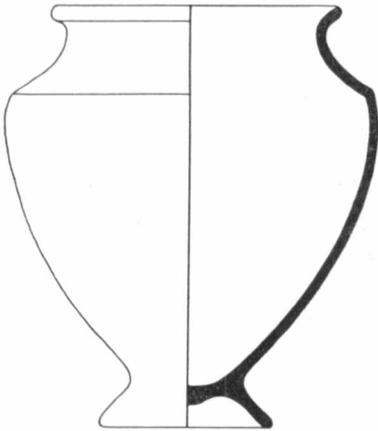
1. Eisernes Tüllenbeil (Abb. 1);<sup>3</sup>
2. Bronze, Schlangenfibel (Abb. 1);
3. Bronze, kleine Riemenösen, z. T. noch auf Leder befestigt gewesen (Abb. 1);
- 4, 5. Zwei »Steigeisen« aus Bronze (Abb. 1);
6. Tongefäss mit hohlem Standfuss (Abb. 2)<sup>4</sup>, schwärzlich, schlechter Ton aussen mit Graphitschlich, 25 cm hoch;

<sup>1</sup> Siehe R. Lantier, *The Cemetery of Magdalenska Gora (Magdalenenberg bei St. Marein) in Carniola, Yugoslavia*. Katalog Mecklenburg wie zuvor, 39—46.

<sup>2</sup> Die Gesamtzahl der Gräber muss indes rund 400 betragen haben; alle Funde von diesem Gräberfeld befinden sich jetzt in den Sammlungen des Peabody Museums, Harvard University, Cambridge, Mass., U.S.A.

<sup>3</sup> Die Vorlagen zu dieser Abbildung sind nach Negativen im Besitz des Schweizerischen Landesmuseums zu Zürich angefertigt worden, für deren Gebrauch ich Herrn Dr. E. Vogt zu bestem Dank verpflichtet bin. Maszstab kaum 2:5 n. G.

<sup>4</sup> Die Gefässe sind seither im Peabody Museum restauriert worden. Für die Einzelbeschreibung und die Vorlagen für die Abbildungen 2—4 habe ich meinen Freunden H. L. Movius und Dr. H. O'Neill-Hencken vom Peabody Museum herzlich zu danken.



Aab, 2. Magdalenaberg.

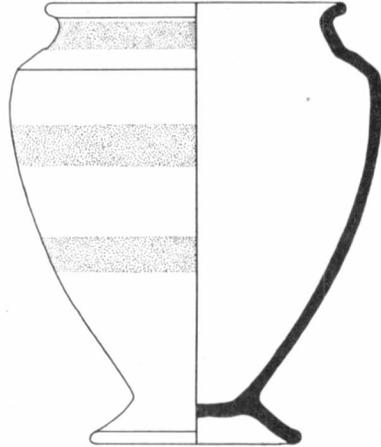


Abb. 3. Magdalenaberg.

7. desgl. (Abb. 3), rötlich, innen dunkel, aussen mit rotem Schlichüberzug; schwarze Bemalung der wohl bekannten Art in drei Zonen; 27 cm hoch;

8. desgl. (Abb. 4), ganz ähnlich wie No. 7, aber gedrungener, etwa 30 cm hoch (das Vorhandensein dieses dritten Gefässes stellte sich erst in Amerika heraus; die Scherben der beiden Gefässe 7 und 8 waren in einem Pack vermengt und die Bruchstücke von 8 genügten nur für eine Rekonstruktion am Papier);

9. Pferdeskelett (zu schlecht erhalten um eine Untersuchung zuzulassen);

(10). (die menschlichen Skelettreste, deren ursprüngliches Vorhandensein als gesichert gelten darf, da es sich hier gewiss nicht um eine Verbrennung handeln wird, waren in Zürich nicht mehr festzustellen).

Die beiden »Steigeisen« waren uns natürlich schon bei der ersten Besichtigung der Sammlung aufgefallen, aber ihr Fundzusammenhang stellte sich erst am vorletzten Arbeitstage heraus, als es endlich gelang, den dabei befindlichen Fundzettel endgiltig zu entziffern und richtig zuzuweisen. Diese Zuweisung ist absolut verlässlich und wird nicht nur durch das gleichartige Aussehen der Bronze der Stücke 2—5, sondern auch durch »paläographische« Kennzeichen an den Zetteln selbst ferner gestützt.

Das Auftreten der beiden »Steigeisen« in einem Reitergrab war natürlich eine grosse Überraschung und hat mich dazu geführt, alle sonstigen Geräte dieser Art, nach Literaturexzerpten und Museumsnotizen, einer kleinen Überprüfung zu unterziehen. Die mir bekannten Funde von prähistorischen »Steigeisen« seien im folgenden zusammengestellt:

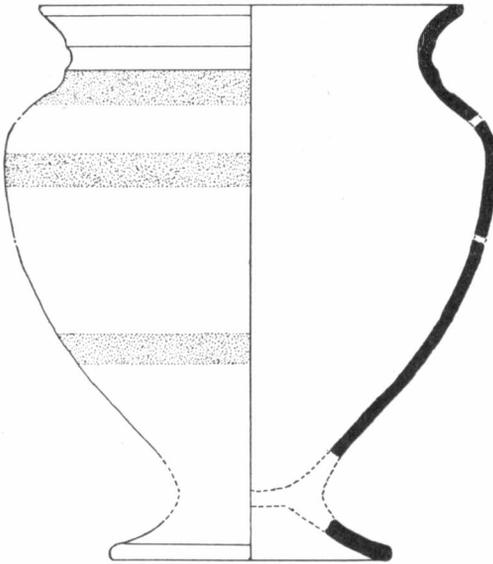


Abb. 4. Magdalenenberg.

1, 2. Treffelsdorf, Kärnten. Am bekanntesten ist das Paar von »Steigbronzene« aus einem Verwahrfunde, der im Juni 1889 für das Kärntnische Landesmuseum zu Klagenfurt angekauft wurde<sup>1</sup> und in der Literatur als Fund von Treffelsdorf bei Ottmanach geht. Die Fundstelle ist der Steilabhang des Zehnerberges, eines Vorberges des Helenenberges, welcher letzterer als wichtige römische Fund-

stelle und als ein Brennpunkt altkärntnischen Volksbrauchtums weit über die Landesgrenzen hinaus bekannt ist.

Der Fund ist im Museum unter den Nummern 6104—6118 registriert und umfasst folgende Stücke (alle bis auf 6111 Bronze) (Abb. 5 und 6).<sup>2</sup>

6104: Hohlbeil, viereckig-rundliche Öffnung; mit drei Zierrippen; 12,2 cm lang. Graugrüne Patina, teilweise entfernt.

6105 a: »Steigschuh«, gegossen, beiderseits aufwölbend (mit rundlicher Kante und mit je einem runden Befestigungsloch), Sohlenteil mässig gebogen verbreitert. Unten sechs Zacken, unregelmässig vierkantig, nicht spitz, sondern mit kurzen Schneiden, die quer zur Gehrichtung stehen. Länge 12,4, grösste Breite 3, Höhe 4,1, die Löcher nur 0,6 und 0,7 weit. Unansehnliche Patina. Unregelmässige Längsfurchen in der Patina zwischen den Zacken sind wohl neueren Ursprungs.

6105 b: ähnlich, aber die beiden aufgebogenen Teile enden mit gerader Kante. Sohlenteil geradlinig verbreitert. L. 11,8, gr. Br. 3,2, H. 2,8. Gleiche Patinierung.

Bei einem Vergleich mit den bronzenen Stücken in der Sammlung Mecklenburg fällt sofort auf, dass die Zähne der Treffelsdorfer Stücke gegenständig sind,

<sup>1</sup> Karl Baron Hauser, *Fundchronik für prähistorische, römische und altgermanische Alterthümer in Kärnten*. Carinthia (Klagenfurt), 1896, 42.

<sup>2</sup> Für die Vorlagen habe ich Herrn Dr. F. Kahler, Herrn Ing. F. Kahler und Herrn Dr. F. Jantsch in Klagenfurt zu danken.

die der Magdalenaberger aber ein wenig alternieren. Auch sind die letzteren zapfenförmig-spitz, während die Treffelsdorfer in länglichen Schneiden (0,5-0,6 lang) enden. Doch sind diese Unterschiede wohl zu geringfügig, um ihnen viel Wert beizumessen.

6106: Schaftteil eines Lappenbeiles mit oberständigen Lappen und Öse; auf der einen Seite unter der Patina zwei kleine eingeschlagene Marken, auf der anderen eine Marke IIXI. Noch 7,2 lang. Ungleichförmige Patina, z. T. entfernt.

6107: Schneidenteil eines Lappenbeiles, noch 7,6 lang. Patina wie 6105.

6108: ähnlich, doch wohl von einem Hohlbeil. Noch 4,7 lang. Gleiche Patina.



Abb. 5. Treffelsdorf.

6109: Lappenteil eines Beiles mit (wie es scheint oberständigen) Schaftappen, stark beschädigt, noch 7,2 lang, Patina meist entfernt.

6110 c: Fragment eines sägeartigen Bronzeblattes (zwei andere, a und b, müssen vorhanden gewesen sein, sind aber jetzt unauffindbar), noch 5,4 lang, 1,5 breit und 0,1 dick. Unansehnliche Patina.

6111: Ton, Randscherbe eines Freihandgefäßes, grauschwarz, Rand schwach ausladend; 0,6 dick. Dazu ein Blechbandfragment.

6112: Bommel. Hohl-guss mit fünf Schlitzten, Aufhängeöhr gebrochen; 3,7 lang. Patina unansehnlich, z. T. entfernt.

6113: Bronzestreifen, gebogen, beiderseits eingekerbt, 3 lang, 0,5 breit (unauffindbar).

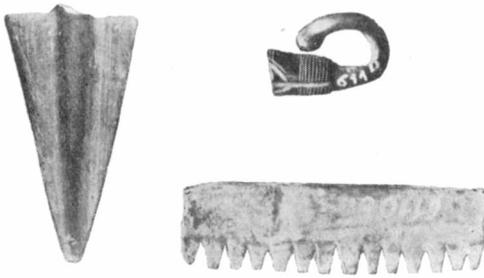


Abb. 6. Treffelsdorf.

6114: Haken(?)ende eines unbestimmbaren Fragmentes, wie es scheint hallstattischer Formgebung, mit graviertem Furchenverzierung des konischen Teiles, aus dem ein umgebogener Stab entspringt, der vorne abgebrochen ist. Noch 2 lang. Schwärzliche Patina.

6115: Abgebrochene Spitze einer Lanze, noch 4,5 lang. Schöne grüne Patina.

6116: Fragment einer Kahnfibel mit massivem verbreiterten Bügel. Fuss war wohl hoch und dreieckig. Noch 3,2 lang. Schwärzliche Patina.

6117: Kopfteil einer mehrknöpfigen Nadel. Noch 5,4 lang. Schöne glatte Patina.

6118: Drahtfragment mit spitzem Ende. Noch 6 lang. Unbestimmbar.

L. Franz<sup>1</sup> hat den ganzen Fundposten unbedenklich der mittleren Hallstattzeit zugewiesen, wohl auf Grund der Kahnfibel und der Nadel, denn er konnte nicht wissen, dass zwei ganz ähnliche bronzene »Steigschuhe« wenige Jahre später in späthallstädtischem Fundzusammenhang auftauchen würden. So sehr dieser Umstand zugunsten seiner Datierung des Fundpostens von Treffelsdorf zu sprechen scheint, so will es mich doch bedünken, dass da einige Vorsicht am Platze ist. Zunächst ist ein solcher Verwahrfund der mittleren Hallstattzeit überhaupt etwas ungewöhnliches. Die übergrosse Mehrzahl solcher Verwahrfunde gehört doch der frühesten Stufe an. Die Tongefäßscherbe ist zu dünn um an ein Verwahrungsgefäß denken zu lassen und ist also gewiss nur ein Lesefund des Steinbrechers Lettner, von dem der Fund erworben wurde. Ferner sind gerade die typischen Bronzebeile von den Arten wie sie aus unzähligen Verwahrfunden der Übergangsperiode von der Bronze- zur Hallstattzeit in Mitteleuropa vorliegen und ihre Vergesellschaftung mit so reif-hallstädtischen Formen wie die Fibel, Bommel und Nadel muss stärkste Zweifel erwecken.

Dazu kommt die abweichende Patina gerade der Stücke

<sup>1</sup> *Die vorgeschichtlichen Altertümer Kärntens*, Mitt. d. Anthrop. Gesellschaft in Wien, 61, 1931, 113.

6114, 6116 und 6117, während die Patina der Bommel 6112 (die übrigens z. T. entfernt ist) wohl den frühesthallstattischen Stücken des Fundpostens ähnelt, sich aber ganz wohl auch durch die Einwirkung gleichartiger Bodenverhältnisse am Berghang erklären lässt.

Ich möchte also, trotz den eindeutigen Eintragungen auf den Blättern des Klagenfurter Zettelkataloges (die übrigens viel später angelegt wurden) annehmen, dass das Museum von dem Finder nicht nur die »unter einem schweren Stein« gefundenen Bronzen des eigentlichen Verwahrfundes erwarb, sondern auch was er sonst (vielleicht ganz in der Nähe) gefunden oder von Landleuten erhalten hatte. Der Berghang birgt wohl noch manche andere Fundstücke.

Die Möglichkeit des Zustandekommens eines Sammelfundes von Altbronzen, der erst in der vorgerückten Hallstattzeit in die Erde kam und so auffallend viele alte Typen enthielte, ist natürlich nicht ganz von der Hand zu weisen, aber doch recht unwahrscheinlich. Kärnten hatte eine kräftig fortschreitende Hallstattkultur, die die Frühformen der Beile usw. rasch überwand. Übrigens erliegen im Klagenfurter Museum auch zwei römische Fibeln aus dem Freudenberger Torfmoor, die natürlich nichts mit dem Fund von bronzezeitlichen Objekten aus dem gleichen Moor zu tun haben, mit dem zusammen sie ausgestellt waren (vgl. Franz, l. c., 109).

Es ist bedauerlich, dass der trübselige Stand der Museumsaufzeichnungen hier, wie so oft, keine Klarheit gewinnen lässt<sup>1</sup>, denn obgleich die Frage für meine weitere Argumentation nur von untergeordneter Bedeutung ist, so wäre es doch gewiss sehr erwünscht, die beiden »Steigeisen« ganz einwandfrei chronologisch festlegen zu können. Ich möchte es nämlich, zusammenfassend, nicht gerne anzweifeln, dass die beiden Stücke mit den älteren Typen in dem Treffelsdorfer Fundposten zusammengehen. Wenn dies stimmt, so sind sie demnach beträchtlich älter als die beiden Stücke vom Magdalenaberg in der Sammlung Mecklenburg und selbst wenn meine ganze Argumentation hinfällig ist so sind sie noch immer etwas älter als die vom Magdalenaberg.

<sup>1</sup> Eine kleine Notiz von A. v. Jaksch in den *Mitteilungen des Deutschen und Österreichischen Alpenvereins* übergehe ich hier, da sie nichts neues beibringt.

Noch aus einem anderen Grunde erscheint mir die Gleichzeitigkeit der beiden Treffelsdorfer Stücke mit den alten Axtformen des Fundes von vornherein einleuchtend: sehr viele der spätbronzezeitlich-frühhallstättischen Verwahrfunde der Ostalpenländer und überhaupt Mitteleuropas enthalten eine »östliche« — fast wäre man versucht zu sagen: lausitzische — Komponente (Hohlbeile usw.), in der auch Pferdegeschirrtteile (wohl auch Wagenstuhlbestandteile) eine Rolle spielen, und wir haben gesehen, dass die beiden Magdalenaberger »Steigeisen« aus einem Reitergrab stammen. Als einen hierhergehörigen Fund (doch wohl Grabinhalt) erwähne ich z.B. den frühhallstättischen Fund von Staudach, Gemeinde Hochburg-Ach (südlich von Braunau am Inn) in Oberösterreich, den ich 1924 durch die bewährte Hilfsbereitschaft meines Freundes Hugo von Preen-Osternberg a. I. für das Wiener Naturhistorische Museum erwarb<sup>1</sup> und der mit dem bekannten Funde von Hader bei Griesbach in Bayern<sup>2</sup> die allergrösste Ähnlichkeit aufweist. Auf die innere Verwandtschaft mit dem noch immer unpublizierten, der Milavečer Kultur angehörigen<sup>3</sup>, grossen Verwahrfund von Ritschen bei Leitmeritz im Nationalmuseum zu Prag sowie mit anderen Funden aus Böhmen, Ungarn usw. hat bereits Reinecke, l. c. (S. 8 des S.-A.) erstmals hingewiesen.

Die Schlussfolgerung, die ich ziehen möchte, ist also, dass die Treffelsdorfer »Steigeisen«, die in Ermangelung früherer Repräsentanten den bisher ältesten mitteleuropäischen Fund darstellen, im Gefolge östlicher Kulturströmungen auftreten. Die beiden »Steigeisen« aus dem Pferdegrab vom Magdalenaberg sind nach dem Zeugnis der Schlangenfibel und der Keramik in die Stufe Este III zu datieren. Der starke Einfluss, den die Estegruppe auf Krain ausgeübt hat, berechtigt dazu, gerade Este als Zeitmesser anzunehmen und das Grab 43 des Hügels IV vom Magdalenaberg

<sup>1</sup> Von K. Willvonseder, *Oberösterreich in der Urzeit*, Wien 1933, 68 (unvollständig) abgebildet.

<sup>2</sup> P. Reinecke, *Zu älteren vor- und frühgeschichtlichen Funden aus Niederbayern*. Verhandlungen des Historischen Vereins für Niederbayern 41, 1905. Von Reinecke eher als Verwahr-, denn als Grabfund gedeutet.

<sup>3</sup> J. Schráníl, *Die Vorgeschichte Böhmens und Mährens*. Berlin und Leipzig 1928, S. 161, 162, 184.

sonach mit Åberg<sup>1</sup> ins 5. Jh. v. Chr. zu datieren. Der Typus ist also langlebig, wie die Ausführung in Bronze zur vorgeschrittenen Hallstattzeit des Magdalenaberges

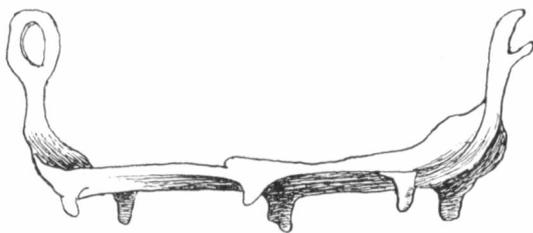


Abb. 7. Frög.

allein schon zeigt, und daraus lassen sich die kleinen Unterschiede in Form und Stellung der Zacken in den beiden bisher besprochenen Funden ohne weiteres erklären.

Kärnten hat aber noch einen anderen Fundplatz mit »Steig-eisen« aufzuweisen. Es ist die Hügelnekropole von Frög bei Rosegg im Rosentale. Der Fundort, der in der Literatur gewöhnlich in der Schreibweise Frögg zitiert wird, liegt in der Bezirkshauptmannschaft Villach.

Dieser Fundplatz teilte das traurige Schicksal der krainischen Nekropolen und seine etwa 260 Grabinhalte, die über mehrere Museen verteilt sind<sup>2</sup>, lassen heute Schlüsse auf Typenvergesellschaftung nur mehr ganz ausnahmsweise zu. Die Funde setzen mit der mittleren Hallstattzeit ein und brechen am Beginn der lokalen Latènezeit ab. Die Verwandtschaft mit den krainischen Nekropolen äussert sich nicht nur in zahlreichen Typen (neben solchen, die in die Inneralpenländer weisen), sondern auch in dem Schwanken im Bestattungsritus, dessen unterliegende Gesetzmässigkeit sich nicht mehr erkennen lässt, falls, wie man erwarten sollte, eine solche vorhanden war.

Frög ergab mindestens zwei hiehergehörige Stücke (beide im Museum Klagenfurt):

3. Frög, Kärnten. Eiserner »Steigschuh« (Abb. 7)<sup>3</sup>. Etwa 13 cm lang. Von diesem Stück konnte ich die Vergesellschaftung nach einem alten handschriftlichen Exzerpte A. v. Jaksch's in

<sup>1</sup> Nils Åberg, *Bronzezeitliche und früheisenzeitliche Chronologie*, Teil I, Italien. Stockholm 1930, 188.

<sup>2</sup> Vgl. Franz, l. c., 115.

<sup>3</sup> Nach M. Much, *Kunsthistorischer Atlas*, I. Wien 1889, Taf. XLIX, Fig. 10.

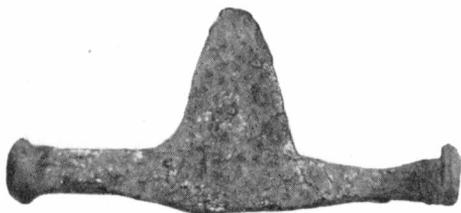


Abb. 8. Frög.

den Klagenfurter Museal-  
akten zufällig feststellen.  
Im Jahre 1883 erbuddelte  
der Diener des Histori-  
schen Vereins für Kärn-  
ten, Kaspar Kaiser, im  
Auftrage des Vereins ein  
Dutzend Hügel und das  
»Steigeisen« stammt aus

dem Hügel 9 dieses Jahres, der auf Katastralparzelle 1516 lag.<sup>1</sup> Der Hügel masz 24 m Durchmesser bei 3,6 Höhe. Ein rechteckiger Steinkranz im Inneren umhegte das Grab, in dem neben dem »Steigeisen« und einem eisernen Messer (Much, l. c. XLIX: 8) noch ein Bronzefingerring und einige der für Frög so charakteristischen bleiernen Reiterfigürchen gefunden wurden. So dürftig diese Angaben auch sind, sie lassen erkennen, dass das »Steigeisen« mit denen vom Magdalenaberg gleichaltrig ist. Die Vergesellschaftung mit den Reiterfigürchen ist schwerlich ganz bedeutungslos.

4. Frög. Eiserner »Steigschuh« (Abb. 8), etwa 11,5 cm lang. Es ist mir nicht gelungen, die Begleitfunde dieses Stückes festzustellen. Seine Form weicht von den bisher besprochenen völlig ab. Darüber weiter unten.

5. Watsch, Krain. Bei einem flüchtigen Besuch des Nationalmuseums in Laibach (1931) notierte ich mir einen eisernen »Steigschuh« der Form 1—3, der aus Watsch stammt und etwa 12 cm lang ist. Gewiss ein Grabfund, aber von ihm und von den beiden folgenden Stücken gilt, was eingangs über die »Ausgrabungen« in Krain gesagt wurde.

6, 7. Magdalenaberg, Krain. Zwei eiserne Geräte gleicher Art, etwa 12 cm lang, erliegen ebenfalls im Hallstattsaale des Nationalmuseums zu Laibach. Sie entstammen zweifellos einem Grabfund.

8, 9. Magdalenaberg, Krain. Dies sind die zwei bronzenen Stücke der Sammlung Mecklenburg, von denen wir ausgegangen sind. Der Magdalenaberg hat also mindestens zwei Gräber mit »Steigeisen« ergeben.

<sup>1</sup> Eine Art Plan findet sich in den *Mitteilungen der k. k. Central-Kommission* usw., N. F. 10, 1884, LXIII—LXVII.

10. H a l l s t a t t, Oberösterreich. Eisernes Objekt (Abb. 9),<sup>1</sup> ziemlich abweichender Form, von Déchelette (*Manuel*, II, 3, p. 1395 und Fig. 621) irrtümlich als Bronzeobjekt bezeichnet; es war die einzige Beigabe eines männlichen Skelettes, das zusammen mit einem weiblichen Skelett und zwei Kinderskeletten gehoben wurde. Bei den letzteren ärmliche Beigaben der vorgerückten Hallstattzeit (Nadel, Glas- und Bernsteinperlen usw.). Nach v. Sacken ist der Bügel 1 Zoll breit und hat vier besonders eingesetzte Spitzen. Beides kommt in der Abbildung nicht gut zur Geltung.

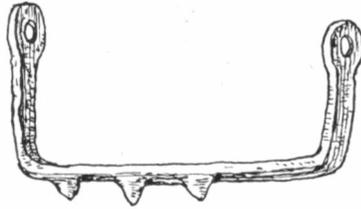


Abb. 9. Hallstatt.

Damit ist der mir bekannte Formenbestand aus der Hallstattzeit der Alpenländer erschöpft.

Die folgenden Geräte aus Latènefunden werden zu den »Steigeisen« gestellt:

11. K a r l s t e i n bei Reichenhall, Oberbayern. Eisen (Abb. 10)<sup>2</sup> etwas verletzt, L. 9, H. 5; zwei kräftige Spitzen, breite Platte. Sieht wie eine Weiterentwicklung der kärntnisch-krainischen Form aus. Déchelette, l. c. 1395, spricht irrtümlich von drei Gruppen von Spitzen.

12. M o n t - B e u v r a y, Dép. Saône-et-Loire, Frankreich. Aus Bulliot's Grabungen sind mehrere Eisengeräte zutage gekommen, wie sie hier nach Déchelette (l. c. 1394, Fig. 621: 1—3) wiedergegeben sind (Abb. 11). Alle diese Stücke haben vier Zacken und die Ableitung vom Typus Treffelsdorf scheint naheliegend. Déchelette zweifelt die Steigeisenerklärung nicht an, erwähnt aber die Ähnlichkeit der aufsteigenden Äste mit Steigbügeln und auch, dass römische Hipposandalen Zackenbesatz tragen.

Aus späterer Zeit sind mir nur wenige Stücke ähnlicher Art

<sup>1</sup> Nach E. v. Sacken, *Das Grabfeld von Hallstatt*. Wien 1868, 110 f. und Taf. XXVI: 10.

<sup>2</sup> Nach P. Reinecke, *Funde vom Ende der La Tènezeit aus Wohnstätten bei Karlstein unweit Reichenhall, Oberbayern*. *Altertümer unserer heidnischen Vorzeit* V, 366, Abb. 3: a.



Abb. 10.  
Karlstein.

bekannt, die in die Archäologie gehören. Frederic Ouvry hat<sup>1</sup> ein Eisengerät veröffentlicht (Abb. 12), das, wie er meint, vielleicht bei Turnieren zu Fuss (!) als Gleitschutz diente. Es ist gewiss spätem Alters.

Der wohlbekannte Eissporn der Wikingerzeit, der aus einem dreieckigen Rahmen mit nach unten gerichteten Spitzen besteht, ist jetzt auch aus der verhältnismässig jungen grönländischen Kolonie der Nordmänner belegt (Abb. 13)<sup>2</sup>. Derselbe Typus kommt in Skandinavien und Finnland noch im 19. Jahrh. vor.

Dies mag zur Betrachtung jüngerer Formen des Steigeisens überleiten, die besonders in Osteuropa gut studiert sind. Stanisław Poniatowski hat ihnen eine kurze Monographie gewidmet,<sup>3</sup> auf der unsere Abbildungen 14 und 15 beruhen. Wenn er gewisse Bronzen aus den Minussinsker Fundkomplexen heranzieht,<sup>4</sup> so wird man ihm dabei wohl nur mit grossen Einschränkungen folgen können und bestimmt nicht bei den reicher verzierten Vertretern. Die Typen sind nach Tallgren (l. c. 52) nicht aus Gräbern bekannt, obwohl man ihrer schon 1913 im Minussinsker Museum allein 38 zählte. Schlüsse auf den Gebrauch sind daraus nicht zu ziehen. Die Pferdestriegel-Hypothese wird von Tallgren abgelehnt, dagegen weist er auf gewisse Analogien mit den sogenannten »Bogenspannern« der Villanovakultur hin, die R. Smith, wie wir später sehen werden, als Pferdegeschirrtteile erklären möchte.

Dagegen ist Poniatowski auf ihm besser bekannten Grund, wenn er die rezenten Eissporne Osteuropas bespricht (Abb. 14), die mit unseren prähistorischen Fundstücken eine oft wirklich grosse Formübereinstimmung aufweisen. Besonders der siebenbürgische (Abb. 14 g) ist lehrreich. Diese Analogie lässt sich auch auf den paläoasiatischen Bereich ausdehnen (z. B. Abb. 15 b) und so

<sup>1</sup> *Note on Saxon and other Remains discovered at and near Mentmore, in the County of Buckingham.* Archaeologia 35, 1853, 381.

<sup>2</sup> P. Nörlund und M. Stenberger, *Brattahlid.* Meddelelser om Grønland 88: 1, 1934, 134, Fig. 100, D. — Dasselbst Literatur.

<sup>3</sup> *Chrapki*, in Lud (Lwów-Lemberg) Ser. 2, Bd. 5, 1926, 1—6.

<sup>4</sup> z. B. A. M. Tallgren, *Collection Tavostine des Antiquités préhistoriques de Minoussinsk.* Helsingfors 1917, 51 f., Fig. 52—56, pl. VI: 2, 3.

gewinnen wir den Anschluss an die Eskimokultur. Aus Ostgrönland soll z. B. ein Paar Knochenbügel stammen (Abb. 16), deren jeder 9 cm lang, 2,5 br. und 1 dick ist und deren »untere konvexe Seite je zwei Reihen konischer aus dem Knochen geschnittener Buckel zeigt und die mit Lederriemen zur Befestigung versehen sind. Vielleicht handelt es sich hier um eine Art von »Steigknochen«, statt unserer »Steigeisen«, um, nachdem diese an die Stiefel angeschnallt sind, besser auf dem Eise gehen zu können.«<sup>1</sup>

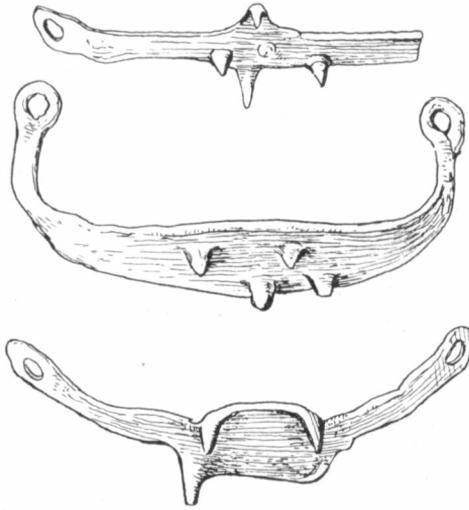


Abb. 11. Mont-Beuvray.

Das heutige Normalsteigeisen der Ostalpenländer zeigt Abb. 17 (»Tiroler, vierzackig«).

Endlich muss noch, der Vollständigkeit halber, eines Gerätes gedacht werden, das mit dem Stück 4 von Frög, aber auch mit manchen der Poniatowskischen Typen, einige Ähnlichkeit aufweist und auch gelegentlich als »Eissporn« angesprochen worden

<sup>1</sup> Bericht über das Basler Museum für Völkerkunde für das Jahr 1920 (S.-A. a. d. Verhandlungen der Naturforschenden Gesellschaft in Basel 32, p. 7 des S.-A.). Für die freundliche Überlassung der Vorlage habe ich dem Baseler Museum, durch Herrn Dr. E. Paravicini, bestens zu danken.

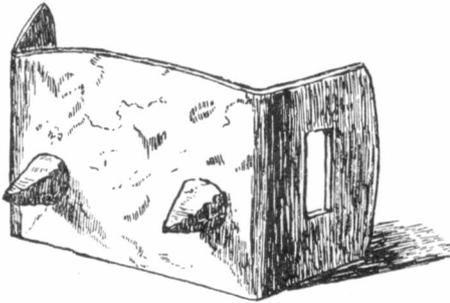


Abb. 12. Mentmore.

ist. Kostrzewski<sup>1</sup> ist dem Typus kritisch nachgegangen und hat erwiesen, dass er nichts mit der Hallstatt- oder Latènezeit zu tun hat, sondern in die frühgeschichtliche Zeit besonders Ostdeutschlands gehört und als Stiefelabsatzbeschlag angesprochen werden muss.

Trachten wir nun, aus dem angeführten Bestande das Fazit zu ziehen, so ist das Ergebnis zunächst betrüblich klein. Der neu bekannt gegebene Fund vom Magdalenaberg genügt wohl, um die stärksten Zweifel darüber aufkommen zu lassen, ob solch ein Paar von Bronzebügeln aus einem Reitergrab irgendeine innerliche Wahrscheinlichkeit beanspruchen kann, Steigeisen darzustellen. Man ist gewiss berechtigt, diesen Zweifel auf alle aus Gräbern der südostalpinen Hallstattkultur vorliegenden »Steigeisen« auszuweiten. Es wird sich in allen diesen Fällen um Reitergräber handeln. Zudem ist an und für sich ein so prosaischen Zwecken dienendes Gerät, das übrigens vom Lebenden nur in ganz besonderen Fällen angelegt wurde, kaum danach angetan, Bestandteil der Grabausstattung des Toten zu werden. Die Funde aus Gräbern sind denn auch so wenig zahlreich, dass man den Eissporn ruhig aus der Liste der rituellen Grabbeigaben streichen kann.

Auf der anderen Seite liegt eine so grosse Formähnlichkeit mit rezenten Geräten vor, deren täglicher Gebrauch als Eissporn ausser Zweifel steht, dass man zögert, die Erklärung ganz über Bord zu werfen.

Vielleicht gibt uns die geographische Verbreitung einige Anhaltspunkte. Da ist zunächst festzustellen, dass trotz Déchelettes apodiktischer Äusserung (l. c., 1396) »... que toutes les trouvailles indiquées... proviennent de régions montagneuses...« der-

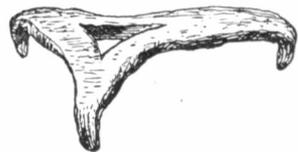


Abb. 13. Brattahlid.

<sup>1</sup> J. Kostrzewski, *Die Zeitstellung der sogenannten »hufeisenförmigen Beschläge«*. *Prähistorische Zeitschrift* 6, 1914, 351—353.

prähistorische »Eissporn«, an sich nicht häufig, keineswegs aus den gebirgigsten Teilen Europas vorliegt. In den Hochalpen, z. B. Salzburg, Tirol, Schweiz, Savoyen, fehlt er völlig (etwa mit Ausnahme des Stückes von Hallstatt, oben No. 10) und auch viele andere Gebirgsländer gehen leer aus. Die grösste Verdichtung der Funde liegt vorläufig in Kärnten und Krain und dieses Gebiet scheint den »Eissporn« eher östlichen Einflüssen zu verdanken, als etwa den Gebirgsketten der Hohen Tauern usw. Der Mont-

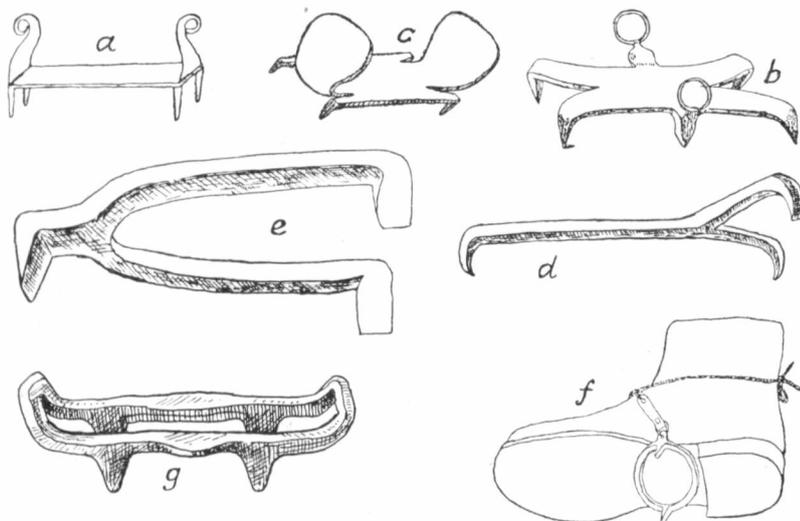


Abb. 14. a Gegend von Lublin, Polen; b Huzulen; c, d, e Podlachien (e jüngere Form); f Wolgadelta; g Siebenbürgen Rumänien (Kronstadt-Fogaras).  
Verschiedener Maszstab.

Beuvray vollends kann nicht mehr Anspruch erheben, in gebirgiger Landschaft zu liegen, als unzählige andere Fundplätze des mittleren Europas und doch haben diese anderen keine »Steigeisen« ergeben. Die Vorstellung gletscherbedingter Verbreitung des Typs im vorgeschichtlichen Europa oder winterlichen Berglebens kann also schwerlich aufrechterhalten werden und schon deshalb ist der Name »Steigeisen« besser durch »Eissporn« zu ersetzen, falls die Geräte wirklich zum Gehen auf vereistem Boden gedient haben sollten. In Podlachien (vgl. Abb. 14 c, d, e) gibt es keine Gebirge, aber man kann auch auf einer sanft

geneigten Böschung böse zu Fall kommen. Nun kann man daran anknüpfend sicher einwenden, dass der vorgeschichtliche Mensch ohnedies die Hochregionen nach Möglichkeit mied und dass auch in den mittleren Höhenlagen, sogar im Flachland, genug Anlass bestand, den Eissporn zu gebrauchen. Dann sollte man aber doch eine grössere Häufigkeit der Funde erwarten als wir tatsächlich finden.

Es macht doch sehr den Eindruck, dass die vorgeschichtlichen »Steigeisen« weit eher einer ganz bestimmten Kulturströmung zuzuschreiben sind, als Umweltbedingungen, die schliesslich fast

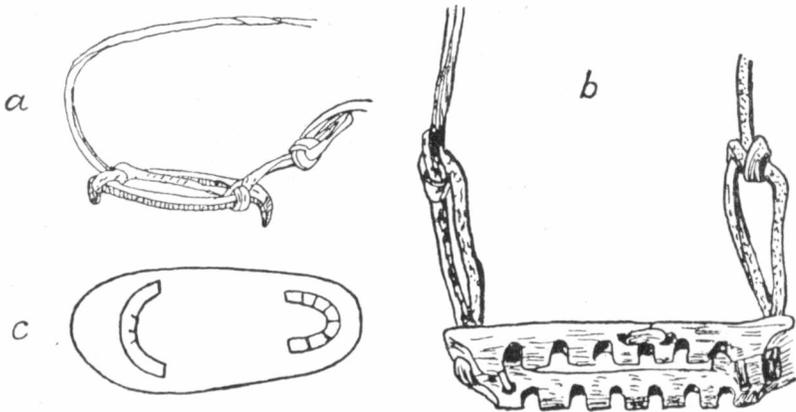


Abb. 15. a Korjäten; b Tschuktchen; c Point Barrow Eskimo.  
Verschiedener Maszstab.

überall gegeben waren, ohne dass wir eine entsprechende Häufigkeit und Ausbreitung der Form feststellen könnten. Die südostalpine Hallstattkultur enthält die bisher frühesten Vertreter und die latènezeitlichen Funde von Karlstein und Beuvray sind innerhalb der Latènezeit spät anzusetzen, in eine Zeit da in der Südostgruppe die persistierende Hallstattkultur illyrischer Prägung endlich vom La Tène absorbiert worden war und mit dem keltischen Element zu einer neuen Einheit verschmolz.

Wenn diese Geräte — oder wenigstens die aus Gräbern vorliegenden — nun nicht Eissporne waren, was waren sie dann? Die Frage ist leichter gestellt als beantwortet. Für unsere Stücke aus dem Pferdegrab vom Magdalenaberg und für seine Entsprech-

ungen könnte man an eine Art von kombiniertem Steigbügel-Sporn denken, aber die Befestigungslöcher sind so klein, dass die Aufhängerriemen kaum ein grösseres Gewicht hätten tragen können und die ersten Steigbügel treten in Europa ja erst gegen das Ende des frühen Mittelalters auf. Die Stücke waren dann doch wohl eher mittels Riemen am Schuh befestigt.

Dagegen scheint mir die Möglichkeit, dass wir es hier z. T. mit frühen Sporen zu tun haben, nicht ganz ausgeschlossen. Wir haben gesehen, dass das Pferd in vielen der Ausgrabungsbefunde, mit denen wir zu tun hatten, eine Rolle spielt: es gilt dies wohl von Treffelsdorf (I, 2); das Stück 3 von Frög stammt aus einem Grab mit bleiernen Reiterfigürchen; das Stück 5 aus Watsch; ebenso 6 und 7 vom Magdalenaberg, stammen sicher aus Reitergräbern,



Abb. 16. Ostgrönland.

nach den Stücken zu schliessen, von denen wir ausgegangen sind. Im Zusammenhang mit den Mont-Beuvray-Objekten kommt Déchelette auf Steigbügel und Hipposandalen zu sprechen und es ist auch wirklich viel wahrscheinlicher, dass die keltischen Siedler hier Bestandteile des Pferdegeschirres verloren haben und nicht Eiszinken. Endlich sind da noch die rätselhaften Gegenstände aus der Kultur von Minussinsk. Tallgren erklärt sich ausserstande, ihren Zweck zu erklären; die von ihm abgelehnte Pferdestriegel-Hypothese zeigt aber, dass frühere Archäologen ganz instinktiv an Zusammenhänge mit der Pferdehaltung dachten, und Tallgrens Hinweis auf die »Bogenspanner« lenkt unsere Aufmerksamkeit abermals in die gleiche Richtung.

R. Smith hat nämlich <sup>1</sup> neuerdings die Ansicht von P. Strobel <sup>2</sup>,

<sup>1</sup> British Museum, *Guide to Early Iron Age Antiquities*, 2nd ed. London 1925, 144.

<sup>2</sup> *Bull. di Paletol. Italiana*, 14, 92—100, tav. XII; 15, 11—38, tav. II (hier nach v. Duhn, *Italische Gräberkunde*, I., Heidelberg 1924, 187 zitiert; die Originalliteratur ist mir in Dublin nicht zugänglich).



Abb. 17. Ostalpenländer.

wonach die sog. »Bogenspanner« Nasenzwingen für Pferde seien, wieder aufgenommen und zwar im Zusammenhang mit einem eigentümlichen Stück von der bekannten Fundstelle von Polden Hill in Somerset, England (l. c. 145, Fig. 166), welche der vorrömischen Eisenzeit angehört. Er sagt: »These bronzes are generally, but incorrectly, termed »bow-pullers«: they are more likely »bridle-spurs«, to be attached to the head-stall of a horse and driven into the side of the nose by pulling the rein; and some have been found with iron chains passing through the loops and under the cone. The smaller size of the British example may be due to its manufacture for a pony, and the principle is seen on a bit in Case 65.« Die letzten Worte beziehen sich auf ein Pferdezaumzeug des Frühmittelalters von Kertsch<sup>1</sup>, aber der Hinweis verliert an Beweiskraft dadurch, dass der herkömmlich so genannte »Bogenspanner« (Abb. 18) die Spitzen (oder die Spitze) im Mittelpunkt hat, zwischen zwei Befestigungsösen, während das Stück von Kertsch gerade die umgekehrte Anordnung zeigt: vier Zacken entspringen an den Ecken und die Trensenstange geht durch ein Loch im Mittelpunkt hindurch. Falls also Strobel und Smith recht haben, so gibt es sehr verschiedene Typen dieser »Nasensporen«.

Das hier in Abb. 18 gezeigte Stück befindet sich ebenfalls in der Sammlung Mecklenburg, ohne Fundangabe. Es ist aber schwerlich krainischer Herkunft sondern stammt gewiss aus Oberitalien, wie die meisten Vertreter dieser Gerätform.

Was uns hier am meisten interessiert, ist das Vorhandensein einer vielen »Steigeisen« nicht unähnlichen Denkmälerklasse, die anscheinend unter falscher Bezeichnung einhergeht und eher mit noch unbekanntem Einzelheiten der Pferdeanschirrung zusammenhängt. Die Brauchbarkeit des Pferdegeschirrs für formengeschichtliche und -chronologische Untersuchungen ist bisher zweifellos nicht genügend ausgewertet worden; man lese darüber die

<sup>1</sup> British Museum, *Guide to Anglo-Saxon Antiquities*. London 1923, 171, Fig. 225; Text 170.

zutreffenden Bemerkungen, die Leeds neuerdings gemacht hat.<sup>1</sup> Von allem das mit dem Pferd zusammenhängt, hat bisher eigentlich nur der Sporn monographische Behandlung gefunden.<sup>2</sup>

Ich kann mich also, um es zu wiederholen, des Eindruckes nicht erwehren, dass auch die hallstättisch-latènezeitlichen »Steigeisen« etwas mit dem Pferde zu tun haben, und ich möchte, wenn auch mit einigem Unbehagen, zur Erörterung stellen, ob es sich dabei nicht vielleicht doch, wenigstens z. T., um frühe Sporne handeln kann. Ich gebe zu, dass ein solcher Sporn, an der Sohle angebracht, nicht gerade leicht benützlich war und die flachgewölbten Bügel der meisten »Steigeisen« verbieten die Annahme einer Befestigung an der Ferse. Aber Steigeisen in Reitergräbern sind doch zu unglaubwürdig und die Tragart der frühesten gesicherten Sporen (vg. Jahn, l. c. 8) oberhalb der Ferse und der seitlich vorspringenden Fuszknöchel entspricht auch keineswegs unseren heutigen Vorstellungen von praktischer Anbringung.

Jahns ausgezeichnete Spornmonographie bedeutet auch insofern eine bleibende Bereicherung unseres Wissens, als es jetzt ausgemacht ist, dass wir keine Vorstufen des vollausgebildeten Sporns vom Latènetypus kennen. Forders theoretische Ableitung von einem einfachen Holzstachel, dessen gespaltenes Ende am Fuss befestigt wurde, mag zu recht bestehen (Jahn, l. c., 7) oder man mag sie anzweifeln; fest steht jedenfalls, dass der Latènesporn fertig auftritt und zwar im besten Falle in der Mittel-Latènezeit. Jahn sagt darüber (S. 6): »Die Ausführungen Tischlers über das Alter des Sporns sind in den folgenden drei Jahrzehnten vollauf bestätigt worden. In der Spät-Latènezeit ist der Sporn durch eine ganze Reihe von sicheren Beispielen belegt, vielleicht reicht er sogar bis in die Mittel-Latènezeit zurück. Für diese Zeit können auch heute nur die beiden Sporen von La Tène als Zeugen herangezogen werden.« Deren Zeitansatz beruht aber nur auf der



Abb. 18. Oberitalien.

<sup>1</sup> E. T. Leeds, *Celtic Ornament in the British Isles down to A. D. 700*. Oxford 1933, 113.

<sup>2</sup> Martin Jahn, *Der Reitersporn, seine Entstehung und früheste Entwicklung*. Mannus-Bibliothek, No. 21. Leipzig 1921.

Tatsache, dass in der namengebenden Station die Mittellatènefundzahlreicher sind als die Spätlatènetypen. — Über das Entstehungsgebiet und das Verhältnis zwischen den ältesten keltischen und germanischen Sporen sagt Jahn (l. c., 16 f.): »Der grössere Formenreichtum bei den keltischen Stücken spricht mehr für die Priorität der Kelten. Auch das durchschnittlich grössere Alter der Fundstelle La Tène weist, wenn auch nicht mit völliger Sicherheit, in dieser Richtung . . . Bei den Kelten können wir also die ersten Sporen durch Funde nachweisen. Ihre Form ist so einfach und ursprünglich, dass die Kelten auch die Erfinder dieser Sporenart sein können. Wir brauchen meiner Meinung nach nicht mit Tischler den Ursprung bei östlichen Reitervölkern zu suchen, wofür kein Fund oder sonstiger Nachweis zu erbringen ist. Ich will damit nicht ausschliessen, dass unabhängig vom Keltensporn im Osten auch Sporen aufgekommen sein mögen, vielleicht sogar früher als bei den Kelten. Scheinen doch die griechischen bildlichen Darstellungen und literarischen Quellen des 5. Jahrhunderts dafür zu sprechen.»

Wir haben gesehen, dass die »Steigeisen« der südöstlichen Alpenländer in der letzten Hallstattzeit häufiger werden und, dass Parallelen weiter westlich (Karlstein, Mont-Beuvray) sich erst in der vorgerückten Latènezeit finden, ungefähr gleichzeitig mit dem Auftreten der keltischen Latènesporen. Angesicht des weiträumigen Kulturausgleiches, der gerade um diese Zeit die vielen Untergruppen der Latèneexpansion wieder zu einer höheren Einheit zusammenschmilzt, gibt diese zeitliche Übereinstimmung zu denken. Hand in Hand mit diesem Phänomen geht eine Verringerung der Zahl der Spitzen. Die hallstattzeitlichen haben durchschnittlich sechs, die latènezeitlichen von Beuvray normal vier und diese konzentrieren sich mittlings. Einen ähnlichen Vorgang kann man bei den italischen »Bogenspannern« beobachten.<sup>1</sup>

Ein Argument, das zu Ungunsten der Sporenerklärung zu sprechen scheint, ist die Tatsache, dass gerade so gut belegte »Steigeisen«-Funde wie die in der Sammlung Mecklenburg oder die von Treffelsdorf paarweises Auftreten bezeugen, während der

<sup>1</sup> R. Smith, *Early Iron Age Guide*, 144: »Italian specimens with the spikes coalescing are existant . . .«. Vgl. auch das »Steigeisen« 4 (Frög) in unserer Zusammenstellung.

Sporn in den Latènegräbern häufiger einzeln als paarweise auftritt. Doch hat Jahn (l. c. 91 f.) nachgewiesen, dass vom ersten Auftreten des Spornes an das paarweise Tragen bekannt und nachweisbar ist und unsere obenstehende Aufzählung enthält einige Fälle in denen das »Steigeisen« einzeln in Gräbern lag. Das Material ist zu geringfügig, um Schlüsse in der einen oder anderen Richtung zu ziehen.

Ich bin mir wohl bewusst, mit diesen Ausführungen schwankenden Grund betreten zu haben. Jedoch angesichts des Umstandes, dass die beiden »Steigeisen« in der Sammlung Mecklenburg die ersten sind, die irgend etwas Positives über ihren wirklichen Gebrauch wenigstens a n d e u t e n, glaubte ich, den Fund bekannt machen zu sollen, umsomehr, als das Hallstatterbe östlicher Prägung in der komplexen Spätlatènekultur nicht immer seiner wahren Bedeutung gemäss gewürdigt wird.

Man wird es in diesem Zusammenhang vielleicht nicht unangebracht finden, wenn ich mit einigen Worten noch auf einen anderen kontinental-latènezeitlichen Pferdegeschirrtypus eingehe, der in der irischen »Letzt-Latènekultur« überraschend lange nachlebt, ohne dass der Ursprung dieser spezialisierten irischen Stücke bisher festgestellt werden konnte.

Auch dieser Typus hat Ähnlichkeit mit Sporen und ist mit ihnen öfters verwechselt worden. Jahn bespricht ihn auf S. 12 und 17 und weist darauf hin, dass er nicht nur in der Spätlatènekultur des Hradischt bei Stradonitz sowie in gleichaltrigen Funden der Taunusgegend auftritt, sondern unverändert auch in den römzeitlichen Gräberfunden von Dobčichov-Piřhora. Ich gebe hier (Abb. 19) die Rekonstruktion der Anbringungsweise dieses Gerätes nach Ritterling<sup>1</sup> wieder, der die wirkliche Natur der Stücke erkannt hat. Er sagt darüber (l. c. 391 f.): »Dieser Bügel, dessen zweites entsprechendes Exemplar nicht gefunden wurde, war mittels starker Bronzeringe an den seitlichen Ösen der Bronze-teile . . . befestigt. Mittels eines durchgesteckten Stiftes mit dem

<sup>1</sup> E. Ritterling, *Das frühromische Lager bei Hofheim i. T.* Annalen des Vereins für Nassauische Altertumskunde und Geschichtsforschung 40, 1912, 392, Abb. 107. Es handelt sich bei dieser Rekonstruktion um das spätlatènezeitliche Germanengrab 8 von Hofheim.

Kopfzeugriemen verbunden, diente er zum Halten und Anspannen des Gebisses.» Also auch hier liegt ein Zügelungsbehelf vor, ähnlich wie vielleicht bei den »Bogenspannern«, aber mit grösserer Sicherheit des Nachweises. Man sieht, dass unsere Kenntnis von der Pferdeanschnürung und -bezäumung in vorgeschichtlicher Zeit noch manche überraschende Bereicherung erfahren mag.

Mit diesen sporenförmigen Bügeln sind wohl die, allerdings

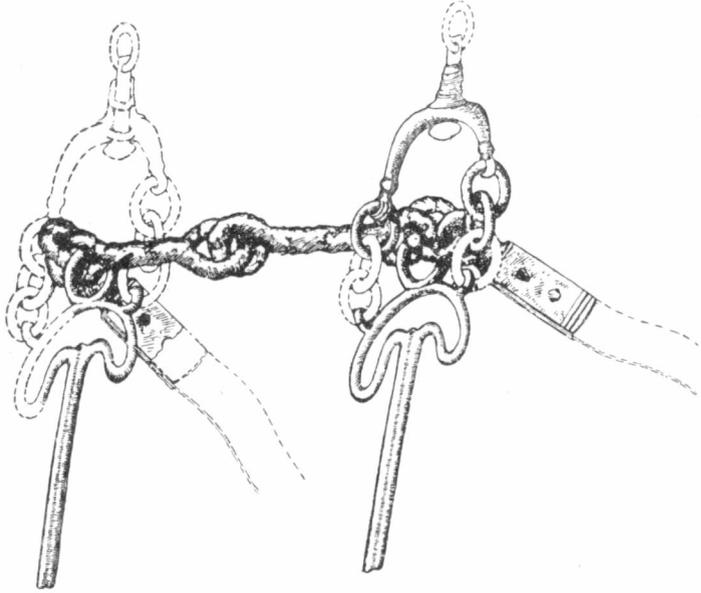


Abb. 19. Hofheim in T. Etwa  $\frac{1}{3}$  n. Gr.

bedeutend grösseren und wohl nicht ganz identischem Zwecke dienenden typisch irischen Bronzebügel in Zusammenhang zu bringen, von denen ich einen besonders guten (von nicht weniger als 28 cm Länge) in Abb. 20 wiedergebe. Es ist das gleiche Stück welches von Sir C. H. Read<sup>1</sup> zum erstenmal publiziert und von R. Smith<sup>2</sup> verkleinert wieder abgebildet worden ist und welches sich im Britischen Museum befindet.<sup>3</sup> Der Fundort des Stückes

<sup>1</sup> *Archaeologia* 66, 1915, 349 f.

<sup>2</sup> *Early Iron Age Guide*, 162, Fig. 194.

<sup>3</sup> Ich verdanke die Photographie meinem stets hilfsbereiten Freunde T. D. Kendrick.

ist nicht bekannt, aber kann nur in Irland gelegen sein. Der zwischen den beiden Armen abgebildete Endzapfen (B. M. 1921/12/6.36) stammt ebenfalls aus Irland (Co. Antrim) und zeigt eine andere Form des Endes (nebenbei bemerkt die häufigere). Der Typus kommt nur in Irland vor (allein im Nationalmuseum zu Dublin erliegen fast 40 Vertreter), ist höchst uniform und die Vorstufen, die man in der britischen Latènekultur erwarten sollte, fehlen. Eine lange Kontroverse ist seit W. Ridgeway's *Origin of the Thoroughbred Horse* (1905) über diesen

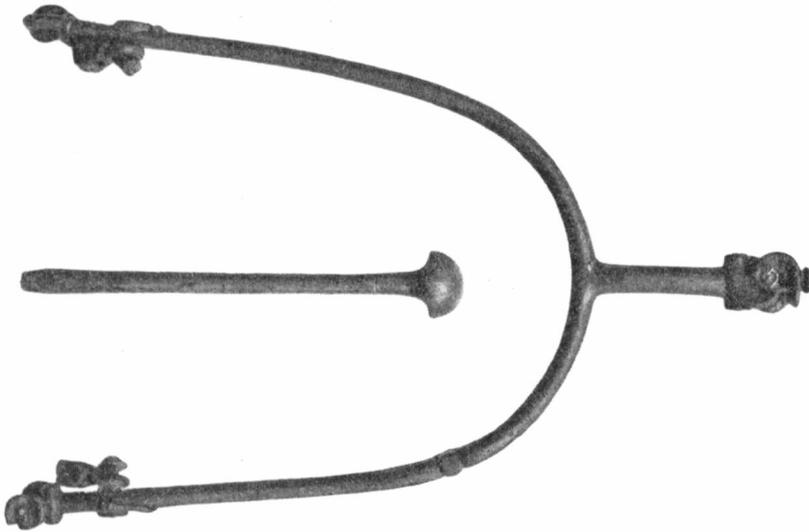


Abb. 20. Irland.

Typus geführt worden <sup>1</sup>, der, wie es scheint, gewöhnlich doppelt — mit nur einer Trense vergesellschaftet — vorkommt (Fund aus der Gegend von Galway im Britischen Museum: 53/5/28. 3—5). Man hat sich bis heute nicht einigen können, ob die Stücke mit dem verdickten Ende nach oben oder unten in Gebrauch standen, ob sie Zügel-Leitringe oder Schmuckstücke für den Pferdekopf (etwa nach Art heutigen Begräbnispomps) waren, oder ob sie am

<sup>1</sup> Siehe E. C. R. Armstrong, *The La Tène Period in Ireland*. Journal of the Royal Society of Antiquaries of Ireland 53, 1923, 24; weitere Abbildungen daselbst Taf. III.

Hals des Pferdes herabbingen<sup>1</sup>. Die Frage ist auch jetzt noch nicht entscheidbar, aber formgeschichtliche Ableitung von den Stücken wie Hofheim scheint mir naheliegend. Die bedeutend grösseren Ausmasse der irischen Stücke mögen sich aus der Weiterentwicklung der Form zu einem vielleicht etwas modifizierten Zweck erklären. Die meisten Archäologen, die sich mit dem Typus befasst haben, sind übrigens der Meinung, dass er mit dem verdickten Ende nach oben benutzt wurde, eine immerhin beachtenswerte Übereinstimmung mit dem gesicherten Ergebnis Ritterlings.

Die Vergesellschaftung mit Trensen lässt uns jetzt das Alter des vollentwickelten Typs in Irland ziemlich sicher bestimmen. Das ausgezeichnete Buch von Leeds hat<sup>2</sup> u. a. die Chronologie der britischen und irischen Trensen endgiltig klargestellt. Die irischen gehen alle auf den britischen Typ von Hagbourne Hill zurück, machen also die reiche britische Entwicklung des »ultimate La Tène« (um Kendricks Bezeichnung zu gebrauchen) nicht mit und haben ihre Wurzeln in »... a specialized development of Celtic ornament, common to northern Britain and north-east Ireland in the first century of our era«. Es ist also eine teils konservative, teils selbstständig weiterverarbeitende Entwicklung, die in diesen Stücken am Werke ist. Die Bügel wie unsere Abb. 20 gehen mit relativ späten irischen Trensen zusammen, aus der Zeit getrennter Kulturentwicklung auf den beiden Inseln, und sie gehören also frühestens in die mittlere Kaiserzeit. Der Grössenunterschied gegenüber dem Stück von der Piřhora, das nur wenig älter sein kann als die ersten vollentwickelten irischen Bügel, wie auch das völlige Fehlen überleitender Formen in Britannien (wo wir sie in Funden aus der früheren Kaiserzeit noch erwarten dürfen) zwingt mich zu der Schlussfolgerung, dass die irischen Bügel ihre reiche Formentwicklung überhaupt erst in der späten Kaiserzeit finden, und wie lange sie weiterleben ist noch eine Frage für sich. Sie gehören also recht eigentlich in die »dark centuries« der irischen Frühzeit und für La Tène im eigentlichen Sinne sind sie jedenfalls zu streichen.

<sup>1</sup> Vgl. Jahn, I. c. 89 über die kaiserzeitliche Kehlberge von Nörre Broby auf Fünen.

<sup>2</sup> I. c. 117 f., 136, 138.

Doch möchte ich angesichts der wohl kaum anzuzweifelnden Übereinstimmung mit Ritterlings Bügeln darin einen wertvollen Beleg für seine Äusserung (l. c., 392) erblicken: »Alle diese Stücke sind nahezu gleichaltrig und zeigen die über weite Gebiete sich erstreckende Gleichförmigkeit der damals üblichen Pferdezügung». Gerade das Wiederaufleben der alten Form (wenn auch vielleicht mit einiger Bedeutungsabwandlung) im fernen Irland beweist, wie klar Ritterling die solcher Entwicklung zugrundeliegende Gleichförmigkeit erkannt hat.<sup>1</sup>

*A. Mahr.*

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<sup>1</sup> Für die Herstellung von Zeichnungen zu meinen Abbildungen habe ich Miss M. E. de Putron, Guernsey und Dublin, und Miss E. Barnes, National Museum Dublin, bestens zu danken.

Bemerkung während des Druckes. Seitdem die vorstehenden Zeilen geschrieben wurden hat P. Reinecke (in seiner Besprechung des Mecklenburg-Kataloges, *Germania* 18:3, 1934, 232—33) zu meiner Ablehnung der Steigeisentheorie kritisch Stellung genommen und verfißt die Richtigkeit der herkömmlichen Erklärung. Ich verkenne nicht das Gewicht seiner Bedenken, zumal mir natürlich bekannt ist (vgl. Fussnote S. 3), dass Reinecke stets an diese Erklärung geglaubt hat. Der Altmeister der Hallstattforschung möge mir verzeihen, wenn ich daran festhalte, dass die neuen Stücke vom Magdalenaberge nunmehr die Beweislast den Anhängern der Steigeisenerklärung auferlegen. *A. M.*



SUOMEN MUINAISMUISTOYHDISTYKSEN AIKAKAUSKIRJA  
FINSKA FORNMINNESFÖRENINGENS TIDSKRIFT  
XXXIX:3

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# THE MEGALITHIC CULTURE OF NORTHERN EUROPE

THE RHIND LECTURES 1932

BY

C. A. NORDMAN

HELSINKI 1935 HELSINGFORS



## PREFACE

The present work is an unaltered reprint of the Rhind Lectures in Archaeology delivered by the author in Edinburgh in November, 1932, at the invitation of the Society of Antiquaries of Scotland. They have merely been provided with notes referring to the literature made use of. The delay in publication is due to my hoping up to the last moment that I might have an opportunity of preparing a more detailed description of the Northern megalithic culture and its connections with Western and Central Europe, using the lectures as a groundwork. As this intention has had to be definitely abandoned owing to other claims on my time, I have ventured to publish my lectures, though with a certain amount of hesitation, in the hope that my brief survey of the Northern megalithic culture and the indications I have given of some of the problems connected with its study might prove useful.

I take this opportunity of expressing my respectful and hearty gratitude to The Society of Antiquaries of Scotland, which did me the honour of inviting me to lecture in Edinburgh, and particularly to Professor V. Gordon Childe, Mr Alex. O. Curle and Mr J. Graham Callander, whose inestimable help and great kindness I was privileged to enjoy. I wish to express my thanks also to Professor Ellis H. Minns and Mr T. D. Kendrick, who showed their willingness to help me in numerous ways, and to my other colleagues in British and Northern museums, of whose knowledge and kindness I was able to avail myself. Finally, my sincere thanks are due to Mr Edward Birse, of Helsingfors, who is mainly responsible for the English apparel of my lectures.

Helsingfors, December 1934.

*C. A. Nordman.*

## Abbreviations.

<i>Aarb.</i>	<i>Aarbøger for nordisk Oldkyndighed</i>
<i>Acta</i>	<i>Acta archaeologica.</i>
Alin—Sarauw	G. Sarauw and J. Alin, <i>Götaälvsområdets fornminnen.</i>
<i>Annaler</i>	<i>Annaler for nordisk Oldkyndighed.</i>
ATS	<i>Antikvarisk Tidskrift för Sverige.</i>
Childe, <i>Danube</i>	V. G. Childe, <i>The Danube in prehistory.</i>
Childe, <i>Dawn</i>	V. G. Childe, <i>The Dawn of European Civilization.</i>
FFT	<i>Finska Fornminnesföreningens Tidskrift.</i>
FM	<i>Finskt Museum.</i>
<i>Fornv.</i>	<i>Fornvännen.</i>
Madsen, <i>Gravhøje</i>	A. P. Madsen, <i>Gravhøje og Gravfund fra Stenalderen i Danmark.</i>
Madsen, <i>Steenalderen</i>	A. P. Madsen, <i>Afbildninger af danske Oldsager og Mindesmærker fra Steenalderen.</i>
<i>Mémoires</i>	<i>Mémoires de la Société des Antiquaires du Nord.</i>
Montelius, <i>Chronologie</i>	Oscar Montelius, <i>Die Chronologie der älteren Bronzezeit.</i>
Montelius, <i>Minnen</i>	Oscar Montelius, <i>Minnen från vår forntid.</i>
Montelius, <i>Orientalen</i>	Oscar Montelius, <i>Orientalen och Ewopa</i> , ATS 13.
<i>Månadsblad</i>	<i>Kungl. Vitterhets Historie och Antikvitets Akademiens Månadsblad.</i>
NF	<i>Nordiske Fortidsminder.</i>
Nordman, <i>De forhistoriske Tider</i> or <i>Den yngre stenalderen</i>	C. A. Nordman, <i>Den yngre stenalderen i Mellan-, Väst- och Nordeuropa</i> , in <i>De forhistoriske Tider i Europa II</i> , ed. K. Friis Johansen.
Reallexikon	M. Ebert, <i>Reallexikon der Vorgeschichte.</i>
Winther, <i>Lindø</i>	J. Winther, <i>Lindø, en Boplats fra Danmarks yngre Stenalder.</i>
Åberg, <i>Chronologie</i>	Nils Åberg, <i>Bronzezeitliche und früheisenzeitliche Chronologie. III. Kupfer- und Frühbronzezeit.</i>

## I.

Introduction: Is there a uniform megalithic culture? The Northern megalithic culture a unity. Its background: the kitchen-midden culture. The division of the later Northern Stone Age. The period of axes with pointed butt does not exist. The general level of Northern megalithic culture: settling, agriculture and cattle-breeding, employment of copper. Montelius' division of the megalithic tombs. Is it tenable? The relation of stone tombs to barrows. The earlier dolmens with thin-buttet axes. Later dolmens. The passage tombs. Passage cists and ordinary cists. The latest cists.

The subject which The Society of Antiquaries of Scotland has done me the honour to ask me to lecture on for a few hours is *The Megalithic Culture of Northern Europe and its connections with that of the South and West*. I am very pleased that the subject has been limited in this way, for not only would the megalithic culture in the whole of Europe be a subject of enormous extent, which I should not be competent to discuss in detail, but as a matter of fact there is no uniform European megalithic culture in existence. The meaning of this term varies very greatly: from the Iberian peninsula through France, Great-Britain, Holland and North Germany to the South of Scandinavia there are such great differences as to the cultural milieu that in reality only a certain general level and some forms of tombs can be regarded as common property; and even these frequently possess special features in each country that separate them distinctly from those of other countries. It is really only the basic principle in the manner of sepulture that unites the different countries in a certain stage of their prehistoric existence: in all of them tombs are built of upright blocks of stone — hence the term megalithic, subsequently extended to the whole culture or cultures — and the tomb is intended to contain the remains of many dead. Such durably constructed collective tombs,

often reminiscent in their shape of a house or a hut — originally, perhaps, of a grotto and a rock-tomb — constitute a common sign of the megalithic culture in different countries. It is therefore this form of sepulture, rooted in certain religious conceptions, that has brought about that the whole of that heterogeneous conglomeration of cultures, the extreme extent of which in Europe penetrates to the South of Spain and the centre of Sweden, is described by the collective appellation »the megalithic culture», a name that might lead to grave errors and wrong conclusions, if we allowed ourselves to be misled into putting a sign of equality between the different forms of its expression in widely separated countries.

However, if the sphere is restricted, as we intend to do, to Northern Europe, to Denmark and Slesvig, South and a part of Central Sweden and of the South of Norway, the term covers a cultural unit. Similarity in the form of sepulture, in the forms of tools and weapons, in pottery, in occupation and style of living, marks the megalithic culture within this northern sphere, and here this culture passes through a series of successive, clearly distinguishable stages that can be determined chronologically and culturally. In relation to the outer world, particularly northwards on the Scandinavian peninsula and partly also southwards in Germany, the northern megalithic culture represents a source of power of no mean importance; for Scandinavia it is the principal civilising power of the Late Stone Age and in the course of these lectures I propose to try to give an impression of the character of this culture and its relation to contemporary phenomena in the rest of Europe.<sup>1</sup>

Before undertaking a detailed analysis of the forms of tombs and the objects they contained, it may be as well, however, to

<sup>1</sup> The megalithic culture of Northern Europe is treated, *i.a.*, in the following works by Northern authors: Henry Petersen, *Om Stenalderens Gravformer i Danmark*, Aarb. 1881; Sophus Müller, *Vor Oldtid*, 1897; *id. Flintdolkene i den nordiske Stenalder*, N.F. I, 1902; *id. Sønderjyllands Stenalder*, Aarb. 1913; *id. L'âge de la pierre en Slesvig*, Mémoires 1914—15; *id. Stenalderens Kunst*, 1918; Oscar Montelius, *Orientalen och Europa*, ATS 13, 1894—1905; H. Kjaer, *Gravkister fra Stenalderens Slutningstid*, Aarb. 1910; Knut Stjerna, *Före hällkisttiden*, ATS 19, 1911; C. A. Nordman, *Jaettestuer i Danmark*, NF II, 1917; *id. Studier öfver gånggrifstkulturen i Danmark*, Aarb. 1917; *id. Den yngre stenåldern i Mellan-, Väst- och Nordeuropa*, *De forhistoriske Tider i Europa II*, ed. K. Friis Johansen, 1927; G. Rosenberg,

give a brief description of the general level of culture. In the first place it is appropriate to recall the conditions that existed towards the end of the Earlier Stone Age in the North: it will be remembered that the famous kitchen-middens are characteristic of that time, these dwelling places of a people of hunters and fishermen, who often settled on the coast, along the shore of the sea as it was at

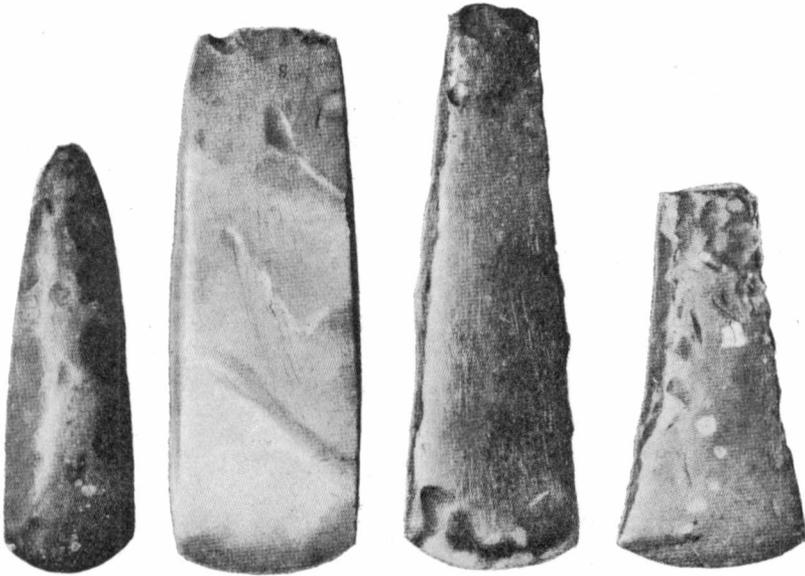


Fig. 1. Flint axes with pointed, thin and thick butts, broadedged axe. 1/3. De, forhistoriske Tider i Europa II, fig. 84.

that time — the *Litorina* sea. The typical articles among the relics of that period are, of course, the hatchet and the pick of flint, both unground; the pottery is rough and inartistic, but greenstone is already ground at an early stage of this period.<sup>1</sup> The kitchen-midden culture is succeeded by a form of culture, among the

*Nye Jaettstuefund*, Aarb. 1929. Amongst British authors see V. G. Childe, *The Dawn of European Civilisation*, 1925. To these works reference is made once for all.

<sup>1</sup> C. A. Nordman, *Skaldyngernes stenxor*, Aarb. 1918; E. Westerby, *Stenalderens Bopladser ved Klampenborg*, pp. 41 sqq., 132 sq., 1927.

distinctive features of which are, for instance, weapons of polished flint. Most investigators have accepted Montelius' division of this Later Stone Age into four periods, a division which — apart from the changing forms of tombs to which we will return — is based on certain definite types of weapons that succeed each other. The first period is marked by the axe with a pointed butt. The next stage has thin-butted axes. The third period is the time of thick-butted axes, while flint daggers and broad-edged axes are found in the tombs of the fourth period (fig. 1). It is questionable, whether such a scheme represents the conditions correctly. This was doubted very soon<sup>1</sup> and more recent observations entitle us to deny the first period an independent existence<sup>2</sup>.

As a matter of fact no other relics of the supposed first period than stray finds of axes with pointed butt and votive finds of the same kind are known to us. These axes are incomparably rarer than the later types, so rare, in fact, that it seems difficult to allow them to represent a whole period by themselves; this refers to Denmark, the West of Sweden and the South of Norway, to say nothing of the central and northern parts of the Scandinavian peninsula. But at the same time it is impossible to refer these axes to any of the succeeding periods: if they belonged to them, they must occur occasionally in the numerous later finds. The flint axe with a pointed butt therefore belongs in Southern Scandinavia to a fairly early stage, but this does not mean that they should be set up as representing a period of their own; so long as no other criteria are available for the existence of such a period, it is more correct to formulate the matter in another way: the axes with a pointed butt belong to the time of the kitchen-middens. It will be remembered that ground greenstone axes occur in several Danish kitchen-middens, even in finds from the earlier part of the period. Theoretically, there is no reason, why flint axes with pointed butt should not also occur in finds from the beginning of this time, but so far it cannot be proved that any of them are so ancient. On the other hand the fact that axes with pointed butt

<sup>1</sup> Stjerna, *l.c.*, pp. 51 sqq. The argumentation here is, however, not to the point.

<sup>2</sup> Westerby, *l.c.*, p. 41; Nordman, *Den yngre stenåldern*, pp. 104 sqq.; *id.* *Havnelevfyndet*, FM 1929.

have only been found by way of exception in kitchen-middens, is not a conclusive argument against the date determined here, for these axes were the finest weapons of the time and are therefore not present in the refuse heaps of dwelling places; in this respect they may be compared in a way with copper axes, which were in use at an early date, but have never been discovered either in dwelling places or in tombs. The axes with pointed butt, however, gradually displace the unground pick employed for similar purposes, and if we refer them to this time, it explains to some extent, why picks are relatively scarce in comparison with the quantity of hatchets.

We can consequently draw the conclusion that the kitchen-midden period, that is, the period in which the commonest tools were hatchets and picks — though towards the end of this period, the latter only in small numbers, — was succeeded immediately by the period of thin-butted axes. This harmonises with the fact that in Denmark the upper stratum of the kitchen-middens often contained thin-butted axes and in a couple of cases pieces of large, round-bottomed clay vessels with small handles near the bottom, a type that has proved by means of other discoveries to belong to the period of thin-butted axes. A discovery at Havnelev in Stevns in Zealand is important, where hatchets and thin-butted axes were found in a pit for refuse under circumstances which prove that they belong to the same period, one of the arguments in favour of the elimination of the period of the axe with a pointed butt. If it is objected<sup>1</sup> that the axe with a pointed butt is so common in Scania that it should be accepted as the leading type of a separate period, it can be urged in reply that the kitchen-midden period lasted longer in Scania than in Denmark. The thin-butted axe apparently occurs earliest in Jutland, later to the east of the Belt and last in Scania: hence the numerous axes with pointed butt of that province. From the large number of these axes in Scania it may, however, be concluded that they belong to a great extent to the final phase of the kitchen-midden period.

<sup>1</sup> Otto Rydbeck, *Några iakttagelser beträffande vissa yxtyper från stenåldern*, Fornv. 1916; *id. Slutna mark- och mossfynd från stenåldern i Lunds universitets historiska museum*, Från Lunds universitets historiska museum, 1918.

It might be argued that all this is rather a superfluous battle of words and that in practice it is really immaterial, whether the axes with pointed butt represent a period of their own or belong to the latter part of the kitchen-midden period: in either case their chronological position in regard to the succeeding period remains the same. But it seems to me to be of some importance to make this distinction, notwithstanding. As we shall see, copper objects were known in Denmark already at an early stage of the megalithic culture; nevertheless, we still continue to refer this period to the Stone Age of the North, because copper objects were scarce in the large predominating quantity of stone weapons and tools: they do not constitute a Copper Age. Nor do we speak of the Latest Stone age finds with flint daggers etc., found in stone cists, as belonging to the Bronze Age, although bronze objects were already in use; we reserve the term Bronze Age for that period in Southern Scandinavia, when bronze was the principal material employed. In the same way — although the cases are not quite analogous — we eliminate the term »the period of axes with pointed butt», because it is the old forms of tools of the kitchen-midden period that predominate even during the time, when axes with pointed butt were used.<sup>1</sup>

The thin-butted axe is therefore the leading type of the first period after the long kitchen-midden period that is clearly marked by finds up to the present, and it is during this period that the most ancient megalithic tombs appear. At the time this occurs the cultural milieu has changed in a very important manner: side by side with, and even to a greater extent than hunting and fishing,

<sup>1</sup> An important reason for the argumentation carried on here against »the period of axes with pointed butt» is that the establishment of this period has in some cases given rise to the impression that the kitchen-midden period came to an end once for all, when the axe with a pointed butt appeared; it therefore seems important to me to vindicate the continuity, an endeavour shared and even exaggerated by, *e.g.*, Rydbeck. Another point is that the kitchen-midden period might suitably be divided into two sections, the latter of them constituting the transition to the period of the thin-butted axe. A large number of the flint axes with pointed butt undoubtedly belong to this later kitchen-midden period that can already be included in the later Northern Stone Age, but these questions cannot be dealt with in detail here. It is not known at present, whether and to what extent flint axes with pointed butt were used already in the earlier kitchen-midden period.

the sole pursuits of the older kitchen-midden period, cattle-breeding and agriculture now make their appearance as the principal occupations; we can assume that a peasant population, more or less permanently resident, builds the large stone tombs and that it is only in outlying districts that the nomadic hunting life of more ancient periods plays any great part. Of the dwellings of this peasant people we have very little knowledge; simple hearths built up of stones

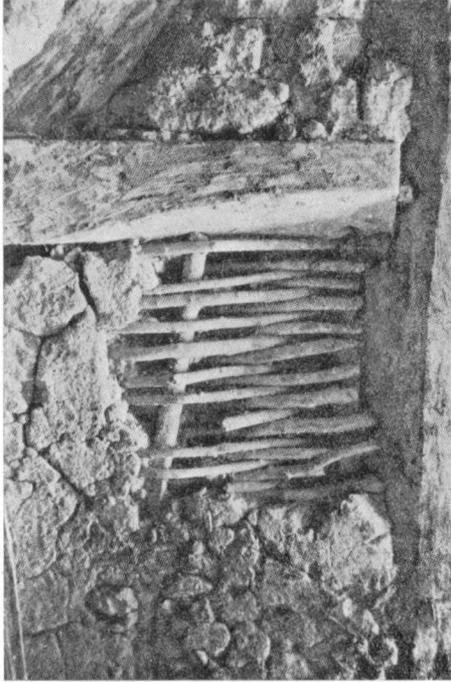


Fig. 2. Wall of modern house in Langeland, Denmark. J. Winther, Lindö I.

the size of a man's hand, of the same kind as those of the kitchen-midden period, have been found in some dwelling places, and in isolated cases — for instance, in Gribskov in Zealand<sup>1</sup> — pieces of burnt clay with impressions of branches have been discovered, from which it appeared that the walls of the presumably circular hut, made of branches, were plastered with clay. Fresh finds at

<sup>1</sup> Müller, *Vor Oldtid*, p. 181. The National Museum of Denmark A 5373. The Gribskov find seems, according to the pottery, to belong to the period of the thin-butted axe.

Lindö in Långeland<sup>1</sup>, however, indicate that rectangular houses occurred — in size possibly  $7 \times 4$  to  $8 \times 5$  metres. Their walls consisted of split poles set up at considerable intervals, the space between them being filled up with intertwined branches plastered with clay (fig. 2), and some details point to an external decoration of the walls in relief. In the houses there was a round fireplace of stones, sometimes surrounded by a wall of clay (fig. 3); another fireplace was placed outside the entrance. The fact that the four-sided type of house — although unlike the houses on Lindö in



Fig. 3. Hearth in the dwelling place at Lindö. Winther, l.c.

detail — was already used before the period of megalithic culture, is indicated by a discovery on the land of Strandegaard near Gavnö in south-eastern Zealand (fig. 4).<sup>2</sup>

In regard to the form of the settlements the discoveries of dwelling places have so far given us no direct information: it is impossible to tell from them, whether settlements were scattered or concentrated in some cases in villages.<sup>3</sup> The large stone tombs provide evidence, of course, of an organised state of society far in advance of the primitive stage; they indicate co-operation

<sup>1</sup> J. Winther, *Lindö I*, pp. 24 sq. etc.

<sup>2</sup> H. C. Broholm & J. P. Rasmussen, *Ein steinzeitlicher Hausgrund bei Strandegaard, Ostseeland*, Acta II, 1931, pp. 266 sqq.

<sup>3</sup> V. la Cour, *Sjællands ældste Bygder*, 1927, pp. 265 sqq.

within a family or tribe which enabled them to carry out joint pieces of work on a considerable scale and may, probably, even be regarded as an expression of a social division of the tribe. But all this does not necessarily imply definite village settlement; on

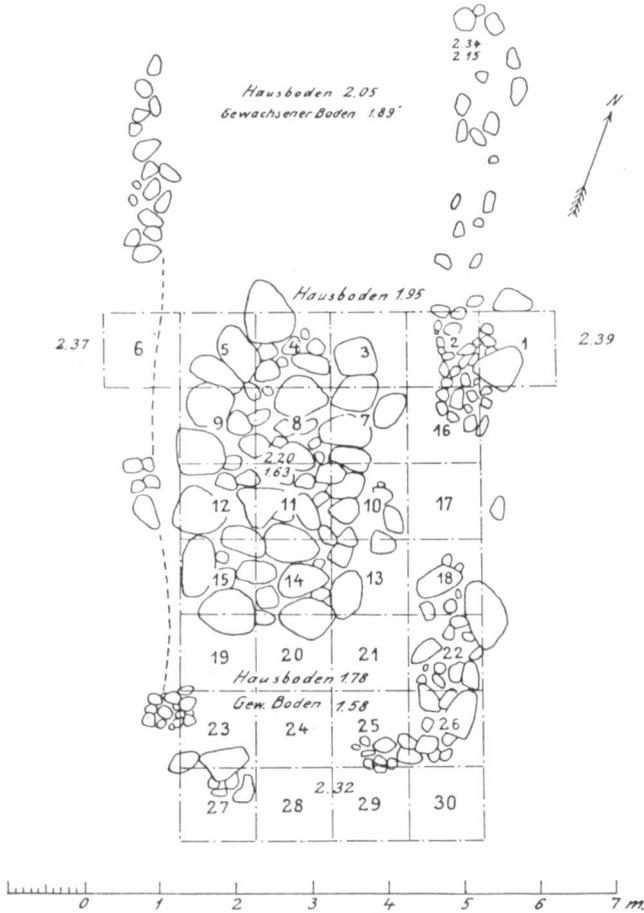


Fig. 4. Plan of rectangular house at Strandegaard, Zealand. Acta II, p. 267.

the contrary, in the scattered position of the tombs and in their relation to each other one is inclined to look for evidence of a form of settlement in scattered dwellings. In those cases in which the tombs occur in large groups we are, however, undoubtedly entitled to seek analogous instances in the megalithic culture of Western

Europe. With this object the large group of megalithic tombs and sites of huts at Carrowkeel in Sligo in West Ireland and the settlement at Los Millares in Almeria in South-East Spain with its adjacent place of sepulture with numerous megalithic tombs are pointed to,<sup>1</sup> analogies that, in my opinion, too, justify the assumption that a collected form of settlement also existed in Southern Scandinavia during the period of megalithic culture.

At all events the megalithic people were tied to the land in quite a different way from their predecessors during the kitchen-midden period. This is evident from the signs of agriculture with which the discoveries have made us familiar, above all from the impressions of grains of seed in the walls of clay vessels. Wheat — both *Triticum vulgare* and pygmy wheat (*Triticum compactum*), emmer (*T. dicccum*) and einkorn (*T. monococcum*) — was cultivated earliest and most generally, and the first appearance of barley — presumably always the six-rowed variety (*Hordeum vulgare*) — also belongs to this period.<sup>2</sup> An isolated discovery made at a dwelling place on Fionia gives rise to the assumption that flax was used besides wool for woven fabrics.<sup>3</sup> Nor is it utterly impossible for us to indicate the ground cultivated in the Stone Age. Among the groups of fields of pre-historic times which Professor Gudmund Hatt has put together, there is one that is distinguished

<sup>1</sup> See K. Friis Johansen's review of the work of la Cour in *Dansk historisk Tidsskrift*, 9th series, vol. V, p. 511; R.A.S. Macalister, E. C.R. Armstrong & R. L.I. Praeger, *Bronze Age cairns on Carrowkeel Mountain, Co. Sligo*, Proc. of the R. Irish Academy XXIX, C, 9; *Millares* in *Reallexikon*.

<sup>2</sup> See, for instance, Müller, *l.c.*, p. 411; *l.c.*, p. 26; K. Jessen & J. Lind, *Det danske Markkruddts Historie*, pp. 74 sqq.; notices in a letter from Professor K. Jessen to the author. Figures in Kjaer, *Vor Oldtids Mindesmaerker*, p. 26. Species mostly determined by G. Sarauw.

<sup>3</sup> Müller, *Sönderjyllands Stenalder*, p. 109 and fig. 44. The flax was probably imported. K. Jessen, who in *Planterester fra den aeldre Jernalder i Thy*, *Botanisk Tidsskrift* 42, 1933, recently dealt with the occurrence of flax in the North, proceeds from the fact that the well-known Danish find of linen cloth of the Later Bronze Age is the oldest evidence of the occurrence of flax in the North. As common flax — *Linum usitatissimum* — is known from the Hällstatt period in Central Europe, he assumes that it may possibly also have been grown in the North during the Later Bronze Age. All the finds of flax from the Alpine pile dwellings are considered to belong to a perennial plant — *Linum austriacum* or *angustifolium* — the growing of which in Denmark during the Stone Age Jessen does not think probable.

from the rest by the complete absence of any marks of field division. Irregularly placed heaps of stones indicate, however, that the land was tilled once upon a time, and on the Gunderup heath to the south of Mariager in Eastern Jutland pottery of the Late Stone Age has been found — though not actually megalithic pottery — which gives grounds for the assumption that the Gunderup heath was cultivated towards the end of the Stone Age;<sup>1</sup> but as to the form of agriculture we can only form an opinion by analogy.

It is, nevertheless, probable that cattle-breeding played a larger part than agriculture; to what an extent it had gained a footing at the expense of hunting is shown by the fact that among the bone tools in the discoveries made in the tombs, those made of the bones of wild animals are exceedingly few in number in comparison with the tools made of the bones of domestic animals. Besides the dog we now have horned cattle, sheep, goats — though less frequently — and pigs.<sup>2</sup> The question as to the domestication of the horse has, on the contrary, been a matter of controversy. However, there is no doubt that the horse was employed in the North at the end of the period of megalithic culture — here, for instance, is a discovery of the utmost importance made in a passage-grave at Stenstrup in North-Western Zealand;<sup>3</sup> but it appears at that time to have been a fresh and strange contribution to culture.

One other circumstance should be pointed out here by way of introduction; it has already been mentioned. At any rate during the whole of the period, when the large passage-graves were being built, copper was known and copper objects were used at times in the North, and the end of the period of megalithic culture synchronises with the fully developed Bronze Age in large parts of Central and Western Europe. This fact, which has always been emphasised by Danish archaeologists, supplies a different view of the Later Northern Stone Age from the one that was common among the majority of investigators about ten or fifteen years ago.

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<sup>1</sup> Hatt, *Prehistoric fields in Jylland*, Acta II, pp. 156 sq.

<sup>2</sup> Müller, *Vor Oldtid*, p. 185; Herluf Winge in *Affaldsdynger fra Stenalderen i Danmark*, pp. 186 sqq. With regard to the goat see Winge, *l.c.*, p. 190; Winther, *l.c.*, II p. 17. In the passage-grave at Stenstrup bones of hens were found, but they may have been brought in by foxes at a later period, see Winge in *NF* II, p. 79.

<sup>3</sup> Nordman, in *NF* II, p. 79; *id. Aarb.* 1917, p. 306.

It might even justify the paradox that no Late Stone Age existed at all in the North — at any rate within the megalithic culture that we are dealing with — but that a Copper Age immediately succeeded the kitchen-midden period. But if we, nevertheless, retain the term Stone Age for the whole period, when megalithic culture flourished in Southern Scandinavia, we do so, as already mentioned, because, notwithstanding, stone and flint form the basis of culture; the preponderating mass of tools and weapons are of flint and stone, even though at times their form was borrowed from metal weapons. Of the metal culture of countries further

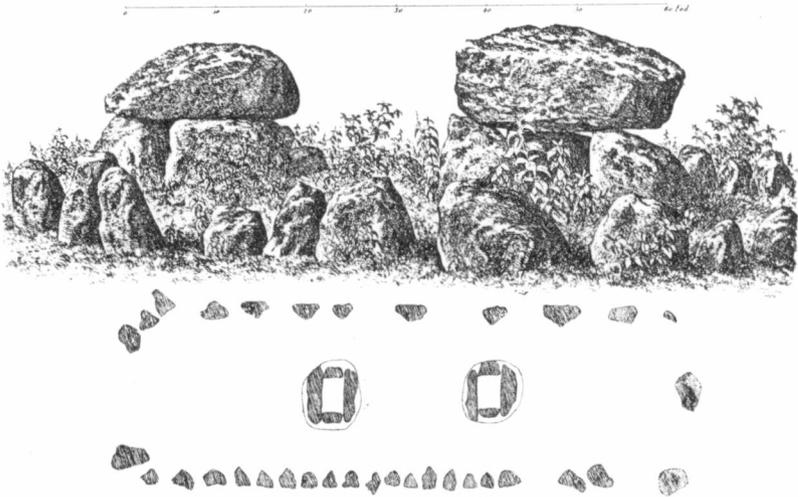


Fig. 5. Long dolmen with two chambers at Valdygaard, Zealand. A. P. Madsen, *Stenalderen*, pl. 8

south merely a reflex is seen in the neolithic age of the North and its types are translated into another medium. However, just as this age cannot deny its inheritance from the kitchen-midden period, it cannot renounce its inheritance in regard to those cultural elements that led from the South by different roads to the North. The neolithic age of Southern Scandinavia is a tangled skein. Perhaps we may succeed here in unravelling some of the threads of this fabric.

In his famous work *Orientalen och Europa* Oscar Montelius has drawn up the series of types of megalithic graves for Scandinavia, the relative chronology of which has, on the whole, remained un-

questioned. The results he obtained with regard to the age of the types of graves in relation to each other, have gained in importance by their having been applied frequently later to the graves in other countries without a preliminary investigation having actually proved that such conclusions by analogy were justified. Montelius' series is well known, yet we ought nevertheless to recall the different forms of graves. Montelius drew up the following series:<sup>1</sup>

1. The actual dolmen is pentagonal or square, closed on all

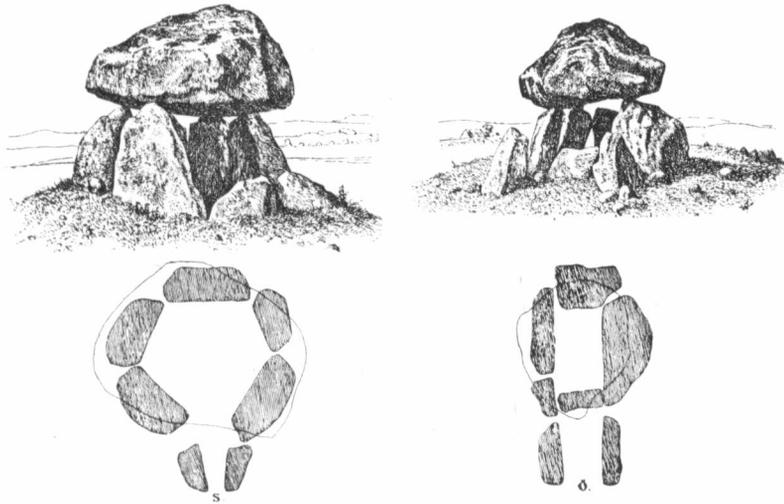


Fig. 6. Passage dolmens of different types at Nödager, Jutland (left), and Topshøj, Zealand (right). A. P. Madsen, l.c., pl. 11.

sides or else with one side open; it has no passage and is covered by a huge block of stone, while the low circular or oblong barrow leaves the roof and a large part of the stones forming the walls free (fig. 5).

2. A mixed form between a dolmen and a passage-grave is similar to the actual dolmens, but always has one side open and there are two stones outside the opening; these have no special capstone. These graves are often referred to as younger dolmens (fig. 6).

3. Passage-graves with a circular, fairly small chamber with one or two capstones and a short, covered-in passage; the

<sup>1</sup> *Orientalien och Europa*, ATS 13, p. 183.

barrow which is round as a rule, but is sometimes in the form of a broad square, does not cover the roof and the upper parts of the walls (fig. 7).

4. Passage-graves with an oval chamber with 1 to 4 capstones and a covered-in passage of varying length, leading from one of the long sides; the roof is not concealed by the round or sometimes broad square barrow.

5. Passage-graves with a square or rectangular, often very

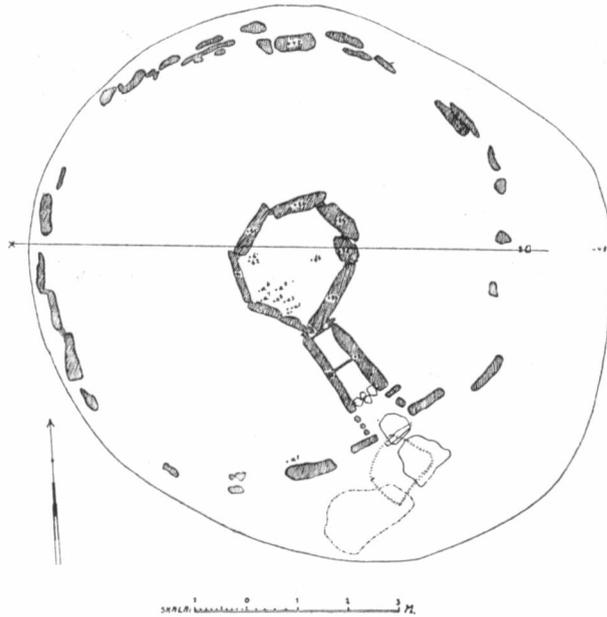


Fig. 7. Circular passage-grave in Valla, Bohuslän, Sweden. A. Enqvist, *Stenåldersbebyggelsen på Orust och Tjörn*, p. 81, 1922.

large chamber with at least 3 capstones; a long, covered-in passage leading from one of the long sides; a round barrow that does not conceal the roof (fig. 8).

6. Passage-graves with a square or oblong chamber and short, frequently broad passage leading from one of the short sides; the graves are built of smaller and thinner stones — often of flat stones — than in the preceding group; the roof is visible on the surface of the barrow or else the whole grave is covered in (fig. 9).

7. Long stone cists of an older form with a square chamber

and an indication of a passage or one end-wall open without any wall-stone; in other respects similar to the preceding group.

8. Stone cists of a later form with a rectangular, closed chamber without a passage and covered in with stones; the whole grave is concealed by the round barrow (fig. 10).

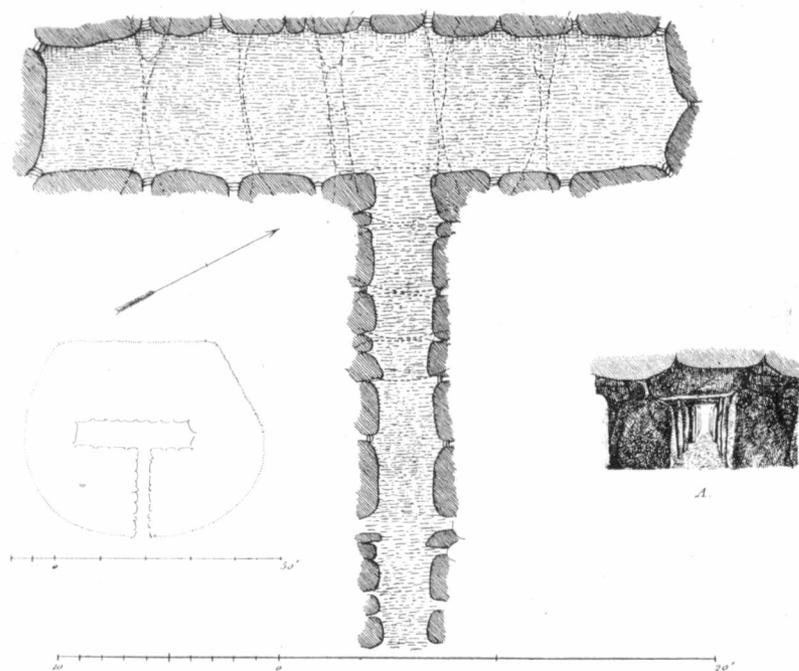


Fig. 8. Rectangular passage-grave at Hjelm, Møen, Denmark. A. P. Madsen *Gravhøje I*, pl. XXXIII, fig. 56.

This scheme has been adhered to almost dogmatically, and in broad lines it is undoubtedly correct. Nevertheless, observations made during the last few decades afford reason for some modifications and on other points the circumstances are still obscure. In the first place, we cannot cling to the idea that the stone graves, from the detached dolmen to the stone cist, have in the course of »development», so to say, sunk into the earth inch by inch, or rather that the vault of the barrow has become relatively higher with the passage of each decade, and least of all can we imagine an internal northern »development» without contact with the

surrounding world. It seems probable that the actual passage-grave as well as the grave-cist were, as a rule, covered by the barrow; this is shown by various researches of recent years in graves remaining untouched since the Stone Age,<sup>1</sup> and it is really only in regard to passagegraves in rectangular barrows that this assertion cannot be made very positively. On the other hand it is likely that the actual dolmens and the stone graves of Montelius' second type, the mixed form between a dolmen and a passage-grave, had a visible capstone as a rule;<sup>2</sup> actually detached dolmens or dolmens which originally raised themselves for the greater part

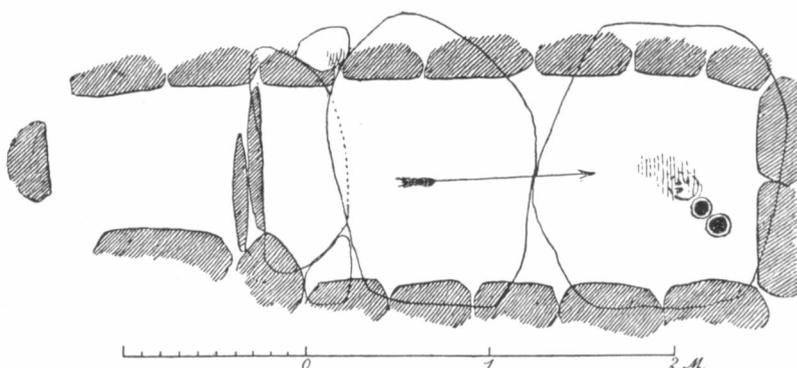


Fig. 9. Passage cist at Mönsted, Jutland, NF I, p. 156.

above the surface of the barrow can, on the contrary, scarcely be pointed to.

So much as to the relation of the barrow to the tombs. But also in regard to the individual types of tombs some corrective remarks should not be out of place. Before bringing them forward, however, there is one point that must be stressed. It is in the nature of things that a chronological scheme, built up on the basis of a series of types of graves, can never be exact in detail: the conservatism that dominates religious conceptions which form the basis of a certain form of sepulture, naturally and necessarily causes old forms of sepulture to remain in use for a long time, even though new types are introduced side by side with them.<sup>3</sup> A good

<sup>1</sup> Nordman, *Aarb.* 1917, pp. 224 sq.

<sup>2</sup> Müller, *l.c.*, p. 56.

<sup>3</sup> Nordman, *l.c.*, p. 310.

example of this is supplied during the Bronze Age by the gradual transition from unburnt corpses in large stone cists to cremated bones in urns; graves of very different kinds may be built during the same period. In a culture that occupies a central position in cultural activity — and megalithic culture does so in regard to the North: it does not stagnate, it is no survival only in far-off parts — in such a culture the more specialized forms of weapons and tools change more rapidly as a rule than the form of sepulture, and the same applies frequently to pottery and types of ornaments. It is, therefore, more suitable generally to base the chronological

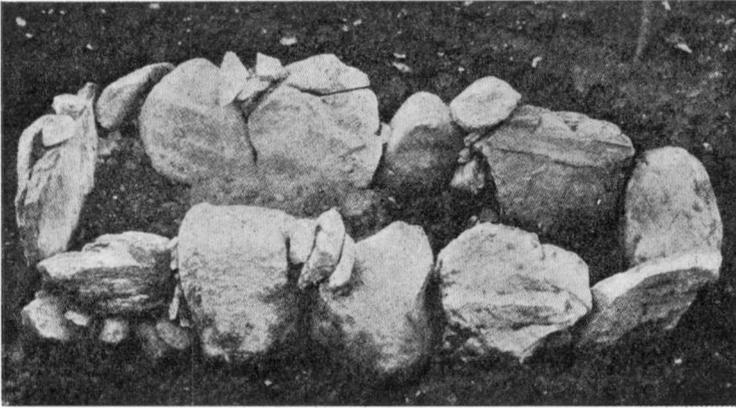


Fig. 10. Cist at Grevinge, Zealand. NF I, p. 147.

scheme on one of these groups of objects. In megalithic culture pottery would be a very delicate instrument, for it goes through a whole series of styles. But for two reasons it is inexpedient to base a chronological survey on styles of pottery, because in the first place some of the later styles have not yet been definitely determined chronologically in relation to each other and in the second place a chronology based on pottery can only be applied to the actual megalithic culture. But on the other hand, if we select certain types of weapons as a starting point, we can employ the same scheme in regard to some other groups of culture that are connected with the megalithic culture in Southern Scandinavia. We will therefore at this point already establish the chronological sequence: the thin-butted axe, the thick-butted axe, older

daggers, later daggers, a series that has been employed for several decades in dealing with the Stone Age in Southern Scandinavia. It is with this scheme that we will confront the series of types of tombs that have just been referred to.

In the first place, then, we have to ascertain, in what kinds of stone tombs the thin-butted axe is found. It can be said with complete certainty<sup>1</sup> that the simple rectangular dolmen belongs to the period of the thin-butted axe, the simple dolmen with, as a rule, a fairly narrow and deep chamber, built of four side stones, of which one of the end stones may be lower than the rest, and covered by an enormous capstone. This tomb may lie either in a round barrow or in a rectangular barrow (see fig. 5), and in either case its capstone is visible in the surface of the mound of earth (from 1 to 1½ metres in height), round the foot of which there is a circle of stone blocks, reaching a height of up to 2 metres in exceptional cases.<sup>2</sup> Although the finds are not very numerous, there are already about 20 incontrovertible examples of the chronological connection of this type of tomb with the thin-butted axe and some other pre-historic forms to which we will return in the course of these lectures. In regard to other forms of dolmens the finds are far scarcer and unfortunately they come as a rule from tombs that have not been examined in an expert way. However, a pentagonal dolmen can be mentioned at Östrup in the Holbaek county of Zealand, where a thin-butted axe was found, and a hexagonal dolmen with a couple of passage stones at Österballe in the Randers county, Jutland, with a similar find.<sup>3</sup> These and

<sup>1</sup> Müller, *NF.* I, pp. 156 sqq.; *id.*, *Vendsysselstudier*, Aarb. 1912, pp. 287 sqq.; *id.*, Aarb. 1913, pp. 88 sqq.

<sup>2</sup> The round barrows with dolmens have a diameter up to 20 metres; about 10 metres are very common. The length of the long barrows varies from about 15 m to about 150 m in exceptional cases; the width seldom exceeds 10 m. They often contain several dolmens and were then obviously enlarged later in many cases, see A. P. Madsen, *Gravhøje og Gravfund fra Stenalderen i Danmark* I pl. L, figs. 79 and 80. Long dolmens with a double row of stones round the foot are extremely rare, see, e.g., F. Sehested, *Fortidsminder og Oldsager fra Egnen om Broholm*, pl. facing p. 11. With regard to illustrations see also especially A. P. Madsen, *l.c.*, I—II; Müller, *Vor Oldtid*, pp. 57 sqq.

<sup>3</sup> Rosenberg, *l.c.*, pp. 258, 260 sq. See also a dolmen with 5 side-stones at Emmedbo, county Randers, Jutland, Müller, *Aarb.*, 1913, p. 93.

other sporadic finds indicate that polygonal dolmens had also come into use already during the period of the thin-butted axe, but for the present we must, nevertheless, assert that the rectangular dolmen is the form of tomb of this period *par préférence*; the fact that in extremely rare and exceptional cases thin-butted axes have also been found in actual passage-tombs — a circumstance that I shall deal with later — does not alter the case: both passage-tombs and polygonal dolmens are, as a rule, furnished with finds of a later period. If, therefore, we may rely on the material in the

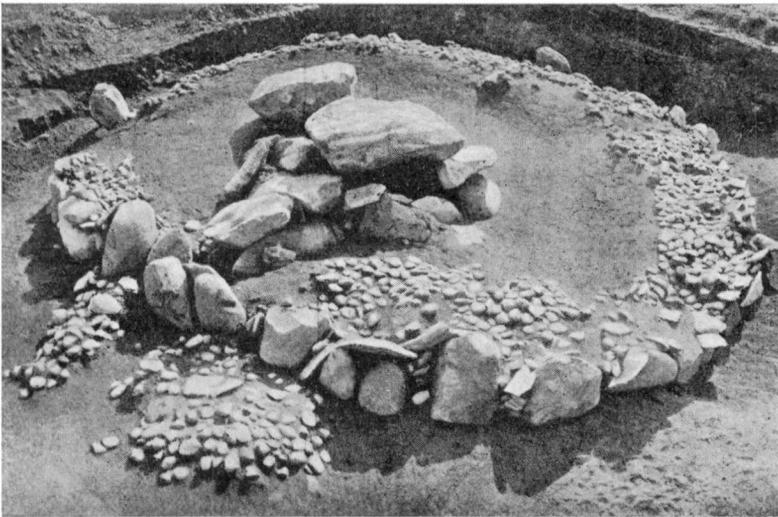


Fig. 11. Passage-grave at Mejls, county Ringkøbing, Jutland. NF II, pl. VI.

way of finds at present available, the rectangular dolmen is the oldest form of stone tombs in Southern Scandinavia. It is a different question, how long such tombs continued to be built. On this point, too, the finds are not very instructive so far, but in some finds there are, besides later objects, isolated older ones of the period of thin-butted axes<sup>1</sup> and in others the dolmens with late antiquities appear to have contained numerous corpses, and in such cases it can be assumed that the older contents of the tombs — as can often be proved in the case of passage-tombs — were removed at

<sup>1</sup> Madsen, *l.c.* I, pl. XLI.

the time of the later interments.<sup>1</sup> In other words, we have no definite proof at present of typical rectangular dolmens having been built after the period of thin-butted axes, however long they may have been used in some cases.

Polygonal dolmens with a passage belong to the transition period that leads up to the next period, that of the thick-butted axes, and to the latter period, but its classical form is the oval or rectangular passage-tomb with more than one capstone and with a passage leading from the long side of the chamber.<sup>2</sup> These passage-tombs are situated in round barrows from 15 to 25 metres in diameter and from 3 to 4½ metres in height, or in long barrows — usually rectangular — from 15 to 30 or 35 metres in length and varying from 8 to 16 metres in width; in the oblong barrows the orientation of the chamber is almost invariably the same as that of the barrow.<sup>3</sup> The actual stone tomb is situated in the centre or in the eastern or south-eastern part of the barrow, almost always on the natural surface of the ground; in contrast to some Dutch and German stone tombs, for instance, it is not dug into the ground, although the wallstones, of course, are placed in small holes and are supported by a small packing of flint and small stones. The barrow is encircled as a rule by a circle of stones, in the case of round barrows of comparatively small stones (fig. 11); the stones round the edges of the long barrows more often resemble the large blocks in the stone circles of the dolmens. When the passage, which opens in a direction between north-east and south, extends to the border stones, there is often a space between the latter the width of the passage.

The dimensions of the passage-tombs themselves vary appreciably and the proportion between the length of the chamber and the passage is far from constant: not infrequently the passage is considerably longer than the chamber, the length of which is often between 4 and 7 metres, but can extend to 10 metres or more. Several passage-tombs in Västergötland are exceptionally large —

<sup>1</sup> Müller, *NF* I, p. 158; Rosenberg, *l.c.*, p. 261.

<sup>2</sup> With regard to the construction of passage tombs see Nordman, *NF* II and *Aarb.* 1917; Rosenberg, *Aarb.* 1929.

<sup>3</sup> For a passage tomb, of which the passage ends in the southern short side of the long barrow, see V.Boye, *Udgravning af en Jaettestue ved Hammer*, *Annaler* 1862.

up to quite 16  $\frac{1}{2}$  metres with a passage of 12 metres — their walls having been built of large flat slabs of limestone and not of the granite blocks otherwise customary.<sup>1</sup> The spaces between the side-stones are, as a rule, filled with flat chips placed one above the other, and in exceptional cases the openings have been filled up with birch-bark. In a couple of instances it has been established that large blocks have also been split or shaped to some extent. If

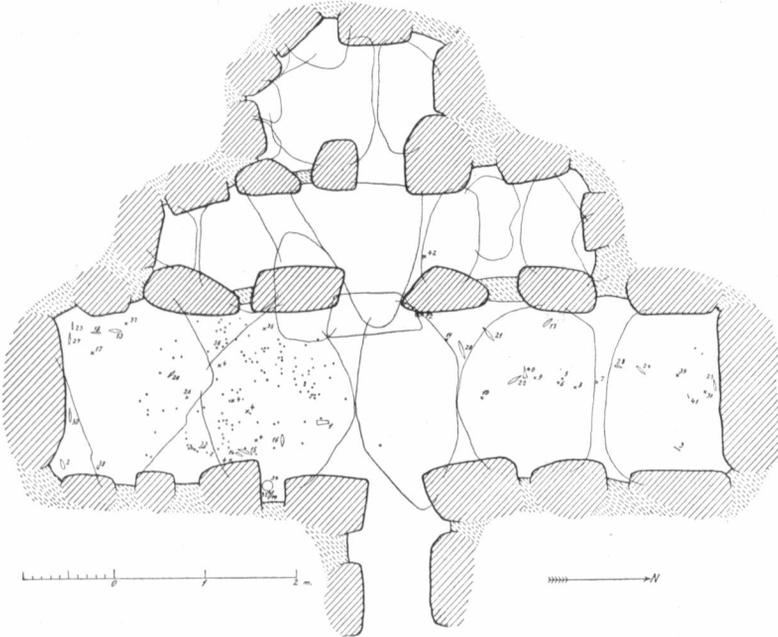


Fig. 12. Triple passage-grave at Alsbjerg, Jutland. NF II, p. 107.

the side-stones were not big enough to give the tomb chamber the desired height — up to 2 metres — one or two rows of horizontal blocks have been placed on top of them, which sometimes project slightly inwards over the tomb chamber: this has made it possible to roof it over with stones of rather smaller dimensions. In this case we find a slight inclination towards the corbelling, by means of which false vaults were formed over many tombs in South-Western Europe, but vaults of this kind never occur in the North.

<sup>1</sup> K. E. Sahlström, *Förteckning över Skaraborgs läns stenaldersgravar*, p. 7. *Västergötlands Fornminnesförenings Tidskrift* III.

With regard to the construction of the passage a few details should be noted. As a rule it is lower than the chamber and often grows narrower towards its outer mouth; the capstones sometimes do not cover its extreme end. In many passage-tombs narrow stones jut out into the passage in one or two places, between them there is a narrow, low threshold, and sometimes the doorway is finished off by a corresponding stone in the roof. It is clear that in this case we have a kind of door-frame, and in some cases a flat stone has been found at the frame which fitted exactly into the

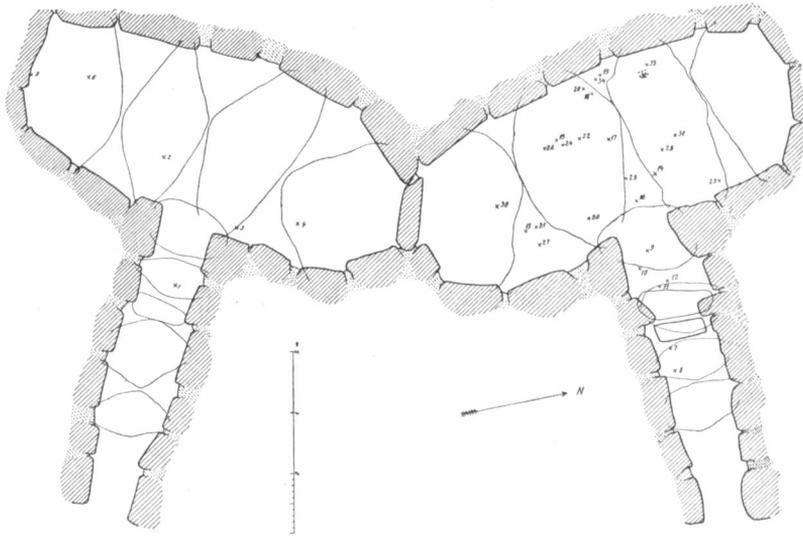


Fig. 13. Double passage-graves at Stenstrup, Zealand. NF II, p. 72.

opening of the door; in other bases the opening was closed by a packing of small stones.

Among the great quantity of passage-tombs, of course, all the variants can be pointed out from almost round to oval an oblong and distinctly rectangular; some chambers are narrowest in the middle, others at one end. However, the passage-tombs with an adjoining chamber behind or at the side of the main chamber present greater features of interest; about 20 such tombs are known at present, most of them in Jutland, and in one case — Alsbjerg north of Limfjorden in Jutland — a passage tomb has

been discovered with three chambers, decreasing in size, one behind the other (fig. 12). Double passage-tombs with one common short side and two passages, either parallel or diverging from each other, are numerous, especially in the Danish isles, a type to which several of the most imposing stone tombs belong (fig. 13).

On formal grounds, among other things, there is reason to suppose that among all these passage-tombs, differing from each other, the smaller ones with oval chambers are older than the large rectangular ones and also that the passage-tombs with adjoining chambers are among the older ones, while often the double passage-tombs must be placed comparatively late in order. This harmonises with the fact that in rectangular and double passage-tombs the doorway is frequently constructed with great care, whereas it is most frequently absent from tombs of the presumably older types; the prevalence of the individual variants, which I shall refer to later, also points in the same direction. But it must be admitted that so far the finds do not allow us finally to establish the correctness of this assumption; they indicate that, broadly speaking, all the types were built and used simultaneously and it can only be proved in a few cases that tombs of those forms that we have assumed to be older, were actually constructed at a rather earlier period than other passage-tombs. On the other hand, in isolated cases the time of construction of rectangular tombs can be fixed, on the basis of the finds, at a comparatively late date; this seems to apply, for instance, to some of the large passage-tombs in Västergötland.

A question that is eagerly discussed, is, whether the most recent megalithic tombs, the stone cists in their various forms, were evolved from the dolmen or from the passage-tomb.<sup>1</sup> Most probably the answer should be from both, and we should add that in certain cases, probably, the cist has no direct connection with ancient northern stone tombs, but is connected with fresh impulses from outside. In fact, we have to distinguish several different types of grave-cists. I should include among them the form of tomb which Montelius describes as a passage-tomb with

<sup>1</sup> See, e.g., Müller, *Aarb.* 1911, p. 292; Rosenberg, *Aarb.* 1929, p. 261. On the cists especially Müller, *NF* I, pp. 144 sqq.; H. Kjaer, *Gravkister fra Stenalderens Slutningstid*, *Aarb.* 1910.

a passage in the same direction as the length of the chamber; we will call them passage-cists (fig. 9). Like the other variants this is covered by a comparatively low barrow, and in some cases the cist is dug into the ground. As a rule, these cists are placed from north to south with a short passage towards the south, their length may be from 4 to 6 metres, their width 2 metres or a little more, and their height fully 1 metre. The manner of building is reminiscent of passage-tombs, and the stones used, though smaller than before, are still fairly large; flat, split blocks may also occur. In some



Fig. 14. Pillared cist at Torderup, Jutland. Aarb. 1910, p. 209.

cases we cannot speak of an actual passage: the latter is replaced by a small anteroom with a threshold and frame-stones between the chamber and the ante-room, the door is a flat stone slab. In one exceptional case there are two »stone pillars» in the middle of the tomb chamber as a support for the capstones :a tomb at Torderup near Aalborg in North Jutland (fig. 14).<sup>1</sup> The finds in the passage cists indicate that the tombs belong principally to the end of the period of the thick-butted axe and to that of the older daggers, but that they were also used later.

<sup>1</sup> Kjaer, *Aarb.* 1910, pp. 207 sqq.

We are reminded of these passage-cists by a group of similar tombs — sometimes with a passage, more often only with an anteroom — the main characteristic of which is, that in the southern endstone or in the stone between the chamber and the anteroom they have a round, oval or semicircular hole, several dozen centimetres in diameter.<sup>1</sup> These tombs (fig. 15), which according to the finds, date from the dagger period, are of considerable dimensions: up to 10 metres in length; they are, as a rule, dug below the

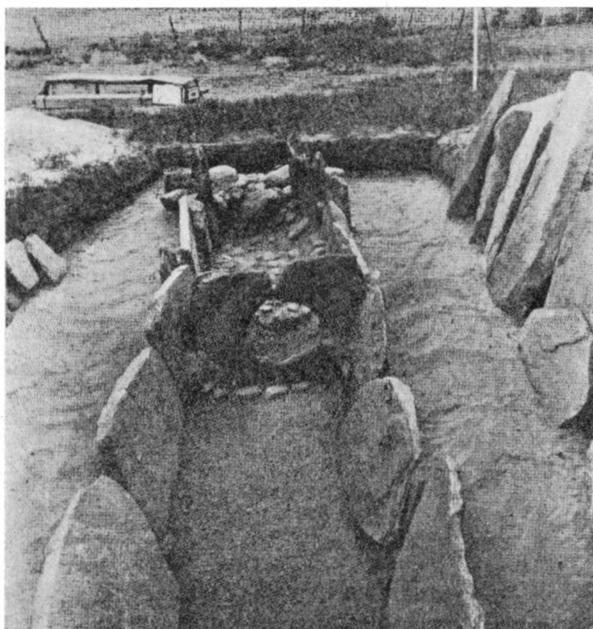


Fig. 15. Cist with porthole-entrance at Snäckeback, Västergötland, Sweden. Sarauw & Alin, p. 220.

level of the ground, and it is stated that the roofing stones are usually visible in the surface of the low barrow, a phenomenon which is probably due to secondary causes. The porthole entrance has played a great part in the discussion of the northern megalithic culture; and it will be necessary for us to form an opinion as to

<sup>1</sup> See, e.g., Sahlström, *l.c.*; Montelius, *Orientalen och Europa*, pp. 187 sqq.; *id.*, *Graf från stenåldern upptäckt vid Öringe i Ekeby socken*, Meddelanden från Östergötlands Fornminnesförening 1907.

the age and origin of this type of tomb. For the present we will confine ourselves to stating its formal connection with the ordinary passage cists.

Some long cists, placed east and west, which either have the eastern end open or are entirely closed, though in that case with a more lightly built east end, are contemporary with the later passage cists; they have approximately the same dimensions as these — seldom much more than 4 metres in length. They are covered completely by the barrow, and round them, as round other types of cists, there is most frequently a packing of small stones: filling up with clay also occurs. With regard to these, as well as to the passage cists, it is usually assumed that they are forms evolved from the later dolmens with a short passage. No doubt, an apparently convincing typological series can be drawn up, and personally I am inclined to acknowledge to some extent the justice of this assumption, but there is, nevertheless, no reason for being prejudiced in favour of this explanation. Rosenberg has pointed out<sup>1</sup> that in certain passage tombs the passage has been closed and a new opening has been made in the eastern end of the chamber, and in these tombs he recognises an intermediate form between a passage tomb and a long cist; it may be added that in some cases cists are built together, two and two, like double passage tombs.<sup>2</sup> We shall also find that at times there is much to be said for a connection with stone tombs outside the North.

The long cists were built in many cases during the older dagger period, in others the finds indicate a date at the close of that period. During this phase, however, we also have other cists, lightly built, often of flat stones and appreciably smaller, scarcely more than a man's length and quite low. They are sometimes considered to be megalithic tombs, but it would be more correct not to do so, for these small cists are distinguished from the megalithic tombs both by their dimensions and by their contents: the dolmens, passage tombs, passage cists and long cists are collective tombs, the small cists are individual tombs that upset tradition in the manner of sepulture. Family and tribal tombs make way for individual tombs built of stone.

<sup>1</sup> Rosenberg, *l.c.*, p. 261.

<sup>2</sup> Madsen, *l.c.* I, pl. V:ll.

## II.

The megalithic tombs are collective tombs. The form of burial. The collective tombs are tribal tombs. Finds in the dolmens: weapons and tools, ornaments and clay vessels. Finds in the passage tombs. The styles of pottery. The grand style and the refined style. The styles of decay. Flint and greenstone, working axes and weapons. Amber ornaments and bone objects. Finds of the dagger period in cists of various types. Excellent daggers and arrowheads, rough pottery.

I have already had occasion to emphasise that the megalithic tombs are communal tombs. With regard to the comparatively small and oldest dolmens there might still be some doubt: the restricted space in the tomb chamber seems scarcely to allow room for more than one corpse, if it is buried in a lying posture. It has been fully proved, however, that even such tombs contained several dead: when the bones have decayed entirely, this is proved in many cases by the comparatively numerous grave-goods<sup>1</sup>, and in other cases the remains of skeletons afford clear evidence; early dolmens containing at least 5 or 6 dead have been discovered on frequent occasions,<sup>2</sup> and the later burials were, of course, facilitated by the fact that one of the end-stones of the dolmen is so often lower than the other wall-stones. In such cases the bones lie in the greatest disorder on the crushed flint floor of the tomb: a clear indication that at the later burials the remains of those buried earlier were pushed aside to make room for the newcomers; possibly the tombs may even have been emptied entirely at various times,<sup>3</sup> a practice that can be observed more clearly in the case of passage tombs. On the other hand, as regards the dolmens there are not yet — as in the case of passage tombs — any clear proofs of burial in a sitting posture, nor has the supposition which was formerly advanced sometimes that the stone tombs were charnel-houses, in which only skeletons were buried, been confirmed by new finds. In future researches attention should be paid, however, to the possibility of the early dolmen having sometimes been the

<sup>1</sup> Madsen, *l.c.* I, pl. XLI.

<sup>2</sup> Madsen, *l.c.* I, N:o 9; Müller, *Aarb.* 1911, p. 284. According to H. A. Nielsen, *Aarb.* 1915, p. 276, only 5, not 6 corpses in the dolmen at Vig, county Holbaek, Zealand.

<sup>3</sup> Rosenberg, *Aarb.* 1929, pp. 258 sqq.

tomb of a single individual: at present it is impossible to settle this question.<sup>1</sup> The larger and later dolmens, on the contrary, undoubtedly always contained several corpses.

This is the case to a still more marked extent with the passage graves — tombs have been found in Denmark and Sweden containing about 100 corpses<sup>2</sup> — but only in the case of those buried last was it possible to observe that they were lying at full length. It has, besides, been possible to establish in a few passage tombs that the dead were sometimes buried in a sitting posture.<sup>3</sup> In some cases they seem to have been placed in small cists, built of low, flat stones, against the walls of the passage tombs; these cists thus formed, in a way, individual tombs within the large communal tomb; a couple of passage tombs in Västergötland afford clear examples of this. In other cases the tomb chamber has been divided by putting rows of flat stones right across the floor of the chamber, but it has not been possible to establish, whether this division had any special significance for burials. The chaotic disorder in the majority of the tombs is, of course, due to the older contents of the tomb having been disturbed at later burials, yet in some cases — for instance, Raevehøj in Slotsbjergby and Troldhøj in Stenstrup, both in Zealand,<sup>4</sup> — a certain amount of consideration was shown: the crania were collected in heaps by the wall of the chamber (fig. 16) and the long tubular bones were deposited in a protected spot between two side-stones.

A circumstance, the meaning of which has been finally explained by Rosenberg's researches during the last few years, is likewise connected with the repeated burials.<sup>5</sup> Outside the passage

<sup>1</sup> J. Brøndsted, *Vort Folks Oldtidsliv og forhistoriske Minder*, p. 333, *Det danske Folks Historie I*. Brøndsted's paper gives an excellent survey of the prehistory of Denmark.

<sup>2</sup> Nordman, *Aarb.* 1917, p. 241; G. Retzius, *Crania suecica antiqua*, pp. 71, 75, 79; Sahlström, *l.c.*, pp. 34, 42; Madsen, *l.c.* II, p. 8.

<sup>3</sup> Retzius, *l.c.*, pp. 59, 75; Sahlström, *l.c.*, p. 34. At any rate in regard to the passage-grave on the Axevalla heath in the province of Skaraborg, Västergötland, the descriptions of the finds are so precise concerning the skeletons in a sitting posture that they leave no room for any doubt.

<sup>4</sup> Nordman, *NF* II, p. 86; H. A. Nielsen, *Yderligere Bidrag til Danmarks Stenalderfolks Anthropologi*, Aarb. 1911, p. 260.

<sup>5</sup> Rosenberg, *Aarb.* 1929, pp. 245 sqq.

tomb, close to the mouth of the passage, potsherds are often found, sometimes other relics, too. They have been interpreted as the remains of sacrifices at the consecration of the tomb or at the separate burials,<sup>1</sup> but the new finds prove conclusively that, as a rule, they belong to the original contents of the tomb, which were removed in the course of its continued use.

What I have already said of the form of sepulture is also applicable to the megalithic stone cists of different kinds: they,

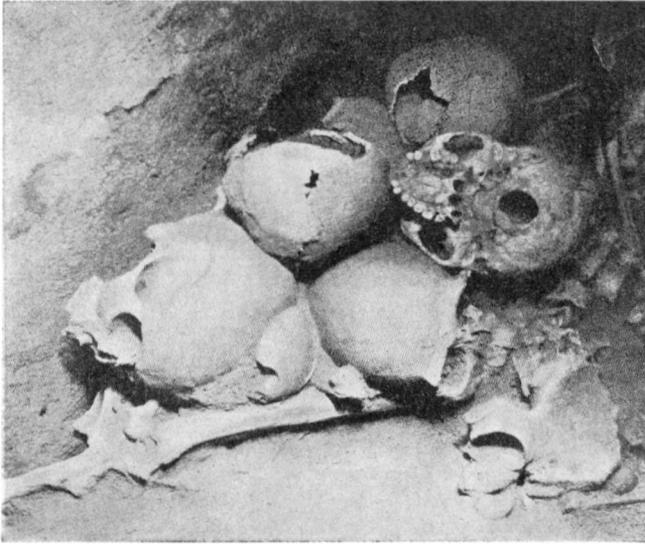


Fig. 16. Crania in the passage-grave in Trolldhøj, county Holbaek, Zealand. NF II, p. 86.

too, are communal tombs that were used repeatedly, but the number of persons buried is seldom very large: about 10 is an usual number, in exceptional cases 15 to 20 or 30 and in the large cists of Västergötland with a porthole entrance, even over 60.<sup>2</sup> It is only in the case of the small cists the length of a man belonging to the end of the dagger period, that burial in single tombs becomes customary: the day of communal tombs is over.

<sup>1</sup> Nordman, *Aarb.* 1917, pp. 304 sqq.

<sup>2</sup> H. A. Nielsen, *Aarb.* 1911, pp. 86 sqq.; *id.*, *Fortsatte Bidrag til vort Oldtidsfolks Anthropologi*, *Aarb.* 1915, pp. 276 sqq; Retzius, *l.c.*, p. 88; Sahlström, *l.c.*, pp. 13, 40, 81.

In my first lecture I used the expressions »family tombs» and »tribal tombs». *A priori* these terms are probably justified, but it is also obvious that the finds can seldom provide evidence of their being correct. As a rule it has not been possible to make use of general anthropological data for this purpose, but it is worth mentioning that the Danish anthropologist H. A. Nielsen established the presence in the large passage tomb in Raevehøj at Slotsbjergby in Zealand of a large number of cases of alveolar prognathism, which he concluded to be a family trait of the people buried there.<sup>1</sup>

As the megalithic tombs were communal tombs which were used for a long time, frequently, no doubt, for many generations, they naturally contain objects of varying age. Unfortunately, it is very rarely that the date can be determined directly by observing the strata in the various stone tombs: like the remains of the skeletons the relics have been jumbled up owing to the later burials and it is only the very latest that lie in their proper position, at a high level as a rule. Nevertheless, in Jutland in particular and sometimes in Sweden it is possible to note an order of stratification in the passage tombs: lower and higher layers of finds can be discerned, separated at times by layers of earth or stones barren of finds; packings of stones are also found above the layers of finds, just as the floor of the tomb is often covered with crushed flint or flat stones. In the dolmens with their smaller number of corpses the contents of the tomb are often more homogeneous, although here, too, we find instances of very considerable difference in age between the oldest and latest objects; finds with a clear order of stratification are unknown among the earlier dolmens. A small series of characteristic types of antiquities belongs to the finds in these early dolmens. They are not numerous and by no means exhaust the whole supply of forms of the period; to establish this it is also necessary to examine finds of another kind.

The types of antiquities in the dolmens are as follows (fig. 17): the thin-butted flint axe (fig. 17:1—2) certain types of battleaxes (17: 3) and maces of stone (17: 4—5), some forms of amber beads, (17: 6—7), several different types of clay vessels. The pottery is,

<sup>1</sup> H. A. Nielsen, *Aarb.* 1915, p. 319.

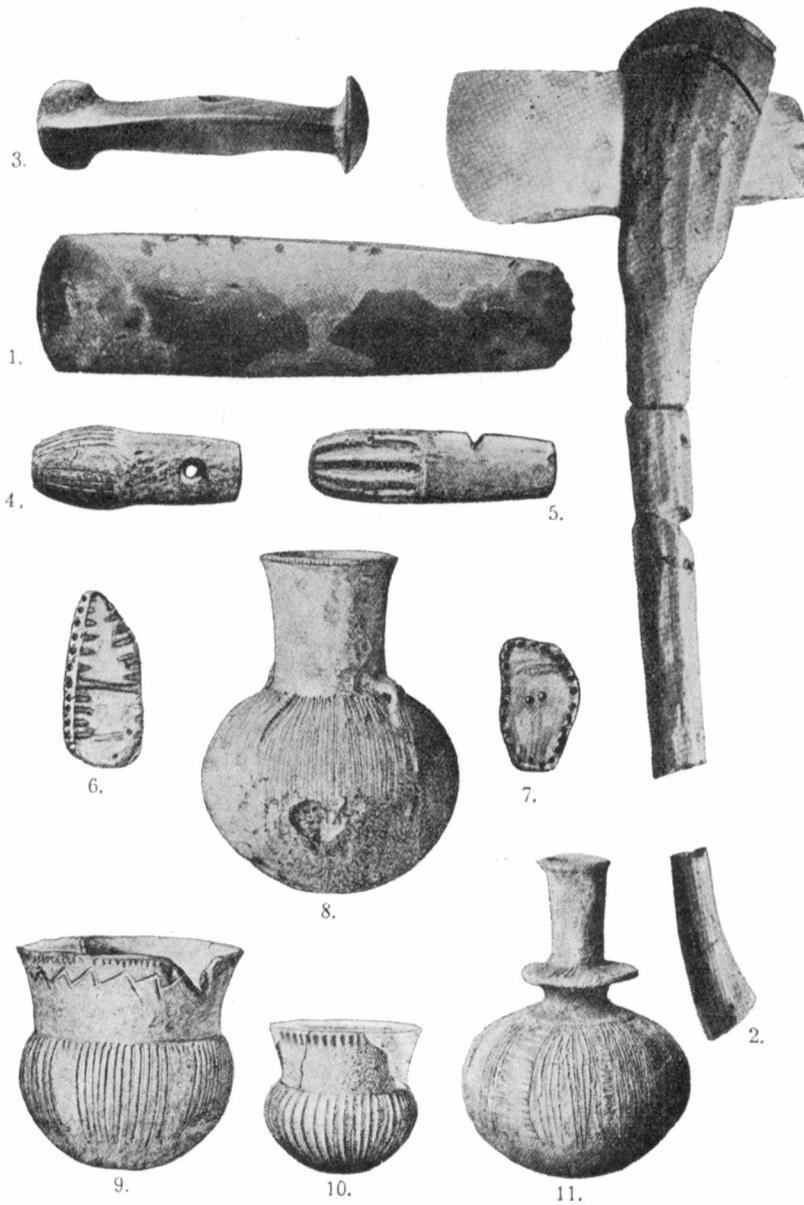


Fig. 17. Types of implements and vessels from Danish dolmens, 1/4. Vort Folks Historie I, pl. IX.

perhaps, the most interesting.<sup>1</sup> There are only a few forms. Large, long-necked flasks with small ears (17: 8) are worth noting as well as smaller, in some cases almost spherical »field-flasks» with a peculiar collar on their narrow necks; these are called »collared flasks» (17: 11). The ornamental designs on all of them are similar: engraved vertical lines or raised ribs occasionally with slanting lines as if to imitate a cord, rows of dots, notches or lines round the neck or collar, and so forth. There are the same vertical lines, in clusters or in an unbroken series, on the sides of open beakers or bowls (17: 9—10) — funnel-necked beakers are spoken of — which belong to the finds in the dolmens as well as the flasks. Finally it may be added that in one dolmen, besides long-necked flasks, a large round-bottomed vessel was found with a broad neck and a vertical design made by impressions from a cord which has been whipped or served with twine, a method that undoubtedly belongs to the end of this period and the beginning of the next.<sup>2</sup>

The vertical design of lines is so characteristic of the period that it is even transferred to other materials than clay: for instance, some stone maces with this design (fig. 17: 4—5) have been found together with flasks and thin-butted axes, though not in dolmens.<sup>3</sup> Of other rare forms of weapons I ought to mention a battleaxe of stone with a round butt-knob and broad edge, found with a thin-butted axe in a pentagonal dolmen,<sup>4</sup> and two thick spear-blades (or, perhaps, halberds) of flint — not to be confused with the late daggers — which are said to have been found together with a thin-butted axe<sup>5</sup>, but the circumstances, by the way, are not clear. Trans-

<sup>1</sup> Regarding the pottery of the megalithic culture see especially Sophus Müller, *Oldtidens Kunst i Danmark, Stenalderens Kunst*. The basic researches into the earlier megalithic pottery are Müller, *Sonderjyllands Stenalder*, Aarb. 1913, pp. 94 sqq. On passage-grave pottery see also Nordman, *Aarb.* 1917, pp. 269 sqq.; id., *Stenålderns konsthantverk*, Nordisk kultur XXVII, 1931.

<sup>2</sup> The find from Stenvad near Randers, Jutland; Nordman, *Aarb.* 1917, p. 271.

<sup>3</sup> K. Friis Johansen, *Jordgrave fra Dyssetid*, Aarb. 1917, p. 139; Müller, *Aarb.* 1913, p. 261, note 2, the find from W. Brønderslev, county Hjørring, Jutland.

<sup>4</sup> Müller, *Aarb.* 1913, p. 261, the find from Emmedsbo, county Randers, Jutland. The axe is figured by Montelius, *Chronologie der ältesten Bronzezeit*, fig. 281. Cfr. below p. 87.

<sup>5</sup> Müller, *Ordning af Danmarks Oldsager, Stenalderen*, 149—150; Nordman, *Ett dateringsförsök*, FM 1915, p. 40 sq.

verse arrowheads are also among the weapons of the period and possibly it may be due to chance that so far they have not been found in any early dolmen. If I add that large amber beads, usually clumsy and hardly shaped at all, often with hollows bored into them along the edges, occur not infrequently in the dolmens, the series of their antiquities is more or less exhausted.



Fig. 18. Bowl from Mogenstrup near Randers, Jutland, 3/8. NF II, p. 97.

The explanation of this comparative poverty might, perhaps, be found in the fact that the early dolmens may possibly belong to a fairly short part of the period of the thin-butted axes — that is, to its end — while the passage tombs with their varied types of antiquities embrace the period not only of the thick-butted axe, but also of the older daggers, for this is indeed the case, though with regard to forms of tools, weapons and ornaments it is by no means always possible to determine exactly the chronological position of the separate objects in the entire period of passage tombs. In regard to pottery this is easier, and as a matter of fact, a whole series of styles can be distinguished which seem to succeed each other, although in many cases they obviously overlap to a greater or smaller extent.

In the first place we must note the fact that in a couple of passage tombs pottery has been discovered, which in shape and vertical line design joins on to the vessels in the dolmens in spite of some dissimilarity in details: I might mention some fragments of funnel-necked beakers and large open vessels which are further decorated with hollows along the edge of their mouths.<sup>1</sup> It has recently been asserted positively that derivatives of such pottery continue throughout the whole period of passage tombs<sup>2</sup> and

<sup>1</sup> NF II, p. 92, fig. 66; Müller, *Stenalderens Kunst*, fig. 63; Nordman, *Aarb.* 1917, pp. 269 sqq.

<sup>2</sup> J. E. Forssander, *Gropornevad megalitkeramik*, K. Humanistiska Vetenskapssamfundets i Lund årsberättelse 1930—31, IV.

this is undoubtedly true, but it is equally certain that vessels belonging to this group, for instance, from the passage tomb at Birkelund in the parish of Glaesborg in the county of Randers in Jutland belong to the beginning of the period. The finds are scarce as yet, but everything points to their being in no case later than the transition period between the period of thin-butted axes and that of thick-butted axes, and it is more than likely that they were already in use at the end of the former. The same period includes a few vessels — especially open bowls — with a vertical design impressed from cord whipped with twine, a method referred to in connection with the finds in dolmens; a bowl of this kind, for instance, comes from a passage tomb at Mogenstrup near Randers, where a thin-butted axe was also found (fig. 18).

On such bowls and on the funnel-necked beakers a fresh design occurs below the edge of the mouth, apparently for the first time, which is of fundamental importance for the further development of megalithic pottery: a zig-zag line, single or multiple, engraved or impressed bit by bit with a stamp or whipped cord. In a way this design, always employed horizontally, represents a profound change of style: the older ornamentation was, to a great extent, vertical, but now a horizontal design comes out strongly, and the development that follows next is marked in many respects by an alternation of these different principles of design. This is accompanied by another circumstance: the vertical design has a tendency to soften the lines of the clay vessels, it does not tolerate any sharp angles or contours, while on the contrary the horizontal design by no means prevents a better marked division of the body of the vessel. In fact, the appearance of the horizontal zig-zag band is accompanied by several new forms of vessels, with angular profile and, when during the final stage of the megalithic pottery the curves become gentler, the vertical design once more gains ground to a great extent.

The new horizontally decorated pottery appears to reach its highest point at the very start: firm mastery of the scale of decoration, certainty in employing the different designs and wise subordination of the decoration to the form characterise the vessels of this period. Sophus Müller, whose studies of Stone Age pottery are profound, refers to this as »the grand style». Among the ves-

sels, bowls of acutely angular shape with one or two broad strap handles are noticeable (fig. 22: 9) as well as pedestalled »fruitbowls», likewise often with two handles. Clay ladles with hollow handles are in the same style (fig. 19). Zig-zag lines, deeply impressed bit by bit, form one of the principal designs, sometimes disposed in such

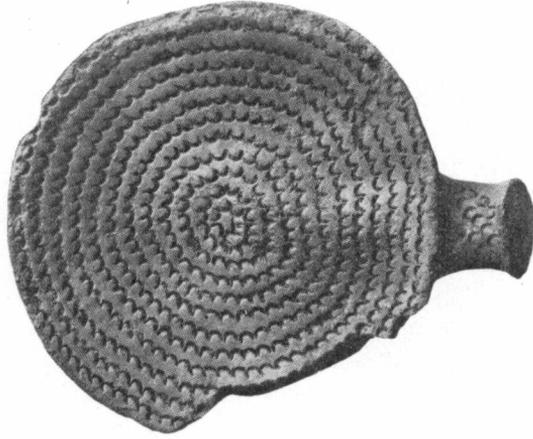


Fig. 19. Clay ladle from Denmark, National Museum, Copenhagen. 1/2.

a manner that a rhombic pattern of small checks is formed; another design is composed of lines consisting of small semi-circular curves, also deeply impressed. These lines replace the older designs that were carried out with whipped cord, but fairly exact imitations of the latter also occur. Bands, triangles and lozenges with light cross-hatching are common; and an effective contrast is obtained, when they are employed in combination with the zig-zag or similar designs, or when alternating horizontal and vertical designs are placed side by side. This is generally done on large open bowls with tube-shaped ears, a type which has analogies in the whipped cord style. The surface of the clay objects is often well polished, and is of a deep brownish-black or reddish colour.

From »the grand style» two lines lead onwards through the pottery of the following period. The one leads to a form of decoration, the main characteristic of which is the refinement and over-cultivation of everything inherited from its predecessor. »The grand style» is succeeded by »the refined style», decorations that were deeply impressed become lighter and more elegant and a decorating tool which now comes into use more generally<sup>1</sup> — the cockle-shell with its notched edge — gives the decoration a gra-

<sup>1</sup> The cockle-shell was sometimes used for decorating vessels of those types which are found in dolmens, see Nordman, *Aarb.* 1917, p. 274.



Fig. 20. Hanging vessel from Gantofta, Scania. 1/3. Montelius, *Minnen*.

ceful element; a fine toothed stamp is likewise used more and more generally as time goes on: the tooth stamp gradually displaces the cockle in its turn. But the composition of the designs and the shapes of the vessels are, on the whole, the same as before; the decoration of the inner side of the edge of the vessel also occurs, as during the time of »the grand style».

No very numerous examples of this style have been preserved, yet among them there is what is, perhaps, the most elegant vessel known of the Northern Stone Age, so sure and tasteful in the use of ornamentation, in the use of vertical and horizontal designs, of decorated and smooth surfaces (fig. 22: 10). In all probability vessels of such perfection were never common. Rather more usual were the vessels on which the cockle or fine tooth stamp was replaced by stamps with larger and rougher teeth, but the group that is united by this technical detail seems, to judge by the shapes of the vessels, to be chronologically heterogeneous: some vessels are not far removed from the forms of the grand style and the refined style, others belong undoubtedly to a later stage. Among them there are still some fairly well executed examples; we can, for instance, mention a number of hanging vessels (fig. 20), a form that was not general earlier, and among the designs check patterns with rectangles are not unusual, especially in Scania.

The other tendency starting from the grand style expresses itself in a coarsening and superficialising of the decoration that became popular with the grand style, and in the shapes and the consciousness of the relation of ornament to form growing slacker. Instead of zig-zag lines made with stamps, there now occur engraved and cut lines that are often placed even below the edge of the belly. The cluster of short lines is drawn over the latter and the neck is frequently divided by means of perpendicular groups of lines. At the same time the shaping of the form itself becomes less distinct, and the large strap handles on the bowls dwindle.

If the grand style — the first distinct style of pottery that belongs only to the passage tombs and to the later dolmens contemporary with them — is designated by the figure I, the two groups last referred to might be given the designation IIa and IIb in order to indicate the chronological parallelism between them. The fact that they are contemporary is shown partly by details of form and style, and partly by the circumstances in which they were found: they occur, for instance,

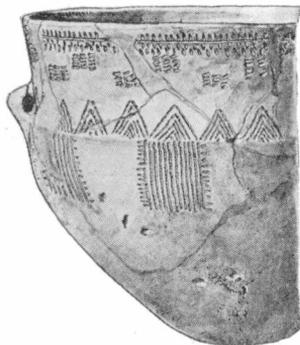


Fig. 21. Bowl from Kattrup, Zealand. Müller, *Stenalderens Kunst*, fig. 161.

in tombs and in districts, from which the later styles of passage tombs are absent. They illustrate in a characteristic way a fact often observed in the history of art: a large and powerful style is often succeeded by an eclectic art of a high state of perfection and refinement, and side by side with this the old style tends to dissolve and degenerate.

The further »development» in passage tomb pottery moves, on the whole, in the direction of such a dissolution, although isolated new elements are added to the pottery. In this process we can distinguish a couple of stages in style, but as it is by no means certain that they are chronologically separated — the finds do not afford clear information on this point — we will treat them here as one, although the individual vessels may as a rule be determined purely from the point of view of style as belonging to style III or IV. The firm, wellnigh sculptural modelling of the shape is by degrees given up entirely, and finally the significant parts of the body of the vessel are merely indicated in an ornamental way. Decoration, which at times strives after almost picturesque effects, predominates at the expense of form, and one notices a colour effect which expresses itself, perhaps, to a greater degree than before, by filling in the design with a white substance. The principal types of vessels are large, broad bowls (fig. 21) and hanging vessels of various kinds: the edge of the belly is marked by scarcely anything but a line or a row of ornaments on the latest ones. Things come to such a pitch that even the lugs of vessels are purely orna-

mental. Frequently they are in the form of two eyebrows, beneath which the eyes are marked by circles. Purely typologically the origin of this design can be traced to older stages and it is easy to assume that the similarity between the rudiment of the ear of a vessel and the human eyebrow was enough to inspire the new design through the association of ideas. It is, however, not impossible that in this case they adopted an original figurative form from outside and that the bowl with eyes, from the point of view of its meaning, was a kind of facial urn.

The decorative method on these late vessels is chiefly of two kinds: lines are formed either of dots pricked very close to each other or of incisions in the clay. The pricked dots replace the cockle and the tooth-stamp, and the method of incision which had come into use earlier, becomes less decided in these styles: the incised designs are lighter and not so deeply marked in the clay than those of the older period. The ornamental designs are mostly inherited from the preceding period, but they are now treated in a different way and some of the older elements have disappeared. The zig-zag line, the lozenge and triangle — often consisting of groups of dots without any lines to frame them — the herring-bone pattern and the perpendicular cluster of lines are some of the most usual designs. They are often spread over a large part of the vessel and the composition is vaguer; vessels of high artistic merit are rarer than formerly. The line makes a steep descent, the ornamentation has advanced far along the road to dissolution and decay.

I ought, however, to point out that in the same passage tombs as contained these last decorated vessels, other vessels have been found without any incised decoration, vessels of the same forms, on the whole, — mainly large bowls without any lugs — the only ornamentation of which consists of short, plastic ribs (occasionally with slanting lines) or round knobs that were often placed in groups of two or three at the faintly indicated upper limit of the belly. Such vessels have not hitherto been discovered among older passage tomb finds, whereas the flat, round »plates» or lids occurring in some late finds are an inheritance from the first period of the passage tombs.<sup>1</sup>

<sup>1</sup> Nordman, *NF* II, p. 61 sq.; Forssander, *l.c.*, p. 22.

The entire series of ornamental styles from the grand style to the late styles of decay fits in chronologically into the period of the thick-butted axes. But in addition the passage tomb finds contain vessels of the dagger period, which may conveniently be



Fig. 22. Types of implements and vessels from Danish passage-graves. 1/4. Vort Folks Historie I, pl. X.

treated in conjunction with the latter, and finally, too, clay objects which do not belong at all to the megalithic culture, important evidence of the relation of the latter to chronologically and locally allied forms of culture; they deserve attention, as do certain forms

of axes, when the position of the megalithic culture in the Stone Age of the North is discussed.

I have mentioned already that pottery can be divided more easily than other antiquities into chronologically distinct groups. The other articles must, on the whole, be dealt with *en bloc*, although in regard to some of them a distinction may be drawn between older and later forms. Among the flint axes the thick-butted ones are, of course, the commonest, and among these the thick-bladed axes (fig. 22: 1) occur about as generally as the thin-bladed ones; some thick-butted axes of greenstone have also been discovered in tombs. The narrow, thick-butted flint chisels (fig. 22: 2) are connected by form and chronology with the thick-butted axes. It is more important to note, however, that in a couple of instances small, but quite typical thin-butted axes have been found in passage tombs, which must be assumed to be fairly early also on account of their form.<sup>1</sup> Beside them we can place a small series of small, thin-bladed axes that can best be compared with the thin-butted ones, although their butt sometimes shows traces of polishing. These finds are of no little significance, because they show us the oldest class of tools in the passage tombs and, like the oldest pottery discovered in these tombs, they enable us to ascribe some passage tombs to the end of the period of the thin-butted axe, and to the transition period to the period of the thick-butted axe. Among later forms a number of thick-butted gouges may be noted, found chiefly in the eastern part of the area of megalithic tombs, a type that can probably be ascribed to, let us say, the concluding third of the period of the thick-butted axe. It is rather more difficult to fix the date of the presumably older gouges with pointed oval cross-section and pointed butt, which are in a way reminiscent of the old sharp-butted axes; they were prevalent more to the west.

Of actual weapons different varieties of double-edged battle-axes are among the most numerous (fig. 22: 5-6). A couple of finds, though they do not afford quite conclusive evidence, indicate that the type with only a slightly broadened edge and butt is the oldest (fig. 23), while the elegant shape with symmetrically broa-

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<sup>1</sup> Nordman, *Aarb.* 1917, p. 247.

dended edge and butt is rather later; the clumsier variety which does not occur outside Scandinavia, is found in fairly late passage tomb finds. Flat, round mace heads (fig. 22: 4), often of porphyry, belong to beginning of the period of the thick-butted axe; they are commonest in Western Denmark. Among other weapons we can mention some thick spearheads of flint that have been found in exceptional cases already with thin-butted axes, and some flint blades of elongated triangular shape; these types are, there-

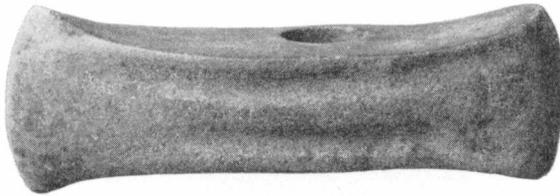


Fig. 23. Battle-axe from Skörping, Jutland, found together with the vessel in fig. 24 in a late dolmen. 1/2. National Museum, Copenhagen.



Fig. 24. Vessel found as in fig. 23. 2/3. National Museum, Copenhagen.

fore, older than the ordinary spearheads of the dagger period. Finally the arrowheads should be mentioned, in the first place the ordinary transverse arrowheads that are still used at any rate during the early part of the period, then the long arrowheads which are the precursors of the arrowheads with a triangular cross-section; the latter belong to the end of the passage tomb period and the beginning of the dagger period, the former are rather older.

We can pass over other types of flint objects and devote a few moments to the numerous amber ornaments. Among them

we can include, in a way, a couple of small amber cups, rare little examples of fancy-goods, but the great mass consists of beads and pendants of the most variegated types. A very large percentage of them is in the shape of axes. Here, for instance, we find some that resemble thin-butted and thick-butted axes; the former often have a broadened edge and hollows along the edges, bored out and filled with resin. However, those resembling double-edged axes (fig. 22: 7-8) are still more common, especially as regards the two later varieties I referred to a short time ago; the majority of them were small and were really used as beads, but in one or two cases large specimens have been found which probably have some connection with a religious cult. Many of these ornaments seem to belong to the older part of the period — only one of the double-edged varieties descends as far as to its end — and on the whole the group is older than the numerous beads that resemble double clubs. It is impossible on this occasion to go through all the types, one by one, but one or two more should be referred to: long, slightly curved and sometimes almost crescent-shaped beads occur, although rarely, and another rarity consists of peculiar, as a rule fairly large, pendants which to some extent resemble the edged part of a double-edged axe, though the resemblance is scarcely due to an actual genetic connection; this type, which is at times decorated by zig-zag lines, appears to belong to the beginning of the period. To this period we can also refer long, narrow amber ornaments with several holes: they were apparently the connecting links in necklaces of several rows, which were made up of single, tube-shaped beads of varying length.

The ends of such many-rowed necklaces or ornamental chains were probably sometimes formed of certain triangular, decorated bone ornaments, and the teeth of animals, for instance, were often used as beads. We cannot consider other bone or horn objects just now; I need only mention that many so-called bone chisels (fig. 22:3) have been found in passage tombs.

I have now mentioned the principal antiquities of the period of the thick-butted axes and we can pass on to the next, the dagger period. To the older part of it we can refer, above all, the spearheads and the older daggers without any marked hilt (fig. 25: 1), — the borderline dividing the two types is fluid —

which have often been found in the later stratum of finds in the passage tombs. Towards the end of the period the actual daggers predominate in the finds in the tombs. There are several types; comparatively narrow-bladed with a narrow hilt, the cross-section of which is square, and the latest ones with a broad blade and hilt with a rhombic, triangular (fig. 25: 2) or pointed oval (fig. 25: 3) cross-section; they occur chiefly in the later stone cists.<sup>1</sup> It is

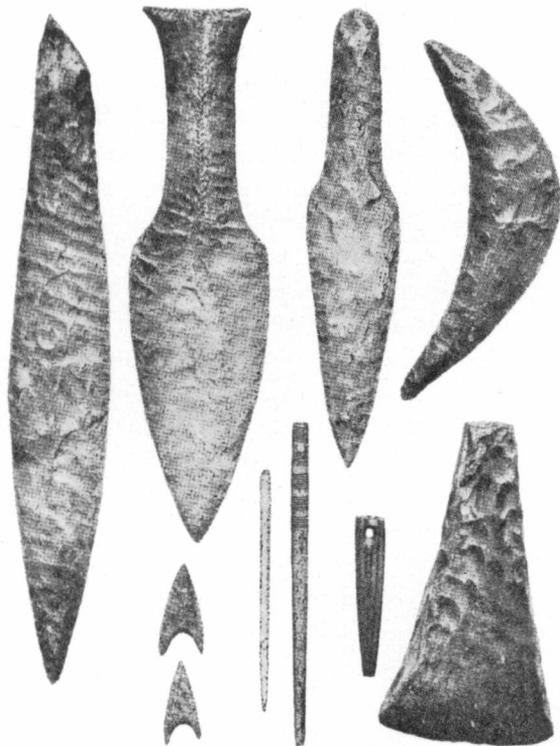


Fig. 25. Types of implements from Danish cists. 1/3. De forhistoriske Tider II, fig. 96.

not so easy to divide all the other forms of antiquities chronologically. Of the arrowheads, the long heads with a triangular cross-section were still used at the beginning of the period. They are succeeded by barbed arrowheads (fig. 25: 5-6); other varieties

<sup>1</sup> For spearheads and daggers see Müller, *NF* I, pp. 125 sqq.; Kjaer, *Aarb.* 1910.

also occur. Some simple axes with a shaft-hole have been found in tombs of the dagger period and sometimes, too, thick-butted flint axes with a broad edge (fig. 25: 10). Among the ornaments long pendants of slate are found pretty generally (fig. 25: 9), and in exceptional cases they were also made of amber. Otherwise amber does not play anything like the same part as in the finds of the preceding period; nevertheless we can point to several characteristic, though rare forms, including chiefly conical — and still more rarely triangular — buttons with a V-bored hole or with a small eye on the back. These last types go down to the finds of the actual Bronze Age, while the scarce beads in the form of double clubs and so on, that have been discovered in dagger finds, belong to the very beginning of the period. Decorative needles of bone (fig. 25: 8) with a simple line design are not rare; other bone needles have ring-shaped heads in the plane of the needle (fig. 54) or end in flat discs, in a plane at right angles to the needle (fig. 52). These are perforated vertically. Ring-shaped and tube-shaped bone beads and small beads of mussel shells have been found, also beads made of animals' teeth; small bone rings with a handle, presumably pendants, are extremely rare. Finally I should mention that bronze needles of various forms have been dug up in finds of the dagger period and that some ring beads of gold have been found; I shall say more about them in another connection.

Pottery occupies a very subordinate position during the dagger period among the finds in tombs. It is thoroughly deficient in art, the material is coarse and the forms scanty in number. They consist principally of flat-bottomed cups or beakers, more or less straight-sided, often slightly wider at the rim and as a rule undecorated; a simple design of angular or parallel lines, carried out, for instance, with a coarse tooth-stamp, occurs occasionally. A direct connection with the richly ornamented tomb vessels of the passage tomb period can scarcely be proved, it is easier to imagine some connection with the coarser pottery that occurs on the older dwelling sites, and it is probable that there was a certain influence from the ceramics of the so-called single grave culture.

This practically completes the survey of the forms of anti-

quities of the Northern megalithic culture and it seems a suitable point at which to conclude my lecture to-day. But I hope that some details that I have omitted may be dealt with in discussing the position of the megalithic culture in the Stone Age of the North and of Europe, which will be the subject of my next lectures.

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## III.

The spread of megalithic tombs in the North. The importance of waterways. The dependence of settlement on the character of the soil. The early dolmens in Denmark, later dolmens in Sweden. Passage tombs in Denmark and on the Scandinavian peninsula, the varying spread of special types. The extensive spread of cists: Sweden and Norway. The Swedish cists with a porthole entrance. The submegalithic culture of the Scandinavian peninsula. Alien influences on megalithic culture. The single-grave culture in Jutland interrupts the development of megalithic culture. Origin of the single-grave culture. The development on the Danish Isles. The boat-axe culture in Sweden. Unity of the culture of the dagger period.

In my first two lectures I gave a general survey of the types of megalithic tombs in the northern countries and their contents; and at the same time I endeavoured to arrange the material in chronological classes. With the help of the knowledge thus gained, we can proceed to an examination of the area covered by the megalithic culture in the North in its various stages. For the sake of simplicity we will at first keep to a map of the area throughout which the megalithic tombs were spread, drawn up by Professor Almgren a long time ago (fig. 26). The map has not been kept up-to-date, it is true, but at all events it is correct in broad lines;<sup>1</sup> it should be borne in mind, however, that it does not include the stone cists. For the present we must ignore the greater part of Germany and keep to the Jutland peninsula, including Sleswig, the Danish islands and the Scandinavian peninsula. Here we find Zealand and the smaller islands strewn with megalithic tombs — as a matter of fact they are not so numerous in East Zealand;<sup>2</sup> the east coast of Jutland possesses many tombs, the northernmost part of Jutland fewer, and the west coast and the islands off Sleswig very few tombs. In the east they are numerous on the coast of Scania,<sup>3</sup> and Bornholm has more than are indicated on the map; a few are marked on Öland. Along the west coast of Sweden there is a group in Halland and a great many tombs in

<sup>1</sup> Most of the megalithic graves in Germany marked on the map do not belong to the Northern types of dolmens and passage-graves.

<sup>2</sup> Cf. an excellent map in V. la Cour, *Sjaellands ældste Bygder*, map 2.

<sup>3</sup> Regarding Scania see O. Rydbeck, *Stenåldershavets nivåförändringar och Nordens äldsta bebyggelse*, fig. 17.

Bohuslän;<sup>1</sup> the latter group is surpassed, however, by the large group on the fertile plain of Västergötland.<sup>2</sup>

However, the map fig. 26 is drawn only in broad outline, and the picture it gives requires to be supplemented. Two cir-

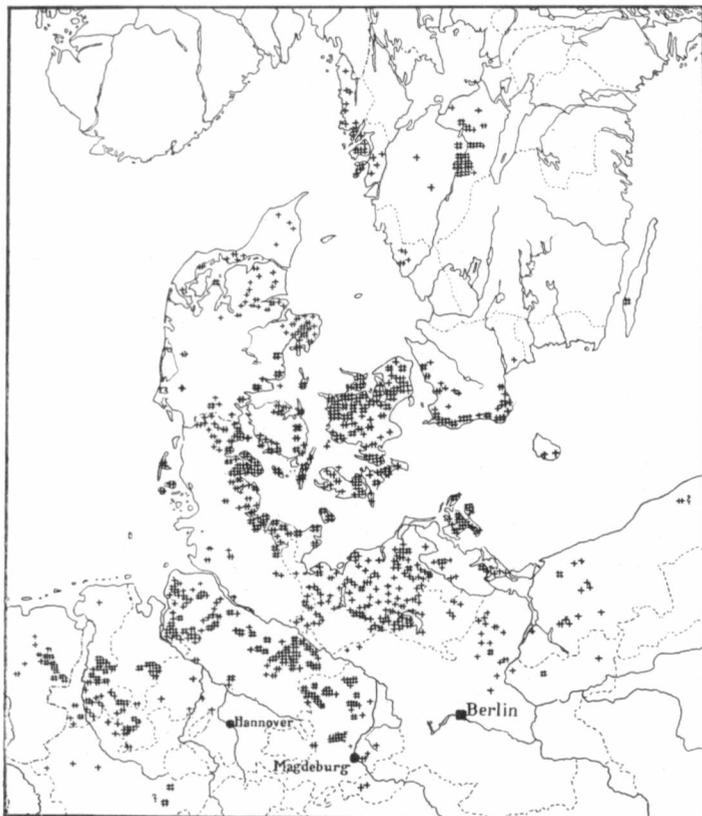


Fig. 26. Distribution of dolmens and passage graves. N. Åberg, *Das nordische Kulturgebiet in Mitteleuropa während der jüngeren Eisenzeit*, map V.

cumstances should be taken into consideration in regard to the area over which the tombs were spread: *i.e.* their position in regard

<sup>1</sup> Regarding Bohuslän see Alin-Sarauw, map on p. 221. This map clearly shows the extensive spread of cists in comparison to dolmens and passage-graves.

<sup>2</sup> Map in K. E. Sahlström, *Förteckning över Skaraborgs läns stenålders gravar*, Västergötlands fornminnesförenings tidskrift III.

to the sea and to water in general, and their dependence on the character of the soil. In order to depict this cartographically we should require detailed maps giving the geological conditions, but as there are none available, we must content ourselves with a few words.

The megalithic tombs in Europe are, as a rule, situated on the coast — the word coast being understood in its broad meaning, and not in its narrower meaning of shore — and the waterways undoubtedly played an important part in spreading them. To some extent this can also be observed in Denmark and Sweden, if we consider the area over which the tombs were spread in Jutland and on the south and west coasts of Sweden.<sup>1</sup> In Jutland you can be almost certain of finding them in those places, where bays and fjords cut into the land — they seldom exist on the seashore — and when they are found at some distance from the coast, the explanation is often provided by a stream, in proximity to which the tombs were built.<sup>2</sup> In Sweden, too, streams and rivers apparently played a large part as lines of communication. Too much stress, however, must not be laid on this point. In his fundamental studies of distribution of settlements Sophus Müller has pointed out that the megalithic tombs (as well as other tombs of the Stone Age) are situated, as a rule, on comparatively light soil. The population avoided the heavy clay soil that was not suited to the primitive agriculture of the Stone Age; in Denmark the clay valleys of the late glacial and of the post-glacial periods consequently possess comparatively few megalithic tombs. It may be, therefore, that in some cases conditions favourable to agriculture or cattle-breeding created spheres of settlement that were not connected directly with the coast; this seems to have been the case, for instance, in certain regions of Zealand.<sup>3</sup> I am unable to judge what the conditions in Sweden were like in this respect, because no investigations into this question have been made there, but

<sup>1</sup> Regarding West Sweden, see Alin-Sarauw, pp. 211 sqq. See also G. Ekholm, *Nordischer Kreis*, Reallexikon.

<sup>2</sup> Nordman, *Aarb.* 1917, pp. 291 sq.

<sup>3</sup> la Cour, *l.c.*, pp. 205 sqq. The reader is also referred to all the places in Sophus Müller's works, in which he deals with the relations of dwellings to the soil, e.g. *Aarb.* 1911, pp. 239 sqq.

especially the large group of megalithic tombs in Västergötland seem to point to their being similar to those in Denmark.

Our map likewise fails us, when we want to establish the area over which the different types of megalithic tombs were spread. It is exceedingly difficult, in fact, to draw such a map, as the information at our disposal is often too deficient in the separate cases. However, an idea that is broadly correct can be given. In the first place, as regards rectangular dolmens, these occur in Jutland from the northernmost part of the peninsula along the whole of the east coast down through Sleswig; on the west coast they are scarce, while in the North they are comparatively numerous.<sup>1</sup> They are not lacking on any of the Danish islands — possibly with the exception of Bornholm — and those dolmens from which typical finds of the period of the thin-butted axes have actually been dug up, are also fairly evenly distributed throughout Denmark. The conditions change, when we cross the Sound to Sweden.<sup>2</sup> Several dolmens of the old form have been discovered in Scania but not a single case is known in which the dolmen contained characteristic early relics. It should be emphasised, however, that dolmen flasks have not been found anywhere at all in Scania, neither are they present in Bohuslän, the only province in Sweden, besides Scania, in which early dolmens have been discovered.<sup>3</sup> On the other hand, numerous thin-butted flint axes have been found, a circumstance that will prove to be significant, when we have to define more exactly the chronological position of the dolmens in the period of the thin-butted axes. In that connection it will also be necessary to note the fact that some fragments of collared flasks were found in Blekinge. The later dolmens with a short passage, and the round passage tombs cover the same area, on the whole, in Denmark as the rectangular dolmens, but they are considerably more numerous — if we

<sup>1</sup> Müller, *Vendsyssel-Studier*, Aarb. 1911, p. 287.

<sup>2</sup> General information on Sweden's megalithic graves, e.g., in Oscar Almgren, *Sveriges fasta fornlämningar från hednatiden*, 1934, which also contains a couple of maps of the spread of dolmens and passage-graves.

<sup>3</sup> Regarding Bohuslän see Alin-Sarauw, *l.c.*, pp. 211 sqq. — A couple of graves in Västergötland have a certain resemblance to early dolmens, but differ from them in details of construction, see Sune Lindqvist, *Dös vid Slutarp, Kinnevals sn, Frökinds härad*, Fornv. 1911.

exclude Sleswig.<sup>1</sup> In Sweden we have them in both Scania and Bohuslän; they likewise occur in Halland, but scarcely anywhere else.

The comparative frequency of the older dolmens and dolmen finds in Denmark indicates that this form of tomb was in use earlier there than in Sweden, which evidently received the impulses that led to the building of such tombs, along two roads: to Scania the influence came from Zealand, and the Bohuslän finds point to direct contact with Jutland, a circumstance that is still more clearly marked during the passage tomb period.<sup>2</sup> It is also customary to say that the spread of dolmens in Denmark indicates the advance of culture (or a migration) from west to east. But although the form of sepulture, in all probability, spread eastward from Jutland over the islands, it is nevertheless impossible to deduce this conclusion from the finds; it can be done only, when the prevalence of megalithic tombs outside the North is examined.

The spread of the passage tombs has several interesting features. The round and oval passage tombs occur throughout the whole of Denmark, but the decidedly rectangular ones are limited to an area spreading eastward: there are practically none in Jutland, but they are common on the islands. On the other hand the peculiar passage tombs with a side-chamber are of a form that predominates in the west: of about 20 tombs of this type three-quarters are on the peninsula, the rest on Zealand and Lolland. To counterbalance this I can mention that double passage tombs have been discovered in Jutland only in rare cases, while they are fairly numerous on Zealand and also occur on some of the other islands. On the Swedish side there are, perhaps, some double passage tombs in Scania,<sup>3</sup> but there are no tombs with a side-chamber. The other varieties — round, oval and rectangular — all occur in Sweden, though the rectangular ones are scarce on the south and west coasts. In Västergötland, where megalithic tombs henceforward are common, large passage tombs

<sup>1</sup> Müller, *Sönderjyllands Stenalder*, p. 33.

<sup>2</sup> A. Enqvist, *Stenåldersbebyggelsen på Orust och Tjörn*, pp. 89 sq.

<sup>3</sup> Almgren, *l.c.*, p. 45. From the wording it is not clear, whether the passage tombs are really double ones in some cases or whether it is merely a case of two passage tombs in the same barrow; see, however, A. Bagge, *Den äldre megalitikeviken i Bohusläns stenkammargravar*, Studier tillägnade G. Ekholm, p. 219.

with a rectangular chamber predominate. On Öland, too, some passage tombs have been found,<sup>1</sup> — the most ancient megalithic tombs in Eastern Sweden. The megalithic area in Västergötland



Fig. 27. Distribution of cists in Sweden. Montelius, *Kulturgegeschichte Schwedens*, fig. 94.

is probably connected through Halland with Southern Sweden — contact with Bohuslän also appears likely — and in regard to

<sup>1</sup> T. J. Arne, *En öländsk gånggrift*, Fornv. 1909.

Öland the suggestion has been made that there may have been direct communication by sea with Eastern Denmark, but no great degree of certainty can be obtained on this point at present.

The cists of the dagger period spread out far more extensively over the Scandinavian peninsula than the older types of tombs (fig. 27); in Denmark they occur in different varieties in the same areas as the latter. From Bohuslän the tombs spread up to Dalsland and South Värmland,<sup>1</sup> from Scania they reach Blekinge<sup>2</sup> and thence up to Småland;<sup>3</sup> possibly the megalithic area in Småland is also influenced from Halland in the west. The Östergötland tombs<sup>4</sup> should be dealt with in connection with the rich countryside in Västergötland, and the stone cists in Närke<sup>5</sup> are connected with those in Götaland. The cists found further north have not yielded finds that give any date: they may belong to later periods than the Stone Age. A number of stone cists on Gotland, on the contrary, belong to the end of the Stone Age.<sup>6</sup> They mark the limit of the area of megalithic tombs towards the east.

In the west the area of cists extends beyond the frontier of Sweden: from Bohuslän this type of tomb extended to Östfold in Norway, the region to the east of the Oslo fjord, and they also exist west of the fjord, in the county of Buskerud.<sup>7</sup> Professor Brögger has discovered features in the cists of the western sphere that point to a direct connection with Jutland;<sup>8</sup> thus this type of tomb may have come to Norway by two roads, but as the material has not been published, it is impossible to form an independent opinion on this head.

<sup>1</sup> Ernst Nygren, *Värmlands stenålder*, Värmland förr och nu, 1914.

<sup>2</sup> Sigurd Erixon, *Stenåldern i Blekinge*, Fornv. 1913.

<sup>3</sup> Nils Åberg, *Kalmar läns stenålder*, Meddelanden från Kalmar läns fornminnesförening VII, 1913.

<sup>4</sup> Birger Nerman, *Östergötlands stenålder*, Meddelanden från Östergötlands fornminnesförening, 1911.

<sup>5</sup> Sune Lindqvist, *Från Nerikes sten- och bronsålder*, Meddelanden från föreningen Örebro läns museum V, 1912.

<sup>6</sup> Nils Lithberg, *Gotlands stenålder*, pp. 90 sq., 1914.

<sup>7</sup> Haakon Shetelig, *Primitive Tider i Norge*, 1922, pp. 323 sq. As in the case of many West-Swedish cists, the Norwegian cists are said to have been visible on the surface of the barrow, which can scarcely be a primary feature.

<sup>8</sup> A. W. Brögger, *Om norske megalitgraver*, Oldtiden VII, pp. 191 sq; A. Björn, *Bidrag til den yngre Stenålder i Østnorge*, Årbok 1927, pp. 68 sq.

On the other hand the tombs, particulars of which have been published, enable us to state that the number of the different varieties of cists was quite different in the various parts of the mega-



Fig. 28. Distribution of cists with porthole-entrance in Sweden.  
*Meddelanden från Östergötlands Fornminnesförening 1907.*

lithic area. In Denmark the large passage cists extending from north to south occur chiefly on Jutland, and are entirely absent from Zealand, whereas the later cists without a passage, but with

the eastern or southern end open at times or more lightly built, occur in the whole of Denmark. On Zealand, where they are almost the only kind, their direction is east and west, on the other islands and in Jutland the orientation varies. In Sweden both comparatively small cists occur, usually in an east and west direction, and larger ones with a passage or anteroom and placed north and south. The latter very often possess a feature already referred to, which distinguishes them from the otherwise similar tombs in Jutland: it is only in Sweden that cists with a porthole-entrance are to be found (fig. 15). They are most numerous in Västergötland, but there are some in Bohuslän, and isolated specimens are known in Halland, Dalsland, Östergötland and Närke (fig. 28). The only Danish tomb that might be mentioned alongside these is a cist at Gravlev in the county of Aalborg in North Jutland: it has door-stones projecting from the wall and forming an opening which, in a way, corresponds to the porthole-entrance (fig. 29).

The spread of the stone tombs shows us, in what parts of Scandinavia the megalithic culture held sway. But its radius of action was much larger than is indicated by the descriptions I have given, for it is a well-known fact that on the Scandinavian peninsula antiquities characteristic of the megalithic culture — the different types of flint axes, battleaxes, spearheads and daggers etc. — are found in large quantities beyond the area covered by the megalithic tombs. Outside this a culture grows up, for which the term »sub-megalithic» has been coined.<sup>1</sup> It is founded on the older autochthonous dwelling-place culture, which is reshaped under the pressure of the influences of the far more advanced megalithic culture. The sub-megalithic culture lies like an outer arc round the regions of the megalithic tombs and the more the latter extend in the course of time, the longer the radius of the arc becomes. In the whole of Central Sweden, in Norway, both in the east and in the west, as well as far in the north the megalithic influence grows stronger as the later Stone Age proceeds, and even in those places, in which the dwelling place culture retains

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<sup>1</sup> The expression »sub-megalithic culture» was coined by Knut Stjerna, *Före hällkisttiden*, ATS 19.

its characteristics most purely, elements of megalithic culture filter through into it; even the pottery sometimes borrows South Scandinavian traits. Traces of this cultural expansion extend as far as Norrland, and antiquities which belong to the forms of the megalithic culture are also imported into Finland from Sweden,<sup>1</sup> even the votive finds that are so characteristic of the megalithic culture in the form of axes, saws etc., occur as far from the heart of this culture as South-Western Finland and the northernmost



Fig. 29. Cist at Gravlev, county Aalborg, Jutland. *Aarb.* 1910, p. 218.

parts of the Scandinavian peninsula. It is the rise of the sub-megalithic culture and the far-reaching influences on the dwelling place culture of Sweden and Norway that justify the assertion I have already made, that on the Scandinavian peninsula the megalithic culture was the strongest civilising power of the later Stone Age.

But this strong cultural expansion which is, perhaps, partly due to the migration of nations, does not mean that the megalithic culture was self-contained, that in the long run it was strong

<sup>1</sup> With regard to Finland see A. Europæus, *Översikt av den skandinaviska importen till Finland under stenåldern*, Studier tillägnade Oscar Almgren 1919; Nordman, *Finlands handel med Skandinavien under forntiden*, Nordisk kultur XVI.

enough to maintain its individuality against the pressure of new tribes that found their way up towards Scandinavia. A glance at the progress of culture in Denmark and Sweden shows this.

It is in Denmark that the conditions have been most thoroughly investigated up to the present and afford the most suitable starting point for continuing my description.

During the period of the dolmens and of the older passage tombs, or rather, while the grand style and the refined style and parallel phenomena still predominate, the development of megalithic culture in Denmark is almost uniform. But very soon profound differences appear. The development of pottery in Jutland is interrupted, shall we say, shortly after the middle of the passage tomb period, though this definition of time is used with due reserve, for it is practically impossible to measure exactly the duration of the various styles. The latest products of the pottery styles are, however, almost entirely absent from Jutland, and the older phases of the style of decay are exceedingly scantily represented in a few passage tombs on the east coast of the peninsula. Another circumstance must also be noted: on the islands the passage tombs were frequently used for a long time, they may be literally filled to the brim, and the supply of clay vessels may extend over all the styles, from the grand style to vessels of the dagger period without any interruption; it is only here that tombs containing many dozens of skeletons are to be found. In Jutland the passage tombs are often poor in finds, they are frequently half-empty, with a thin layer of finds at the bottom, and when they do sometimes possess richer contents, it turns out that there are in the later strata either antiquities of the dagger period (while intervening stages are not represented at all) or objects that do not belong to the megalithic culture. Among such instances I can mention a passage tomb at Hagebrogaard in the parish of Haderup in the county of Viborg, south of Limfjorden.<sup>1</sup> These foreign antiquities belong to the so-called single grave culture, which appeared in Southern Jutland in the middle or soon after the middle of the passage tomb period, and thenceforward plays a big part in the history of the civilisation of the province. Here we must devote some attention to this single grave culture.

<sup>1</sup> *NF* II, pp. 102 sqq.

It is practically only by means of tomb finds that we are able to obtain an insight into the single grave culture of Jutland.<sup>1</sup> The graves lie in small barrows, often several in the same barrow, one above the other. The oldest are a kind of shallow pit-grave excavated in the ground; the bottom is often paved with stones and the graves may be surrounded by a frame of small stones; sometimes the remains of a wooden frame are found. The corpse lies on its side in a sleeping posture, being stretched out on its back only in the latest graves. The contents of the grave, differing, of course, in the case of men's and women's graves, consist of cord-decorated beakers with a bulging outline, slightly arched and perforated amber discs, thick-butted flint axes that differ slightly from the usual axes of the passage tombs, and battleaxes often perfect in shape. The pit-graves are succeeded by tombs placed on the surface of the ground; the beakers in these are often decorated with an incised zig-zag pattern which is restricted, however, like the cord decoration, to the neck of the vessel, and low open bowls on feet occur likewise. The clay objects in the later single graves are characterised by totally different forms: beakers shaped like flower-pots and tophats with angular ornamentation, excuted with cord or a tooth-stamp, and covering the whole surface of the vessel; vertical designs occur, besides, sometimes in the form of raised ribs. The axes in the graves in which vessels of this kind are found display advanced forms which may in many cases be derived from the older ones. Finally, in the latest graves, the battleaxes and ornamented pottery disappear. The flint blades and rough clay vessels of the dagger period take their place.

The heart of the single grave culture is South Jutland. From there it spreads over the peninsula, at first chiefly over the level plains in the interior, where the megalithic culture is not represented; but by degrees further north and east up to Limfjorden, and towards Aarhus and Randers on the east coast; in the northernmost counties various finds have also been made, which indicate that

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<sup>1</sup> With regard to the single grave culture see Müller, *De jydskt enkeltgrave*, Aarb. 1898; *id.*, Aarb. 1913, pp. 38 sqq.; *id.*, *Stenalderens Kunst*, pp. 57 sqq.; Nordman, Aarb. 1917, pp. 283 sqq.; *id.*, *Den yngre stendldern i Mellan-, Väst- och Norddeuropa*, De forhistoriske Tider II, pp. 137 sqq.

there were single graves here, too, although no such graves have been expertly examined north of Limfjorden.

It is outside the scope of my lectures to enter into a discussion of the question as to the origin of the single grave culture or, to adopt another name frequently heard nowadays, of the cord-ceramic culture. I need merely refer to the fairly abundant literature on the subject; and by the way, I hope, that a countryman of mine will soon have an opportunity of publishing a work containing important contributions to the genesis of this culture. I must, however, point out at once that this culture differs essentially from the megalithic culture in its form of sepulture, its forms of antiquities and in its distribution, and that in Jutland it represents a fresh element coming from the south, for we know that a single grave culture characterised by cord-decorated pottery and battle-axes appears in large parts of Central Europe at the end of the Stone Age. The Jutland culture is a branch of this cord-ceramic culture which changes with time and place; the richest areas of which include Saxony with Thuringia, Bohemia and parts of Poland. For the present we can content ourselves with the assumption that the whole cord-ceramic culture originated in Central Europe, possibly within the areas referred to; it probably grew out of an older Central European form of culture, but at its dawn influences from the south-east, from Hungary and possibly from South Russia, also played their part. From the Central European continent it spread northward: in its Jutland facies features can be recognised that point to a connection with Saxony-Thuringia, with North-Western Germany, and with the eastern part of Central Europe.

When the single graves in Jutland approach the coast, they encounter the stone tombs, and the mixture of cultures is reflected in the majority of the passage tombs. It is strongest in those tombs which are among the most outlying in the area of megalithic constructions, situated on the border, where the cultures meet. It is almost invariably the later phase of the single graves that is represented in the passage tombs; fragments of old corded beakers or large amber discs are found only in exceptional cases. The break shows itself both in the forms of clay vessels and in the types of weapons; the grave at Hagebrogaard, already referred to,

provides an excellent example: at the very bottom there was a layer of finds containing early megalithic relics, above it a layer containing straight-sided beakers and battleaxes of the single grave forms, and finally — at the top — a couple of late arrowheads. Almost all the objects of single grave types that have been found in passage tombs, belong to the same period as the clay vessels and battleaxes of the Hagebrogaard passage tomb: it is at this period, when the late single graves were used, that the foreign culture overflows a large part of the area of the megalithic tombs and interrupts the internal development, for instance, of megalithic pottery. However, the vitality of the megalithic culture is not broken off completely. In outlying regions in Jutland it continues, seemingly without interruption,<sup>1</sup> and even in those places, where the series of pottery styles is cut off, and the passage tombs are half-empty, megalithic tombs go on being built. It seems that an adjustment is come to between the two cultures, and such a remarkable fact can be recorded as, that at times, the oldest antiquities in passage cists seem to belong to the series of forms of the single grave culture.<sup>2</sup> This must surely be taken as a sign of the fusion of the two forms of culture — I might add, of the two tribes — and the date of this incipient fusion may, therefore, be fixed, as that of the passage cists and straight-walled beakers, at the very end of the period of the thick-butted axe. The fusion becomes still clearer during the dagger period. The megalithic cists are built here and there in the ancient megalithic area in Jutland — the fact that they are not so numerous as on the islands may, of course, be due to single graves being in general use at the same time — and the contents of these cists — daggers, arrowheads, clay vessels etc. — are practically the same as those in the single graves; in many cases it seems possible that the form of the clay vessels discovered in the stone tombs is derived from the straight-sided beakers of the single graves. At the end of the Stone Age in Jutland, therefore, we are faced with an accomplished fact: the two essentially different cultures have amalgamated into a single unit.

<sup>1</sup> Passage grave at Aakerslund, county Randers. National Museum, Copenhagen, No. A29661, R 1—194.

<sup>2</sup> Madsen, *Gravhøje II*, pl. XXI f; Müller, *NF I*, pp. 155 sq.

On the Danish islands the conditions are different in many respects. As I have already mentioned, the passage tombs here are used to a far greater extent for repeated burials, and the later contents of the graves belong, as a rule, to the megalithic culture; this can be established most clearly, as already stated, in the pottery, which is represented here also by the late styles that mostly are absent from Jutland. Yet all this does not mean that the islands were entirely unaffected by the current represented by the single graves. It is true that single graves of the Jutland type have not been found on the islands, but many dozens of stray finds of battleaxes of decidedly Jutland forms — especially of the later forms — indicate that the single grave culture made its influence felt. Of the axes about half come from Fionia, the island nearest to Jutland, and it would not be at all surprising, if a number of single graves were to be discovered there some day. As a matter of fact, a few single graves with axes and clay vessels have been brought to light on Langeland during the last few years.<sup>1</sup> In the megalithic graves contributions from the single grave culture occur only sporadically in the form of single axes and amber ornaments and a few clay vessels. They are entirely absent from Zealand; but finds have been made on Lolland and Falster. I ought to point out, however, that the clay vessels in the megalithic tombs and in the single graves on the islands are not of the usual Jutland form: there are curved sided beakers here, too, but their decoration with horizontal belts of a zig-zag pattern corresponds most closely to the pottery in finds on the German coast on the Baltic.<sup>2</sup> The geographical extent of the finds and the style of the pottery entitle us to assume a direct southern influence, parallel to the southern single grave current in Jutland, but apparently manifesting itself at a rather later stage than the oldest southern contribution in Jutland. The stone tombs in which it shows itself on the islands, are partly passage tombs and partly passage cists, and similarly to the conditions on Jutland,

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<sup>1</sup> J. Winther, *Langeland. Stenalder, Enkeltgrave*, 1929.

<sup>2</sup> See, e.g., W. Petsch, *Ueber steinzeitliche Keramik der Insel Rügen*, Mitteilungen aus der Sammlung vorgeschichtlicher Altertümer der Universität Greifswald II, p. 78.

the single grave relics on Lolland-Falster seem to be the oldest contents in a couple of passage cists.

In the most eastern part of Denmark the absence of finds directly comparable to the finds from the Jutland single graves and to the axes and beakers ornamented by tooth-stamps from the western islands, is made good by antiquities belonging to another branch of the single grave culture. In some cists on Bornholm gouges and boat-shaped battleaxes of stone have been found,<sup>1</sup> of types that are characteristic of the single grave culture on the Scandinavian Peninsula. In other Bornholm finds, presumably in single graves with no mound above them, there are clay vessels that correspond to some of those in Southern Swedish single graves.<sup>2</sup> The forerunners of this more eastern form of culture also existed on the German continent and in Poland, and its appearance on Bornholm indicates that there, too, megalithic culture has a new competitor, full of vitality, and it looks as if the latest megalithic culture was not represented on that island. In Zealand, however, it flourishes best and here on the whole the progress of megalithic culture seems to take its course unhampered up to the dagger period, which is represented, for instance, by numerous finds in cists. But here, too, indications are not wanting of contact with the single grave culture. We have no knowledge, indeed, of single graves of an older period than the dagger period, but a small number of Jutland axes, as well as a series of boat-axes, have been found, but, hitherto, never in a megalithic tomb.

The relations between the megalithic culture and the single grave culture consequently vary considerably in different parts of Denmark. Notwithstanding this, it appears that towards the end of the Stone Age, during the dagger period, the culture is fairly uniform: no profound differences can be established between the finds in Jutland and those on the islands. This uniformity indicates that on the islands, too, the two cultures have become fused, as we have already assumed to be the case in Jutland, and the differences that might have been expected owing to the dissimilarity in the previous development have practically been entirely removed during the dagger period. It seems as though the single

<sup>1</sup> Henry Petersen, *Om Stenalderens Gravformer*, Aarb. 1881, p. 355.

<sup>2</sup> Otto Frödin, *Några lerkärl från Bornholms stenålder*, Fornv. 1916.

grave culture had been the deciding factor during this process of fusion: its great expansion in Western Denmark, towards the end of the previous stage, and its incipient penetration in the east point to this, and if we recollect that from the end of the dagger period the form of burial in single graves became prevalent throughout the whole of Denmark, we cannot avoid an impression of certainty on this point.

It is still necessary, however, to describe briefly, how the relations of the two cultures to each other shaped themselves in Sweden. In the first place, then, we find that several dozen battle-axes of Jutland type have been discovered in Southern and in Western Sweden, chiefly in Scania and Bohuslän, sporadically in Västergötland and Nerike.<sup>1</sup> These, however, are scattered finds which are usually taken to have been imported by trade, and not as an expression of a more profound cultural connection. The case is very different as regards the eastern branch of the single grave culture, the main characteristic of which is the boat-shaped battleaxe, which we have already come across on Bornholm. In Scania, Blekinge, Bohuslän and Västergötland single graves have been discovered with no mound above,<sup>2</sup> containing boat-axes, gouges and often pottery of a special kind, which may be divided into two or three different styles: the oldest vessels are comparatively low, wide beakers with a slightly curved profile and decorated with a cord design along the rim, the bottom of the beaker is often ornamented, too; later tooth-stamp impressions grow common, and some bowls have designs in a technique which reminds one of whipped cord. A series of axes can also be arranged, the different stages of which succeed each other. Like the boat-axes, the vessels decorated by cord or tooth-stamp can be derived from types occurring on the continent.

The boat-axes cover an area in Sweden far beyond the regions in which single graves have up to the present been found: in the whole of Central Sweden their number is very large, and they also occur in

<sup>1</sup> O. Frödin, *Über die schwedisch-dänischen Verbindungen in der Steinzeit*, *Opuscula archaeologica* O. Montelio dicata, pp. 46 sqq.

<sup>2</sup> References to literature in G. Ekholm, *Realexikon* IX, p. 48 5 c 3. Ekholm's conception of the genesis of the culture differs from the view expressed here. See also Alin-Sarauw, p. 220.

Norrland; some decidedly Swedish boat-axes were even exported to Western Finland, but in general the Finnish boat-axe culture has, of course, a character differing slightly from the Swedish. It is clear that during the latter part of the period of thick-butted axes the boat-axe culture is a powerful factor in Sweden, and it is from Sweden that the current proceeds which carries boat-axes to various parts of Norway, where, however, surely established single graves have not yet been discovered; that they will be discovered is beyond all doubt. The boat-axe culture, like the Jutland single grave culture, is consequently a form of culture penetrating from the south, quite certainly borne by a new element of population that subdues extensive areas. Unfortunately, we as yet possess only a few finds, indicating how the conditions shaped themselves, when the megalithic culture and the boat-axe culture met in Sweden. The circumstance that the latest passage tomb pottery, so plentifully represented on Zealand, appears to be extremely rare in Southern and Western Sweden, may be interpreted as a sign that the boat-axe culture interfered with the development of megalithic culture. We can, for instance, also point to the fact that in a passage tomb at Gantofta in Scania pottery, characteristic of the boat-axe culture was found in the upper layer of finds, whereas the whole of the older contents of the tomb were of the ordinary passage tomb kind: <sup>1</sup> consequently these are conditions entirely analogous to those in Jutland, where relics of the single graves have been found in the later layers in several passage tombs. In this connection it is worth mentioning that the late cists are rather rare in Southern Sweden. Notwithstanding the observations so far are very few in number, we have reason to assume that in Sweden, too, the single grave culture gained the upper hand to a certain extent over the megalithic culture, and that in the fusion of the two that occurred here, the single grave culture did not prove to be the inferior component in the new culture that grew up. This new culture was of the dagger period with its forms of antiquities, uniform on the whole in the old area of megalithic tombs, and, with megalithic cists, single cists and single graves without a protection of stones em-

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<sup>1</sup> Nordman, *Aarb.* 1917, p. 299, note 1 and the literature quoted there.

ployed side by side. The megalithic traditions seem to have maintained themselves best in Västergötland, where the large cists are quite distinctly collective graves.

To sum up the latter part of my description very briefly: we find that towards the end of the Stone Age, at the entry into the Bronze Age, there reigns in the whole area of megalithic tombs in Denmark and Sweden a fairly homogeneous culture, which has embraced elements from the megalithic culture and the single grave culture, these profoundly differing forms; and the uniform culture of the dagger period constitutes the direct forerunner of, and the essential condition for the brilliant development of the older Bronze Age in Southern Scandinavia.

We have now obtained a certain broad view of the development of the megalithic culture in the North. Our next task will be to try to ascertain, from what roots it grew up; to examine, to what extent its essential conditions can be found on northern territory, and whence came the alien impulses that contributed towards its special northern aspect. I shall devote my next lectures to an attempt to establish this.

## IV.

What did megalithic culture in the North inherit from older Northern culture? The kitchen-midden culture. The dolmen pottery possesses prototypes in Denmark. When did cattle-breeding begin? Single graves of the thin-butted axe period. The dolmens belong to the end of the thin-butted axe period. Cattle-breeding, agriculture, pottery probably Southern, not Western contributions to the culture of the dolmen period, carried to the North earlier than the stone tombs. Only the stone tombs themselves are new, introduced from Western Europe. Whence? A survey of megalithic culture in Western Europe: the Iberian Peninsula, France, the British Isles, Western and Northern Germany and Holland.

In all the older works on archaeology and in several recent ones, the first appearance of the megalithic tombs in the North is described as a part of a powerful cultural invasion: the new culture is supposed to be accompanied, not only by the collective graves built of stone, but both by cattlebreeding and farming and by new forms of artifacts in flint, stone and clay. This whole culture is said to have come from the west, principally from Britain, and when it overflows Southern Scandinavia, this is thought to signify that a new people takes possession of the land. This old theory, put forward by Montelius and Sophus Müller, and developed by Stjerna, has recently been very strongly maintained by Professor Rydbeck in Lund<sup>1</sup> without, however, any new and conclusive arguments being advanced in its support. It is necessary to examine the question once more. Is the megalithic culture in all its forms of expression alien to the old development of culture in the North? Does it as a whole indicate a new stratum, proceeding from the west, in the series of changing forms of culture that succeed each other in Denmark and Southern Sweden in prehistoric times? Does it contain no old features, autochthonous in the North, or did it, possibly, acquire elements also from the south and south-east, *i.e.* from the German continent? And if this is the case, what is it in this culture that is really of western origin?

In trying to give a broad answer at any rate to some of these questions, I do so with the express reservation that most of the answers are of a hypothetical nature. Yet I cannot but think that

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<sup>1</sup> Otto Rydbeck, *Stenåldershavets nivåförändringar och Nordens äldsta bebyggelse*, 1928.

some points of view, differing from those generally accepted, should be urged, if for no other reason than to draw attention to the elements of uncertainty that are still attached to our knowledge of the genesis of megalithic culture.

Our examination demands in the first instance that we should look backwards in time, to the end of the older Northern Stone Age. At that time we come across the primitive civilisation of hunters and fishermen of the kitchen-midden period with unpolished flint hatchets and picks, with rough pottery and with simple single graves dug in the refuse layers of dwelling places. But I pointed out in my first lecture that polished greenstone axes are discovered in several kitchen-midden finds,<sup>1</sup> and that the polished flint axe with a pointed butt can be referred to the later part of the kitchen-midden period: it was the period of the thin-butted axe that followed immediately after the kitchen-midden period. This chronological connection is reflected in the finds, for instance in the dwelling place find from Havnelev in the south-east of Zealand already referred to, where hatchets and rough kitchen-midden pottery were found with fragments of thin-butted axes and, among other things, collared flasks, under circumstances that do not allow us to assume any difference in age between the various objects. But this find might be said to be a case of contamination: it might be asserted that in this dwelling place there was a mixture of elements from different cultural environments. Indeed, the find does not prove that there is a genetic connection between the common kitchen-midden types and the others. It is fortunate, therefore, that we can point to other finds illustrating the relations of the pottery of the thin-butted axe period and the clay vessels of the kitchen-midden period. One of these finds is from the celebrated kitchen-midden at Sölagar in North Zealand.<sup>2</sup> Here, in the same layer as hatchets and early polished greenstone axes, fragments were found of a large vessel with groups of vertical cord ornaments running down over part of the side, that is to say, the same vertical method of ornamentation that is prevalent on vessels from the dolmens. This find already affords strong indica-

<sup>1</sup> *Aarb.* 1918, pp. 137 sqq.

<sup>2</sup> Müller, *Aarb.* 1915, pp. 104 sqq., fig. 5; *id.*, *Stenalderens Kunst*, pp. 11 sq. fig. 41.

tion of the vertical method of ornamentation on the dolmen vessels being inherited from older northern pottery. Another find points in the same direction. This is the remarkable dwelling place find at Strandegaard in South-East Zealand, the rectangular house foundations of which I have already mentioned. Here, besides numerous picks and hatchets of flint, a few polished greenstone axes and some rough kitchen-midden pottery were discovered in contemporaneous strata, as well as fragments of various vessels of better material, and with vertical ornamentation incised, or carried out in whipped cord; in some cases the vessels had clearly marked necks and shoulders.<sup>1</sup> These two finds in combination provide what seems to be good evidence of the vertical clay vessel ornamentation in Eastern Denmark being older than the dolmens with their thin-butted axes and clay flasks. They seem to me to justify the assumption that it was not only with the appearance of the dolmens that this ornamental element was introduced into Denmark.

By means of the Strandegaard find our attention is drawn to another and still more significant circumstance. We were already aware of the fact that cattlebreeding was known as early as the thin-butted axe period: for instance, the Havnelev find contained the bones of horned cattle, sheep and pigs. But we can now add the fresh information that in the lowest strata of the Strandegaard find there were bones of horned cattle; and this signifies, — as far as the materials of the finds at present available justify any conclusion — that cattlebreeding in Eastern Zealand provided a means of subsistence for the population before thin-butted axes and collared flasks were known there. In regard to agriculture our information is less clear. Sarauw refers to a piece of a pot with the impression of einkorn from a kitchen-midden at Brabrand near Aarhus on Jutland — hatchets, flint knives and oyster shells were found with it, — and a fragment ornamented with hollows and having impressions of grains of emmer in the Sölager find,<sup>2</sup> but in both cases the finds may possibly belong to the period of thin-butted axes.

However, the fact that a find belongs to the period of thin-

<sup>1</sup> H. C. Broholm and J. P. Rasmussen, *Acta* II, p. 278.

<sup>2</sup> According to a letter from Prof. K. Jessen to the author.

butted axes, need not necessarily mean that it belongs to that of the oldest dolmens. I have already indicated the possibility of the date of the dolmens having to be referred to the end of the period of thin-butted axes, and perhaps it may be worth while not to give up this idea at once, however impossible it may be to establish its correctness by conclusive evidence at present. A couple of circumstances that may be interpreted as lending support

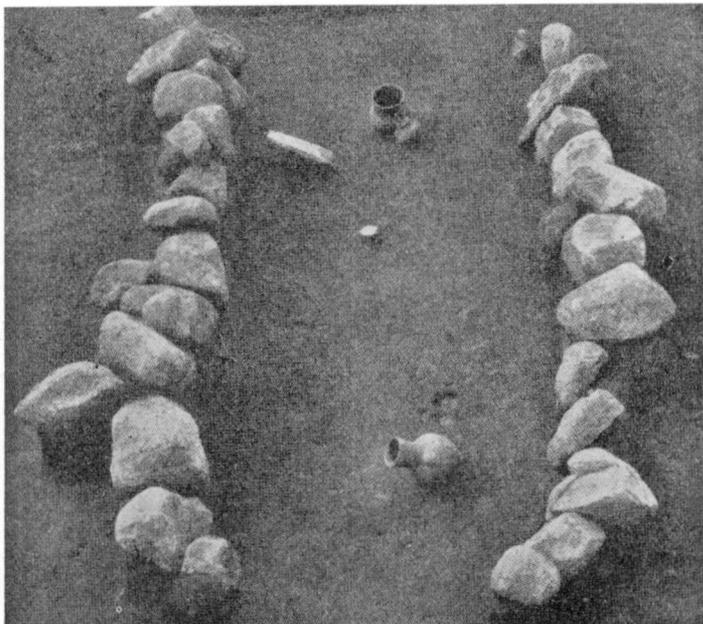


Fig. 30. Single grave with dolmen pottery and implements. Forum, county Ringkøbing, Jutland. Aarb. 1917.

to this hypothesis should be mentioned: in the first place, the extraordinarily large number of thin-butted axes, which is not in any reasonable proportion to the comparatively scanty finds of dolmens: it seems natural to distribute them over a larger space of time than the dolmens themselves. Secondly, the circumstance that thin-butted axes, collared flasks and high-necked flasks have in several cases been found in graves of other kinds than dolmens: it is not impossible that some of these graves may be older than the dolmens.

To get a proper grasp of this question it is necessary so say a few words about these other graves. Those that were first expertly examined, and described in print<sup>1</sup> were discovered 15 or 20 years ago, in the county of Ribe, in South-West Jutland. A grave, for instance, in the village of Forum in the parish of Brøndum is typical (fig. 30). On the surface of the ground two parallel rows of stones, the size of a man's head, had been laid approximately in a direction from east to west, and between them was situated the tomb 2.90 metres long and about 1 metre wide. All the remains of bones had decayed, but the contents of the grave consisted of a thin-butted axe, a collared flask with vertical line ornamentation,



Fig. 31. »Hanging vessels» from the grave in fig. 30 and from a passage grave at Silstrup, county Tisted, Jutland. Aarb. 1917, and National Museum, Copenhagen, No. 11771.

a high-necked flask and a clay vessel slightly resembling a funnel-necked beaker (fig. 31, left), both the latter being undecorated. A small, low barrow was raised over the grave. Shortly afterwards a similar grave was examined in a neighbouring parish containing a thin-butted axe, a high-necked flask with vertical decoration, a stone club with similar ornamentation, a large amber bead with hollows bored along its edge, and 8 other amber beads, most of them tube shaped. In going through finds discovered earlier, it was easily established that similar graves had been discovered in all parts of Jutland, along the west and east coasts and in the

<sup>1</sup> K. Friis Johansen, *Jordgrave fra Dyssetid*, Aarb. 1917.

north, even north of Limfjorden. Besides these, there was an interesting find on Langeland: under a layer of small stones was found a grave, dug in a kitchen-midden, with two skeletons lying on their backs; the contents of the grave consisted of a collared flask and three thin-butted axes.<sup>1</sup>

These finds are, of course, of no small importance for understanding the development of culture during the period of thin-butted axes, but opinions differ as to what this importance is. It is immediately obvious that the Langeland grave indicates a tradition of the single graves, dug in dwelling place strata, of the kitchen-midden period. By analogy a certain retention of the form of burial of the kitchen-midden period was also observed in the Jutland graves, which are, to all appearance, single graves. So far, so good, but from this point opinions diverge. It has been maintained that the Jutland graves were the direct predecessors, from a genetic point of view, of the Jutland single grave culture of the end of the period of thick-butted axes, and that the latter thus represented an autochthonous development on Danish soil. Professor Friis Johansen refutes this idea on good grounds. He points out essential differences in the form of burial: the graves containing thin-butted axes lie on the surface of the ground, the oldest actual single graves are a kind of pit grave, dug into the earth; in the former the corpse lies at full length, in the latter in a contracted position; no typological connection can be proved between the finds in the different graves, the difference in the age of which is considerable. In addition, the older graves are found spread out over the whole of Jutland, whereas the true single graves are confined exclusively to the south-west: their geographical area is distinctly different. The conclusion that Friis Johansen comes to is this: the people of the dolmens used single graves without a protection of stones, side by side with collective graves built of stone; though this does not necessarily imply the disparity between the graves of the great and the graves of the common people. A couple of finds in North-West Zealand with distinct passage tomb clay vessels in single graves show that the same thing happened at times during the passage tomb period.

<sup>1</sup> In addition to K. Friis Johansen, *l.c.*, also Folke Hansen, *Några enmansgravar från stenåldern*, Fornv. 1917, pp. 85 sqq.

It may be worth while, however, to make another attempt at explaining the circumstances. If, as has been asserted, the single graves just referred to, really signify a tradition from the kitchen-midden culture and if the vertical ornamentation on the pottery is also inherited from it, it would be possible for these tomb finds to be looked upon as entirely direct expressions of the older Northern Stone Age culture. As a result the pottery of the dolmen finds would not belong at all to the actual megalithic culture, but its presence in the stone tombs would be due to the builders of the tombs having adopted an older Northern element. If it is considered that the stone tombs were not introduced by a new people, the matter can be explained in another way: the original Danish population, which had formerly used single graves, the pottery of which included vessels of various types with vertical ornamentation, adopted the new form of stone tombs. In either case the dolmens and the finds in them would have to be regarded as signs of a mixture of cultures.

I must content myself with indicating this possibility, the probability of which we shall examine immediately. One result has, at all events, been gained by the foregoing: there are elements included among the dolmen finds, which had established themselves in the North, prior to the dolmens themselves, and cattlebreeding is older than the stone tombs; consequently not all the features that are so often included in the conception of megalithic culture were introduced into the North with the latter. Stjerna, who reckons that the megalithic culture together with all the traits that characterise it during the dolmen period, was introduced into the North from Britain, devoted his attention to the possibility of their not all having reached Denmark quite simultaneously,<sup>1</sup> and Rydbeck was of the same way of thinking.<sup>2</sup> In other words, we should already have a sub-megalithic culture in Denmark, influenced from Britain, before the dolmen period, analogous to the conditions in Sweden during later times, when the sub-megalithic zone extends far beyond the actual megalithic region.

It is possible that this obvious, and *a priori*, very probable hypothesis may really be right, but it is based on premises of a

<sup>1</sup> Stjerna, *Före hällkisttiden*, p. 66.

<sup>2</sup> Rydbeck, *Stenåldershavets nivåförändringar*, p. 55.

very uncertain nature. In the first place, in regard to cattlebreeding, traces of which could be found as far back as in the early Strandegaard find, it is quite impossible to say at the present time, in what way the Northern people learnt to keep domestic animals, and by what road the knowledge of them came in. The case is not much better with agriculture, as long as the most ancient history of the individual kinds of grain remains unknown in detail. Professor Childe has collected <sup>1</sup> a great deal of information concerning the growing of grain in Central Europe. According to this, einkorn (*triticum monococcum*) or small wheat was the principal kind of grain of the actual band-ceramic culture, while emmer (*triticum dicoccum*) was cultivated, on the one hand in the so-called »Nordic» culture (= Danube II) represented in Eastern Germany and further south, and on the other hand by the people of the Michelsberg culture in Western Germany. Pygmy wheat occurred, alongside of emmer and einkorn, in the pile-dwelling culture in Switzerland, but also, for instance, in South Poland etc. Unfortunately, this information is of no great help, as all three kinds of grain were known in Denmark as early as in the period of thin-butted axes. If it is absolutely necessary to strain the material provided by the finds, which is fairly scanty as yet, it might be pointed out that impressions of grains of emmer are to be found in Denmark on collared flasks, that is, a form of vessel that is characteristic, too, of the emmer growing »Nordic» culture, for instance, in Silesia. This is consequently a feature that might indicate a southern influence — though we must take into consideration the presence of emmer in Western Germany — while the discovery of einkorn on a similar vessel in Brabrand near Aarhus, points still more clearly to the south-east; I have not found any mention in literature of einkorn being represented in early West-European finds. These facts do not, indeed, provide complete proof, but they turn our attention in the same direction as some other data.

In another connection <sup>2</sup> I have tried to show that the polishing of stone and flint in the North originated through influences from more advanced cultures in Central Europe, not in the mega-

<sup>1</sup> V. G. Childe, *The Danube in prehistory*, passim, see index.

<sup>2</sup> *De forhistoriske Tider* II, pp. 31 sqq.

lithic culture of Western Europe. I might add the following: if we try to find analogies to the pottery that occurs in the kitchen-

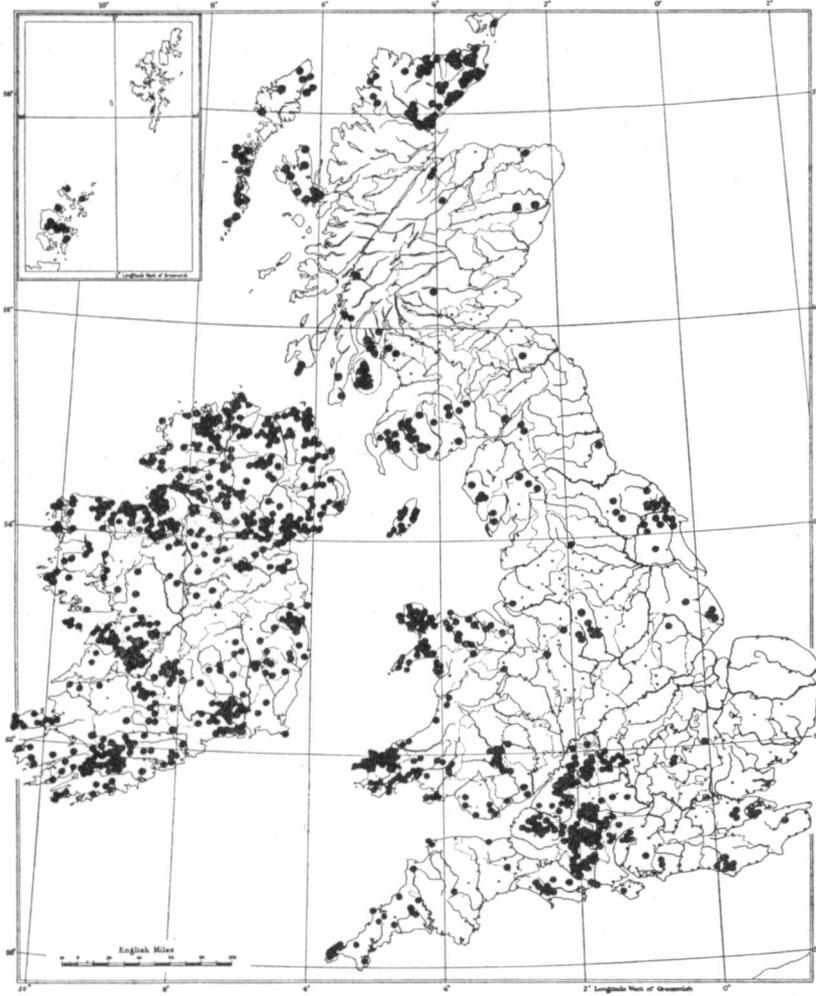


Fig. 32. Distribution of megalithic monuments in the British Isles. Fox, *The personality of Britain*.

middens, we must seek for them in Central Europe: there they are found most readily among the vessels of the Michelsberg culture; these are recalled, too, by some typological details in

the funnel-necked beakers of the dolmen period, the immediate predecessors of which in the North appear in the finds of the kitchen-midden period, for instance, Strandegaard. And further: some of the clay vessels — especially the large round-bellied vessels — possess a certain general resemblance to comparatively late band-ceramic finds in Germany. The vertical decoration on the vessels of the period of thin-butted axes should preferably be connected with a similar decoration on the pottery along the German coast of the North Sea and the Baltic, and further southward and eastward, as far as Poland,<sup>1</sup> while some of the new forms of vessels of the dolmen period — the collared flasks — may have been imported from the south-east. To put it briefly, all this means that the prototypes of the dolmen pottery should not be sought westward in the megalithic culture, but in an older Northern stratum of finds that was influenced by the German continent, and that fresh elements from the south-east were added during the period of thin-butted axes.<sup>2</sup> In this connection it should be mentioned that the ornamentation with whipped cord, a method that appears as early as in the Strandegaard find, and continues in existence up to the beginning of the period of thick-butted axes, is most plentifully represented south of the Baltic. The area covered by this method is principally eastern, but the correctness of Rosenberg's assertion that it is derived from South Russia, cannot be established by evidence.<sup>3</sup>

To recapitulate: according to all indications important elements in the culture of the dolmen period — agriculture, vertically decorated pottery, and I might add the rectangular house that is represented in the Strandegaard find and is common on the Continent — are older in the North than the dolmens, and are based to a great extent on influences from the south and south-east, which gradually percolated into Southern Scandinavia.

But if all this is correct, what is it in the dolmen culture that is new, what is it that represents the strong western current of

<sup>1</sup> G. Rosenberg, *Kulturströmungen in Europa zur Steinzeit*, 1931, fig. 324.

<sup>2</sup> Childe's opinion that none of the pottery in the North is older than the end of the kitchen-midden period, is wrong, see *The Danube in prehistory*, p. 23.

<sup>3</sup> Rosenberg, *l.c. E.g.*, the age and relation of the Oussatovo find to more northern finds is exceedingly uncertain.

culture from Britain which is always referred to, when the question of the origin of the Northern megalithic culture has to be solved? The answer is: there is scarcely anything but the actual form of the tombs, collective tombs built of enormous blocks of stone, or, if we prefer to put it this way: the religious conceptions which were the cause of this form of burial gaining a footing and gradually achieving a predominating position in Southern Scandinavia. It is true that many people look upon both the axe with a pointed butt and the thin-butted axe as western contributions to the Northern Stone Age, but this is nothing more than a vague supposition. If, for the sake of argument, we accept the supposition as to the British origin of both forms, we shall soon find that there is no reason to bind them down in Britain exclusively to the megalithic culture. A comparison between the spread of the megalithic tombs (fig. 32) and that of the types of axes in Great Britain proves this. The stone tombs extend distinctly westward, the axes chiefly south-eastward,<sup>1</sup> no intimate connection can be proved between them. In fact I believe, as I have already mentioned, that the flint axe with a pointed butt originated in various places in those regions, in which the picks of the kitchen-midden period had formerly been used, under the influence of neolithic cultures of the European Continent.

With regard to the origin of the North-European thin-butted axe the matter is, perhaps, less clear. It is usually said that the thin-butted axe developed from the axe with a pointed butt; the West-European thin-butted axe with slightly marked narrow sides might be an intermediate form. Such a typological and schematic way of reasoning as this is scarcely in accordance with the facts: it is at any rate equally probable that the Northern thin-butted axes are an imitation of copper axes, and that these were known in the North at a very early stage is proved by a find, which I shall have occasion to refer to at greater length in one of my later lectures.

We must therefore adhere to the view that it was above all the form of burial that represented something new in the megalithic culture. It will consequently be necessary to make a rapid survey

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<sup>1</sup> See Nils Åberg, *Studier över den yngre stenåldern i Norden och Västeuropa* 1912, plate VI.

of the area outside the North covered by the megalithic tombs and of the changing groups of culture, of which they form the main characteristic. As so many British investigators have devoted their attention to these questions, and as the megalithic tombs in various forms are so numerous represented in Great Britain and Ireland, the things I am now about to deal with briefly are, of course, well known to you. I must, however, mention them in order to provide a background for my subsequent description.

It is a well known fact that widely differing views have been expressed in regard to the direction and manner in which the megalithic tombs extended. We must leave out of account altogether, as refuted once for all, the hypothesis that maintains the North-European origin of these tombs and their spread southward over Western Europe. But even among those archaeologists who assert that the tombs in Europe spread from the Iberian peninsula to the north, opinions are divided on many points. It is with great satisfaction that I am able to say that my own opinion<sup>1</sup> on these questions coincides in the majority of points with the views expressed by investigators in Great Britain, who have made a close study of megalithic culture. Without going into detailed differences in opinion, I should like to mention Professor Childe and Messrs Leeds, Kendrick and Forde, who have all worked on questions dealing not only with Great Britain, but also with the late Stone Age of France and of the Iberian peninsula.

The starting point for a survey of the West-European megalithic culture should, of course, be chosen on the Iberian peninsula. This, as is well known, is thick with megalithic tombs of various types and covering different areas, and it would not be so difficult to describe the history of the megalithic culture of South-Western Europe, if the relative chronology of the types were established. Unfortunately, however, this is far from being the case. The majority of the archaeologists working in Spain, with Professor Obermaier and Professor Bosch Gimpera in the forefront,<sup>2</sup> have

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<sup>1</sup> I have already explained my view of the history of the West-European megalithic culture in the work *De forhistoriske Tider i Europa* II, pp. 84 sqq.

<sup>2</sup> See, e.g., H. Obermaier, *Die Dolmen Spaniens*, Mitteilungen der Anthropologischen Gesellschaft in Wien L, 1920; P. Bosch Gimpera, *Die Vorgeschichte der iberischen Halbinsel seit dem Neolithicum*, Praehistorische Zeitschrift XV, 1924.

nevertheless accepted a typological series for the Iberian peninsula, drawn up after Montelius' typology for the Northern stone tombs. They consider the oldest tombs to be simple, pentagonal dolmens, from which various forms of passage tombs were developed. In passage tombs the chamber has a tendency to combine with the passage, so that long covered galleries with the chamber and passage in one are gradually formed. Parallel with this, it is said, corbelled cupola tombs develop from the passage tombs by means of the large uprights being replaced by horizontal stones, the upper courses of which project over the chamber forming false vaults; some rock tombs are thought to imitate the cupola tombs. Mixed forms between the ordinary passage tombs and cupola tombs occur, as well as tombs that are half megalithic and half rock tombs. Now, as pentagonal dolmens occur exclusively in North-Western Portugal, Bosch Gimpera and his colleagues assert that they spread thence over the peninsula. The various types of tombs are said to be characterised by different grave goods, which confirms the correctness of the chronology of the series drawn up on a typological basis.

Professor Forde opposes all these arguments.<sup>1</sup> His experiences in Brittany<sup>2</sup> — confirmed, it would seem, by the investigations of Le Rouzic<sup>3</sup> — indicate that there the dolmens are no older than other megalithic tombs, and he maintains that this result can also be applied to the Iberian peninsula. Bosch Gimpera's thesis that the finds of antiquities in tombs of different types can be divided chronologically, is quite wrong according to Forde. As far as we can judge from the finds described in print — and I have, unfortunately, no first-hand knowledge of the Spanish and Portuguese material — Forde's criticism seems to be justified. At the same time it is not certain that the oldest dolmens are so late as he supposes. Let me remind you that even in Denmark, which is, according to Forde's own words, the most carefully

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<sup>1</sup> C. Daryll Forde, *Early cultures of Atlantic Europe*, American Anthropologist N.S. vol. 32, 1930.

<sup>2</sup> *Id.*, *The Megalithic Monuments of Southern Finistère*, The Antiquaries' Journal VII, 1927.

<sup>3</sup> Z. le Rouzic, *The Chronology of Prehistoric Burials in Morbihan*, referred to in *Man*, No. 248, 1932.

explored territory in Europe, the finds expertly excavated from early dolmens are exceedingly few in number, and that apparently the dolmens, like other megalithic tombs, were frequently emptied on the occasion of later burials. There is therefore a possibility that, in spite of everything, some dolmens in the Iberian peninsula may be older than the passage tombs and cupola tombs. But even should this prove to be the case, Bosch Gimpera's explanation of the facts seems to me doubtful. Let me give a short sketch of the view which seems to me to give the best explanation of the circumstances on the Iberian peninsula, though, naturally, it is impossible just now to try to establish a definite proof.

During the neolithic and eneolithic period a rich centre of culture is formed in Almeria in South-East Spain under a powerful eastern influence, this culture acquiring decisive importance for the development of culture on a very large part of the Iberian peninsula: copper comes into use here, and copper objects and many other antiquities are carried hence to the west and the north. Among the oldest tombs in this region we find a species of cist, often under level ground, collective tombs with walls of large slabs; and a little later both cupola tombs and passage tombs of various forms make their appearance; their presence westwards is marked by the names Andalusia and Algarve. In other words, the cupola tombs appear in the southern part of the Iberian peninsula at a time that is marked by very important eastern influences, and as their shape, the form of burial — collective tombs — and, for instance, traces of fires in the tombs are also found in the Cretan-Mycenean tholoi, it seems most natural to assume an eastern (possibly a North-African?) origin of this method of tomb construction, in spite of differences in carrying out details in the east and the west. With regard to the dolmens two different possibilities present themselves (quite apart from the assumption of their Portuguese origin). The dolmens, like the early cists in Almeria of which they remind us are collective tombs; the foundation of both types is formed by the same basic idea, they represent, if I may use the expression, two different ways of reacting to the same stimulus. In short, it may be possible that the dolmens on the Iberian peninsula are a remodelling of the Almerian types of cists, but, perhaps, it is more probable that their prototypes

are to be found among the North-African dolmens; in either case some dolmens may be older than the cupola tombs and passage tombs, although the finds unquestionably indicate that many dolmens and cists resembling dolmens, for instance in the Pyrenees, are later. The passage tombs should most likely be interpreted as a parallel form to the cupola graves, practically contemporaneous with them.

If this course of reasoning is right, Almeria was the leading centre of culture in Spain during a large part of the neolithic and eneolithic period; and the development during the latter part of the period runs parallel throughout the whole of the zone of cupola tombs, from Almeria to Southern Portugal. In the west the megalithic culture spreads towards Northern Portugal and the western parts of the Pyrenees, and in Eastern Spain cultural influences from Almeria can be traced up to Valencia and towards Catalonia and the eastern area of the Pyrenees; the Balearic islands also receive impulses from Almeria. It is out of the question for us to deal with the separate classes of types of antiquities; I need only mention that the actual megalithic pottery is rough and most frequently undecorated; low carinated bowls are common. At a certain time, too, there are vessels beautifully decorated with horizontal ornamentation in various types of megalithic tombs; they closely resemble vessels in Central Spain, which is to a great extent outside the megalithic culture, and they belong to a class of pottery that seems to form the prototypes of the bell-beakers which are spread over a large part of Europe.

From the Iberian peninsula the megalithic culture advances northwards along two lines, the one from Portugal by sea to Brittany, to Morbihan, the other from Almeria via the Balearic islands to the South of France, to Languedoc and Provence. In the departments round the mouth of the Rhône both cupola tombs and long galleries have been discovered, hewn out of the soft rock and roofed with large capstones, a form of tomb that is represented on the Balearic islands and, like the cupola tombs, also in the south of Spain; the grave furniture also displays a close connection with antiquities in Almeria. Tombs resembling dolmens likewise occur and the whole South French group appears to have a certain connection with the Catalonian group on the southern

slopes of the Pyrenees. We can pass over the megalithic tombs in South-Western France, found chiefly in the departments of the Hautes and the Basses Pyrenées, and point out instead, that a current of culture flows northwards from the group around the Rhône along roads that cannot be stated definitely at present, up to the North French area of megalithic tombs in the Paris basin. Covered galleries and dolmen-like tombs in the Seine-Oise-Marne region, as well as various details in the grave furniture indicate clearly that such a connection occurred along the southern line; the rock-hewn grave grottoes of the valley of the Marne also possess features that are found further south. From the Paris basin lines of communication lead to the coast of the Atlantic, on the one hand to Calvados and the Channel islands, on the other to Brittany. However, the most important source of the astonishingly rich megalithic culture in Brittany, in Morbihan and Finistère, is nevertheless Portugal. Brittany is thick with passage graves of various types, covered galleries, dolmen-like graves; cupola tombs are rarer. Some of these types are also known in Portugal; and in the pottery — carinated bowls (bell beakers also occur), — in the peculiar carvings on the walls of several graves, and in many other points there are resemblances to Portuguese phenomena.

The sphere of influence of the megalithic culture of Brittany also embraced the coastal departments to the south and north of the peninsula, but the impulses emanating from Brittany and contributing actively to the rise of a megalithic civilisation in the British Isles, are of considerably greater importance. In the South-West of England, especially in Cornwall, there are dolmen-like tombs of the same kind as the Continental ones, but the date of the dolmens in Cornwall cannot be established any more than that of the Continental dolmens, in relation to other megalithic graves. The large stone tombs with sidechambers, lying in long barrows in Wiltshire, in the Cotswolds and in Wales, are interesting: there are similar graves in Brittany. Across the Irish Sea the road leads northwards to the west and north coasts of Scotland; in Caithness there are numerous graves, and it is generally supposed that the megalithic builders followed this northern route by way of Pentland Firth and across the North Sea to Denmark. Among the cupola graves and passage graves in the Scottish round and

horned cairns, traits can be discovered that recall Iberian graves, but antiquities of a Portuguese or Spanish type are, of course, rare in both Scotland and England. In Ireland the conditions are rather different. Dolmens are common, alongside them other types of graves, such as for instance, cupola graves, are met with, and in some of them there are carvings in the rock which are reminiscent of the carvings in Brittany and Portugal; some antiquities of a Portuguese kind appear to be known, and large stone basins in some of the cupola graves are similar to those in Andalusia.

One detail in the British and French megalithic culture should be referred to at greater length. That is the presence of tombs,



Fig. 33. Dolmen at Carrowmore, Co. Sligo, Ireland. Phot. T.H. Mason, Dublin.

as a rule covered galleries or long cists, with a porthole-entrance. They occur in several places in Britain in the area of megalithic graves: graves of this kind are well known in Gloucestershire, on Anglesey and on the Isle of Man; an isolated specimen is known in Ireland, where holed stones also occur. They have been observed on the Channel islands, also in Brittany, but they are far more common in the Paris basin: hence the type radiated to Brittany and probably over the Channel islands to England. Kendrick, who has made a thorough study of graves with a porthole-entrance,<sup>1</sup> presumes that this kind of door opening originated in the Paris basin, as a sort of copy of the entrance to the grave grottoes of the valley of the Marne.

<sup>1</sup> T. D. Kendrick, *The axe age*, 1925.

There seems, however, to be more reason to assume<sup>1</sup> that the porthole-entrance is one of the many southern features in the megalithic culture of the Paris area, for the same detail occurs in the South of France, the megalithic culture of which influenced the northern zone. In the final resort we must point to Almeria and Andalusia, where the porthole-entrance has been observed in graves of different kinds; it deserves to be mentioned that it is not found in Portugal, and therefore it was not carried along the western road to Brittany and Ireland.

However, we cannot rest content with this. It is worth while at this point to emphasize that the long cist with a porthole-entrance spread from the Paris area to Belgium, where two graves of the same type were discovered in the province of Luxemburg in the south-eastern corner of the country.<sup>2</sup> But that is not all: further east, on the other side of the Rhine at Züschen in Hesse, there lies an enormous grave of the same kind<sup>3</sup>, a grave that is of great importance as connecting the German and the French megalithic culture; we shall have occasion to return to this subject later on.

Before ending the present lecture I must say a few words about the spread of megalithic tombs in Holland and North Germany. The study of this question has suffered from the fact that frequently, without further evidence, all the North-German finds have been derived from Denmark and Sleswig-Holstein and the circumstances have therefore been viewed one-sidedly; among those who have recently made valuable investigations, Dr Sprockhoff should be mentioned.<sup>4</sup> We can say this: in North Germany there are apparently no dolmens in round barrows, but dolmens in long barrows occur, though rarely and only to the east of the Weser. There are no round passage tombs of the type that occurs

<sup>1</sup> Nordman, *De forhistoriske Tider* II, p. 98; Forde, *American Anthropologist* 1930, pp. 63 sq.

<sup>2</sup> Illustrated in de Loë, *Belgique ancienne I. Les âges de la pierre*, pp. 152 sqq., 247 sq.

<sup>3</sup> J. Boehlau and F. V. Gilsa zu Gilsa, *Neolithische Denkmäler aus Hessen*, 1898.

<sup>4</sup> Ernst Sprockhoff, *Zur Megalithkultur Nordwestdeutschlands*, Nachrichten aus Niedersachsens Urgeschichte 4, 1930; reviews by G. Ekholm and H. Gummel in *Reallexikon VIII—IX*; R. Beltz, *Die vorgeschichtlichen Altertümer des Grossherzogtums Mecklenburg-Schwerin*; W. Petsch, *Die Steinzeit Rügens*, etc.

in Denmark; large passage tombs, however, are not very rare: they are known in Hannover, Oldenburg, Mecklenburg; they have also been found sporadically further south. But all these passage tombs differ in their proportions from the Danish ones: the passage is always short with not more than two pairs of wall stones, but the chamber may be very long, up to about 20 metres. The same may be said of Holland: there, too, the passage tombs, which lie in oblong barrows, have a short passage; dolmens of the early Northern type do not occur.<sup>1</sup> The German megalithic tombs west of the Weser are similar in form to the Dutch. The type of grave that is most prevalent both east and west of the Weser is the one that the Germans call *Hünenbett*, that is, a long, rectangular barrow with a circle of stones and with one or two large stone cists. The cists are real megalithic tombs, not lightly built, and their dimensions are often considerable: from 20 to 30 metres. There is nothing similar to these tombs in the North, but I think that their prototypes can be indicated. I have already mentioned that influences from the Paris basin had made themselves felt in Hesse, but they can be traced even further north. There occur in Westphalia covered galleries or long cists, over 20 metres in length and a couple of metres wide.<sup>2</sup> corresponding completely to those of the Paris area, and it cannot be doubted that these exercised a considerable influence on megalithic culture in North Germany. The Westphalian and Hessian cists seem to lie under level ground, but their grave furniture synchronises with the finds in North-German and Dutch graves in the *Hünenbetten*, and sometimes these graves are slightly dug into the earth. I therefore consider it reasonable to assume that influences from the Paris basin are one of the components forming the basis for the origin of the Dutch and North-German megalithic culture.

It is appropriate to mention that cists that can be compared to the late Northern cists of the dagger period are not found in Holland or North Germany; the larger cists which occur here and there mostly in round barrows, and which resemble some later Northern dolmens, are older than the dagger period. Finally, it should be stated that some cists of

<sup>1</sup> A. E. v. Giffen, *De Hunebedden in Nederland* 1925.

<sup>2</sup> Stieren, *Bodenaltertümer Westfalens*, 1929, pp. 30 sqq., 36 sqq.

flat slabs that are common, for instance, in the so-called »globular amphora culture» in North-East Germany and that are often derived from late Northern cists, cannot be included at all among the Northern megalithic tombs; they represent a more southern, alien feature<sup>1</sup> that is often found in Central Germany.

These remarks about the spread of megalithic culture in Western and Central Europe should suffice for our purpose. We can now turn to our task of investigating, with what part of the Western European area of megalithic tombs the Northern tombs should be connected. This will be the subject of my next lecture.

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<sup>1</sup> Nordman, *De forhistoriske Tider* II, p. 132; E. Sprockhoff, *Die Kulturen der jüngeren Steinzeit in der Mark Brandenburg*, pp. 4 sq.

## V.

The connection of the North with Western Europe. Dolmens and passage tombs both introduced, not an internal development in the North. Tombs similar to the Northern tombs in the British Isles, in Brittany. Some similarities in detail. Parallels in pottery. The grand style and Southern Europe. Weapons. Amber. The spread of culture and trade or immigration? The path of culture: round Scotland or over the southern part of the North Sea? Subsidence of the land in the southern part of the North Sea area. Later forms of graves. Cists with a porthole entrance: from England or Western Germany, France or Thuringia, the Caucasus?

I concluded my last lecture by giving a summary review of the spread of megalithic tombs in Western Europe. Our principal task to-day will be to take note of such Northern stone tombs as possess features with which we have become familiar in the megalithic tombs to the west and to the south. We can start from the acknowledged fact that the large stone tombs are not autochthonous in the North: the religious beliefs that form their basis are of foreign origin.

The oldest stone tombs in the North were, as I have already mentioned, dolmens built of four uprights and a capstone with a deep and narrow space for the grave: the finds which we know of at present with thin-butted axes and vertically decorated flasks point indisputably to so remote an age. It is uncertain, whether this very special form was ever general except in the North. It is true, indeed, that simple dolmens with four uprights and a capstone occur in various places — in the South-West of England, in Ireland, in Brittany, in the North of Spain — but, to judge by the literature available, their proportions seem to differ from those of the Danish tombs. There is, therefore, a certain degree of probability in favour of the early dolmens in Denmark being a form that originated in that country. I imagine that the actual idea of building large stone tombs penetrated to the North, and that there the problem was first solved in the way indicated by the early dolmens. It would follow that they were built by the ancient Danish population of the Stone Age, and not by tribes that immigrated later. This harmonises with the fact that almost all the antiquities in these tombs, as I stated in my last lecture, indicate a connection with older Northern tradition: for instance, the pottery, which has

analogies and to some extent prototypes in Denmark and further south from Holland to East Germany, can at present not be proved to be directly connected with the pottery of the megalithic tombs in Western Europe. This explanation would also solve the difficulty we encounter, if we try to maintain that the special Danish form of dolmen was introduced from the West, although at present we cannot point to dolmens there, which can with certainty be said to be older than other stone tombs. However, I must refer to another circumstance in this connection. You will remember that the oldest Danish dolmens lie either in round or in long barrows, round the foot of which there is a circle of large stones. Round barrows, and in exceptional cases, long barrows,<sup>1</sup> with a circle of stones round their foot, and with megalithic stone cists of different forms also occur in Brittany, and they, especially in the case of long barrows, seem to remind us of the Danish ones to a greater extent than do the more specialised forms of British long barrows. As, however, some of the earliest Danish dolmens lie in long barrows of this kind, it is natural to recognise their immediate models in Breton monuments of the same kind; but, as I said before, the actual form of the tomb has been changed in the North. On the other hand some long barrows with *Hünenbetten* in Holland and North-West Germany remind us more directly of the rare Breton monuments. Is it too bold of me on the basis of these observations, to put forward the hypothesis, that the impulses leading to the building of stone tombs attacked the Dutch-German-Danish megalithic areas on a broad front, from Holland to the northern point of Jutland? In Holland and in the extreme North-West of Germany they led, with simultaneous influences from the Paris basin, via South Belgium and Westphalia, as already indicated, to the origin of the North-Continental megalithic culture with *Hünenbetten* and large passage tombs with a short passage in long barrows. In Denmark the Northern dolmen was created, marked by special features and to some extent independent in form; and the subsequent development there differs from that of Holland and of North-West Germany. The dividing line between the two regions is in South Sleswig, approximately on the river Eider.

<sup>1</sup> T. D. Kendrick, *The axe age*, p. 26; Forde, *American Anthropologist* 1930, pp. 74 sq.

Several circumstances deserve to be mentioned in regard to the passage tombs in the North. It is possible to draw up, quite theoretically, a typological series leading from the early dolmens through round or polygonal dolmens with a short passage to oval or rectangular passage tombs with a long passage. Rosenberg has, indeed, chiefly for typological reasons, apparently revived the old idea that the later dolmens may be older than the passage tombs.<sup>1</sup> On this point the finds do not give us a clear answer. In a few polygonal dolmens and passage dolmens thin-butted axes have

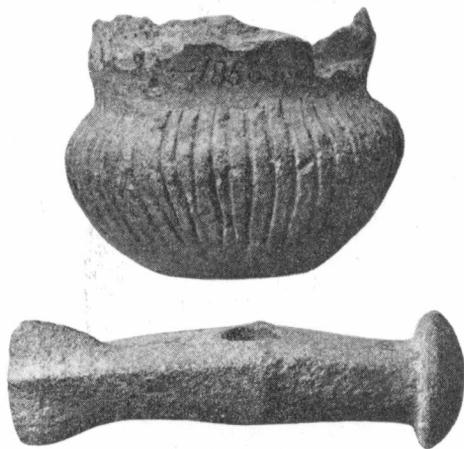


Fig. 34. Funnel-necked beaker (1/2) and battleaxe (1/3) from Emmedsbo, county Randers, Jutland. National Museum, Copenhagen.

been discovered,<sup>2</sup> but the same can be said of some oval passage tombs, in some cases with a sidechamber, which likewise contained pottery, belonging to the period of thin-butted axes (fig 35)<sup>3</sup>

<sup>1</sup> G. Rosenberg, *Nye Jaettestuefund*, Aarb. 1929, pp. 260 sq.

<sup>2</sup> Rosenberg, *l.c.*, p. 261. Two fragments of pottery that may belong to a long-necked flask of dolmen type, belong to the find from the polygonal passage dolmen mentioned by Rosenberg. In a letter Dr. Brøndsted mentions thin-butted axes found in a polygonal dolmen at Kleitrup, county Viborg, Jutland (National Museum, Copenhagen, A 3156—58) and in rectangular passage dolmens at Ramten, Vendsyssel, Jutland (A 27018—36) and at Eskjaer, Vendsyssel (A 28355—63). — The funnel-necked beaker and the battleaxe in fig. 34 were found together with a thin-butted axe in a polygonal dolmen at Emmedsbo, Jutland.

<sup>3</sup> Nordman, *Aarb.* 1917, p. 247.

On the other hand these axes have hitherto not been found in rectangular passage tombs, but these, too, appear to have been built as early as the time of the grand style: the most striking exception to this rule are a number of passage tombs in Sweden, particularly in the large group in Västergötland. In principle there is no difference between dolmens with a passage and passage tombs, and as both types exist outside the North, it is most natural to abandon the idea of internal Northern development and to

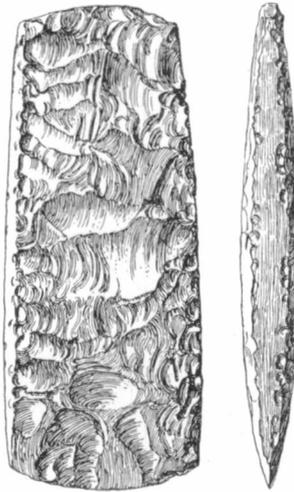


Fig. 35. Thin-butted axe from passage grave at Mogenstrup, county Randers, Jutland. NF II, p. 94.

assume these forms of tombs to have been introduced, presumably at practically the same time.

Everyone who has been occupied to any extent with questions concerning megalithic culture, will undoubtedly subscribe to the assertion that in many places in Western Europe tombs can be found similar to the Northern tombs with a passage leading from a round, oval or rectangular chamber. But when we have to define more exactly whether all these types occur in some limited portion of the Western European area, the matter becomes more difficult. Brittany is undoubtedly the district, where it is most worth while to make a search, but in Portugal, too, tombs, with

a round or polygonal chamber and long passage are common.<sup>1</sup> Montelius compared a number of Breton stone tombs of various types with the Northern passage graves: round cupola tombs with a passage, tombs with two chambers, one behind the other, and covered by false vaults, oval and rectangular passage tombs etc., mostly in Morbihan, but some in Finistère.<sup>2</sup> Their plan is often very like that of the Northern tombs. The same may be said of the Irish cupola tombs and passage tombs with a sidecham-

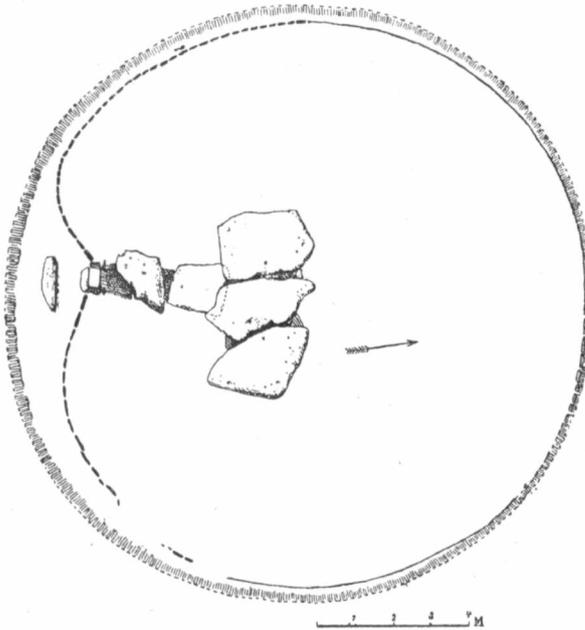


Fig. 36. Passage grave at Berg, Bohuslän, Sweden. Gustafson, *Norges Oldtid*.

ber,<sup>3</sup> as well as of some of the complicated stone tombs in long barrows in the South-West of England,<sup>4</sup> where there are tombs, the form of which is reminiscent of the peculiar treble passage

<sup>1</sup> See, e.g., V. Correia, *El neolítico de Pavia*, 1921, pp. 63 sqq.

<sup>2</sup> Montelius, *Orientalen*, pp. 85 sqq.

<sup>3</sup> Coffey, *New Grange and other incised tumuli in Ireland*, *passim*; Montelius, *l.c.*, p. 111.

<sup>4</sup> Montelius, *l.c.*, pp. 113 sqq.; O. G. S. Crawford, *The long barrows of the Cotswolds*; etc.

tomb at Alsbjerg on Limfjorden. On the other hand the tombs in Scottish cairns do not seem to me to correspond in the same degree to the Northern ones, although Forde specially emphasises the similarity between the passage tomb at Alsbjerg and the tombs in Caithness.<sup>1</sup>

If we pass on to the discussion of seemingly subsidiary details, we should first of all mention a feature observed by Montelius in connection with a passage tomb at Berg in Bohuslän.<sup>2</sup> The stone circle round the foot of the round barrow in this case describes a beautiful curve towards the mouth of the passage (fig. 36), and just outside the latter lies a large, flat stone (fig. 37), perhaps an

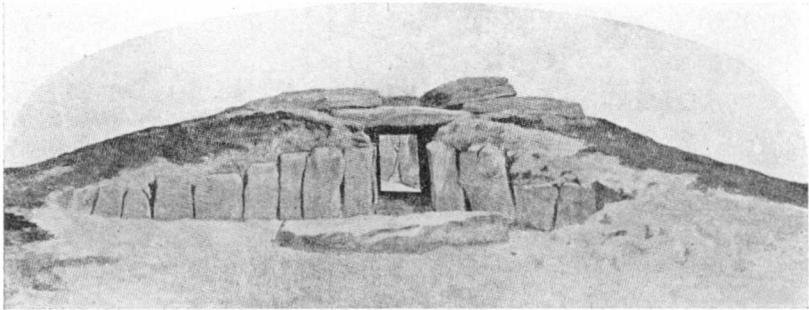


Fig. 37. Entrance to passage grave at Berg. Gustafson, Norges Oldtid.

altar, says Montelius, and in pointing out that the stone circle in British long barrows often curves inwards in the same way towards the passage mouth, he sees in the presence of this technical detail of construction a sign of a direct connection with Britain. No doubt, this is an important point, but the stone circle with an inward curve occurs not only in England, but also in various other places outside the North. We need not consider Holland in this case.<sup>3</sup> But it is worth while drawing attention to the Irish round barrows with cupola tombs: in these can be seen the stone circle curving inwards, as well as the flat stone outside the passage entrance (fig. 38).<sup>4</sup> There is a cairn with a tomb of this type

<sup>1</sup> Forde, *American Anthropologist* 1930, p. 98.

<sup>2</sup> Montelius, *l.c.*, pp. 165 sqq.

<sup>3</sup> v. Giffen, *De Hunebedden in Nederland*.

<sup>4</sup> Coffey, *l.c.*, pl. I, pp. 82, 86, etc.

in Western Scotland, too: on the Island of Skye.<sup>1</sup> Brittany may be added, where Le Rouzic's researches during the last ten years have proved of great importance. For instance, the renowned passage-dolmen at Kercado in Morbihan displays both the details that we are dealing with (fig. 39);<sup>2</sup> and in all probability continued

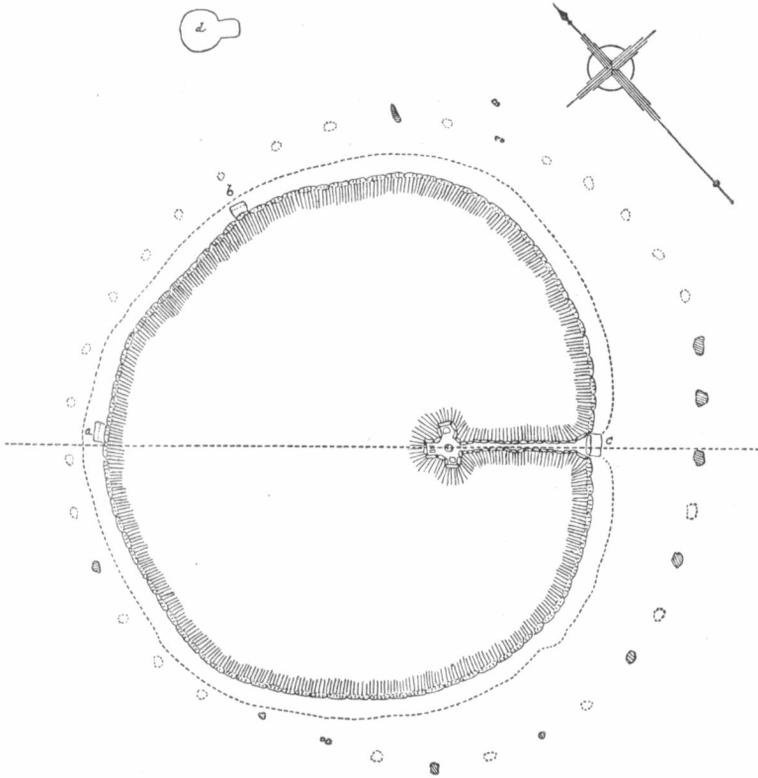


Fig. 38. Tumulus at New Grange, Ireland. Coffey, New Grange.

investigations will provide more examples. This shows that it is not certain that it is a British feature we discovered in the passage tomb at Berg. I must refer to another fact in this connection. For instance, in the tomb at New Grange in Ireland the large stone

<sup>1</sup> W. Lindsay Scott, *Rudh' An Dunain chambered cairn*, Skye, Proc. Soc. Ant. Scotland LXVI, 1931—32.

<sup>2</sup> Forde, *American Anthropologist* 1930, p. 71.

outside the passage mouth had a rich spiral decoration (fig. 40). Something comparable with this has been observed in a passage tomb in Bigum in the county of Viborg in Jutland.<sup>1</sup> Outside the mouth of the passage was discovered a row of several fairly large stones, probably part of the stone circle, but as the whole barrow was not excavated, this cannot be affirmed with certainty. The central stone filled up the mouth of the passage completely to a

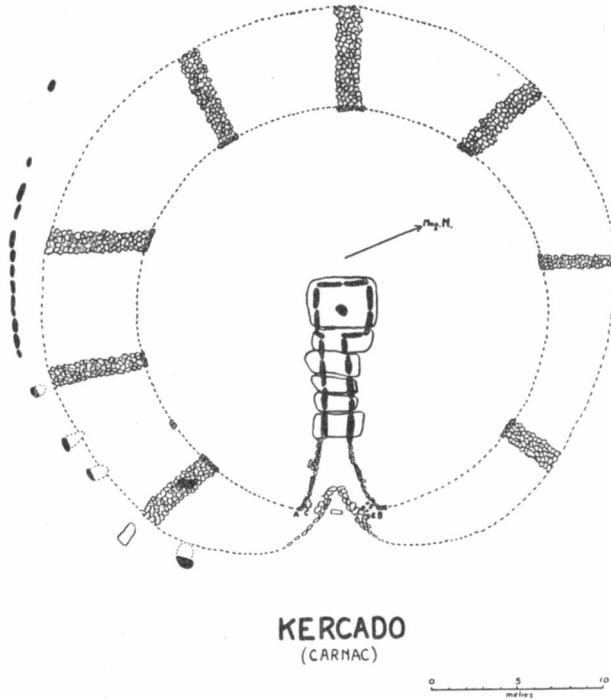


Fig. 39. Passage dolmen at Kercado, Brittany. American Anthropologist, 1930.

level with the top of the uprights, and Rosenberg who was directing the excavations, gained the impression that the stone had been placed in position in order to close the passage, when the tomb was no longer to be used. Some cup-markings and some curved lines had been carved in the stone (fig. 41) which — though not corresponding exactly to the decoration at New Grange — take our thoughts to the carvings in that tomb and in other Irish

<sup>1</sup> Nordman, *NF* II, pp. 98 sqq.

and Breton stone tombs. I should, perhaps, also mention here that in Denmark, too, a stone has been found, with parallel curved lines carved in such a manner, that they are very reminiscent of some of the carvings in the unusually richly decorated stone tomb on Gavrinis in Morbihan.<sup>1</sup>

These carvings, particularly the cup-markings on the Bigum stone, give me the opportunity of saying a few words about cup-markings on Northern megalithic tombs. Of course, they



Fig. 40. Entrance to New Grange. Coffey, New Grange.

occur plentifully in Scandinavia, but as they have been observed, as a rule, on the upper side of the capstones of the tombs, which may have been visible in some cases even after the end of the Stone Age, it has sometimes been denied that these signs originated in the Stone Age. However, they occur in some cases on the inner side of the uprights in dolmens and passage tombs,<sup>2</sup> and it should therefore not be unjustifiable to refer them

<sup>1</sup> M. and S. J. Péquart and Z. le Rouzic, *Corpus des signes gravés de monuments mégalithiques du Morbihan*, pl. 99 sqq.

<sup>2</sup> Henry Petersen, *Om Helleristninger i Danmark*, Aarb. 1875, pp. 408 sq.,

to the Stone Age. It is another matter that many cup-markings were carried out much later; they are among those religious symbols that, once adopted, retain their profound though obscure significance for a long time. The same is true of the wheel figures, that is, circles with a cross inside them, that are so common in Sweden in the ancient rock carvings of the Bronze Age. These have likewise been discovered on a few occasions on the inside of the uprights in stone tombs,<sup>1</sup> and their first appearance seems therefore to fall



Fig. 41. Carved stone found at the entrance of the passage grave at Bigum, Jutland. NF II.

into the Stone Age. A few such wheel figures are known among the megalithic tombs in the west, for instance in Ireland,<sup>2</sup> and cup-markings are, of course, exceedingly general in the West-European megalithic area. There is no doubt that the religious ideas behind them spread throughout the North at the same time as the megalithic tombs. It is interesting that in North Germany the cupmarkings are practically non-existent west of the Weser;<sup>3</sup>

<sup>1</sup> *L.c.*, pp. 421 sq., 433.

<sup>2</sup> Coffey, *l.c.*, figs. 34 sq.

<sup>3</sup> E. Sprockhoff, *Zur Megalithkultur Nordwestdeutschlands. Nachrichten aus Niedersachsens Urgeschichte* 1930, p. 17.

consequently their road of immigration to Denmark was not by way of the Continent.

We can now leave the passage tombs, for it is scarcely worth our while to mention in detail those parallels that exist between North and West in regard to such features as the division of the passage by one or more thresholds, doorframes, doors and various other things. The points of similarity in the form of tombs, however, gain greater significance, if we can place next to them others, taken from the finds. It is time, therefore, to examine some of the types of antiquities.

I said on a former occasion that the pottery in the oldest dolmen finds appears to have a predecessor in more ancient North-



Fig. 42. Fragment of clay vessel, Fonte da Rotura, Portugal (2/3). Åberg, La civilisation énéolithique.

ern pottery subjected to various influences, that of the Michelsberg pottery in Western Germany among others. In the same way as in the Northern dolmen pottery this older stratum has left its traces in the typologically oldest pottery known in Holland, and in the megalithic tombs of North-Western Germany. The Northern and the Dutch-Northwest-German group with vertical decoration would thus be parallel phenomena, without any tangible contribution from the megalithic pottery of Western Europe. I must, however, not omit to mention a find at a dwelling-place in Portugal, where, besides many other things, were found two pieces of clay vessels, with a row of hollows along their edges and vertical lines beneath them (fig. 42), a form of decoration that occurs in Denmark and Holland during the period of thin-butted

axes, and slightly later.<sup>1</sup> This find, although distant, and so far an isolated case, opens up the possibility of vertically decorated clay vessels also being borrowed from the south-west in spite of all. If more finds of this kind come to light, the whole question of the origin of the later Northern Stone Age pottery must be examined afresh, because in that case we must allow for earlier and stronger south-western impulses than I have assumed in this description. Should it prove that the interpretation I have given on this point is incorrect, I can only say that I have tried as far as possible to elucidate the problem on the basis of the material with which we are familiar at present. Many people might, perhaps, already feel inclined to cite two other finds in support of the assumption of a western influence on the pottery of the dolmen period. I refer to a couple of frequently quoted clay vessels from Brittany: a collared flask from Morbihan and a straight-sided vessel with a collar from Finistère, both excavated from megalithic tombs.<sup>2</sup> But as there is nothing similar to these vessels known in the South-European megalithic culture, there is something to be said for the common opinion<sup>3</sup> that they are imitations of collared flasks from Holland-Germany or Denmark. But even in that case they are interesting as signs of the connection between Brittany and the northern regions.

A couple of British and Portuguese finds are of more importance in this connection. You will remember that among the clay vessels in Denmark of the period of thin-butted axes, there are several that are decorated with whipped cord, including some open bowls belonging to the end of the period; such a bowl was discovered, for instance, in an oval passage tomb at Mogenstrup in the county of Randers in Jutland (fig. 18) together with a thin-butted axe and clay vessels, the decoration of which belongs to the grand style. Rosenberg<sup>4</sup> directed attention to a Scottish

<sup>1</sup> N. Åberg, *La civilisation énéolithique dans la péninsule Ibérique*, fig. 117. Cfr., e.g., NF II, fig. 66, and v. Giffen, *De Hunebedden in Nederland II*, p. 200, fig.

<sup>2</sup> P. du Chatellier, *La poterie aux époques préhistoriques et gauloises en Armorique*, pl. 12, fig. 10; pl. 2, fig. 10.

<sup>3</sup> See, for instance, Forde, *American Anthropologist* 1930, p. 84.

<sup>4</sup> Rosenberg, p. 156. Cfr. J. Anderson, *Notice of the discovery of cists and urns at Doune*, Proc. of the Soc. of Antiquaries of Scotland 1901—1902, pp. 685 sqq.; Abercromby, *A study of the Bronze Age pottery I*, fig. 277.

vessel of a similar type, and with very similar ornamentation (fig. 43), and expressed the presumption of a Danish influence on Scotland; a vessel from a cist in Newcastle approaches it in style.<sup>1</sup> The Scottish find is a food-vessel from Doune in Perthshire discovered in a cist with burnt bones, and, according to the usual British chronology, appreciably younger therefore than the Danish vessels. Even though the whole question regarding the chronology of the British Stone Age and the Early Bronze Age is so far very obscure, we dare not assume at present that British vessels of



Fig. 43. Vessel from Doune, Scotland. Abercromby, Proc. Soc. Ant. Scot. 1901—2.

this form are models for the Danish ones. It must, however, be stated that a vessel of the same form, on the whole, and to judge by the bad illustration, supplied with a fairly similar design of alternating horizontal and vertical lines, possibly carried out with whipped cord, comes from a dwelling place near Pavia in Portugal (fig. 44),<sup>2</sup> a district, where megalithic tombs are common. If the comparison to which the illustration tempts us is justified, we must face the possibility that the Danish clay vessels of the Mogenstrup type owed their origin to influences in style from South-Western Europe; these influences may have made themselves felt, too, in the British Isles. But for the present this is no more than a very uncertain possibility.

<sup>1</sup> Rosenberg, fig. 341.

<sup>2</sup> Correia, *l.c.*, fig. 11. Compare some Breton vessels with ornamentation in another style; du Chatellier, *La poterie* etc., pl. 7:15.

Many archaeologists are inclined to consign to the same sphere of uncertainty the conclusions that have been reached in attempts to prove a parallelism between the slightly later ceramic development in Southern Scandinavia and that in Southern Europe. Twenty years ago Sophus Müller made an attempt in this direction,<sup>1</sup> and the idea was subsequently developed further.<sup>2</sup> Let me remind you that the oldest actual passage tomb pottery is characterised by the grand style, the principal ornamental designs of which include zig-zag lines, strongly impressed bit by bit, while the spaces between the zig-zag lines are sometimes lightly decorated with crossed or slanting lines. The clay vessels in this



Fig. 44. Vessel from the region of Pavia, Portugal (1/3). Correia, *El neolítico de Pavia*.

style are often of excellent material with a brightly polished dark surface, while the ornament is sometimes filled in with a white substance. The grand style was succeeded by the refined style with designs carried out, for instance, with cockle shell or a fine tooth-stamp; work with a coarser tooth-stamp also occurs. Sophus Müller was the first to point out that clay vessels possessing the characteristics of both these styles occur on the Iberian Peninsula. The vessels he refers to are found in Portugal, where Palmella is a wellknown place for finds, in Andalusia and Almeria, often in megalithic tombs, but sometimes, too, on the sites of finds of other kinds; Ciempozuelos near Madrid may be mentioned as one

<sup>1</sup> Müller, *Sönderjyllands Stenalder*, Aarb. 1913, pp. 124 sqq.

<sup>2</sup> Nordman, *Aarb.* 1917, pp. 312 sq., 323 sq.; Müller, *Faelles Stilarter i Europas yngre Stenalder*, Aarb. 1923, pp. 181 sqq., 215 sqq.

of them.<sup>1</sup> The most beautiful vessel (fig. 45) was published by Bonsor and Pierre Paris:<sup>2</sup> a comparison with a clay vessel from a Jutland passage tomb (fig. 46),<sup>3</sup> for instance, displays great similarity in ornamentation, the material is the same shining black, and even the shape of the vessels has some points of likeness; the vertical design on the Danish vessel is connected with old Danish tradition. We find the same style on fragments of vessels from Sardinian rock tombs at Anghelu Rujù, whose connection with megalithic tombs is beyond all doubt.<sup>4</sup> More common than these on the Iberian peninsula are such vessels as Müller connected

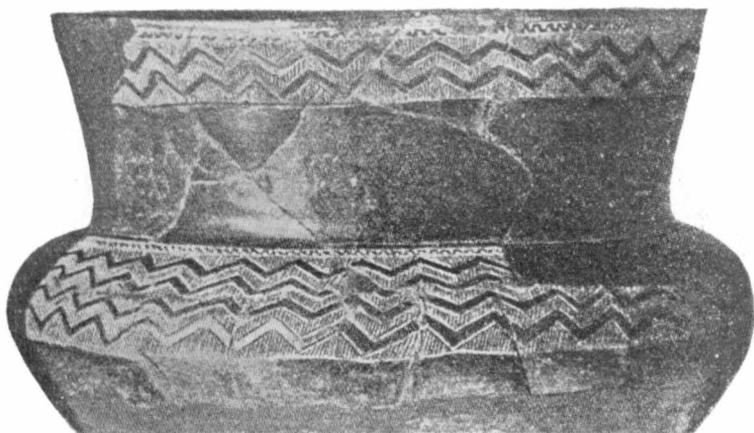


Fig. 45. Vessel from Acebucal, Spain (1/5). Müller, Aarb. 1923, fig. 37.

with the tooth-stamp ornamented vessels of the Palmella-Ciempozuelos type. Forde, for instance, has accepted Müller's combination and has attached great importance to it,<sup>5</sup> but Åberg has rejected it, principally, it would seem, for chronological reasons.<sup>6</sup> He

<sup>1</sup> Many illustrations, e.g., in Åberg, *La civilisation énéolithique*.

<sup>2</sup> G. Bonsor, *Les colonies agricoles pré-romaines de la vallée du Bétis*, fig. 121, *Revue archéologique* 1899; Pierre Paris, *L'art et l'industrie de l'Espagne primitive* II, fig. 20.

<sup>3</sup> From the same passage grave at Silstrup, county Tisted, Jutland, as fig. 31

<sup>4</sup> See, e.g., A. Taramelli, *Scavi nella necropoli preistorica a grotte artificiali di «Anghelu Rujù»*, *Notizie degli scavi* 1904, pp. 301 sqq., fig. 13 sq.

<sup>5</sup> Forde, *American Anthropologist* 1930, pp. 29 sq.

<sup>6</sup> Åberg, *l.c.*, pp. 9 sq. Cfr. Åberg, *Fornv.* 1928, pp. 127 sq.; id., *Bronzezeitliche und früheisenzeitliche Chronologie* III, chronological table.

considers that the vessels of the Iberian grand style and the pottery from Anghelu Rujū are contemporary with the bell-beakers, and as in Southern and Central Europe these belong to the end of the neolithic period, he thinks it impossible that the assumed parallelism between the South-European vessels and the Northern pottery of the grand style, which, in his opinion, is older, can be correct. No proof is adduced, however, for the correctness of Åberg's assumption — the contemporaneity of the grand style with the fully developed tooth-stamp ornamented bell-beaker on the Iberian Peninsula — for the fact that both may be present in

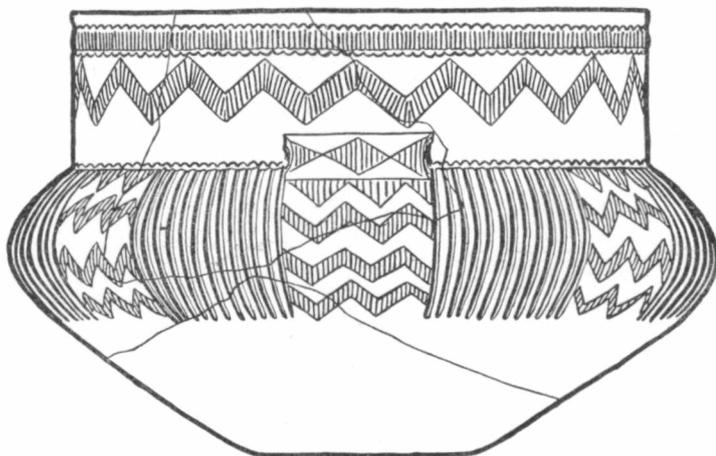


Fig. 46. Vessel from Silstrup, Jutland (2/5). Müller, *Stenalderens Kunst*.

one and the same collective tomb is, of course, no proof. As long as the contrary has not been proved, it is justifiable to maintain the hypothesis of a chronological difference between the two styles. And further: the fact that the grand style on the Iberian Peninsula also belongs to the eneolithic period, by no means implies that it is later than the beginning of the Northern passage tomb period; we shall find that copper objects were known in the North during that period. Now, however, it is fairly generally assumed that the bell-beaker culture in Central Europe belongs to a late stage, even in comparison with the later Stone Age of the North,<sup>1</sup>

<sup>1</sup> A different opinion is only expressed in P. Reinecke, *Ein Kupferfund der Dolmenzeit aus Jutland*, *Mainzer Zeitschrift* XXIV-XXV, pp. 58 sqq.

and the Central European date has been transferred without further question to the finds in Southern Europe. This is scarcely right in method. Even though the bell-beaker culture in Central Europe belonged to a comparatively short section of time (which is possible), it can by no means be taken for granted that the Spanish or Sardinian finds of a similar kind only refer to the same period, because the South- and Central-European finds are not identical: differences can be noticed in ornamentation and in shape, and this refers particularly to the finds of the Palmella-Ciempozuelos type. I can consequently not discover conclusive chronological evidence against the assumption of a certain parallelism in style between the grand style on the Iberian Peninsula and Sardinia on the one hand, and Denmark and Southern Sweden on the other. The dating of the southern finds is still an open question and so long as this is the case the hypothesis put forward by Müller is justifiable.

For the present, therefore, we must admit the possibility of influences from South-Western Europe having contributed towards shaping the grand style in Denmark. The question is, then, whether we can fix any stages along the route from south to north. On this point the finds provide exceedingly few data. Among the bell-beakers and cognate vessels in France there is nothing that can be compared with the grand style, and the presence of a few other vessels with zig-zag lines<sup>1</sup> is too insignificant to be given any importance in this connection. In Britain the conditions are rather different. I am conscious of my audacity in venturing to discuss a question concerning British archaeology before this audience, without possessing more than a superficial acquaintance with the material, but as the matter is important for my description, I must take the risk.

Among the pottery, which Mr Wyman Abbott excavated from pits in a settlement at Peterborough, there were fragments of a beaker, the zig-zag decoration along the edge and round the belly of which immediately takes our thoughts to one of the Spanish vessels of the grand style (fig. 47),<sup>2</sup> the shape of the beaker, though

<sup>1</sup> Du Chatellier, *l.c.*, pl. 7:12.

<sup>2</sup> G. Wyman Abbott, *The discovery of pre-historic pits at Peterborough*, *Archaeologia* 62.

taller and more slender, also connects up with the Spanish vessel. Besides these fragments, parts of many other vessels were found that can also be classed among Abercromby's beakers of type A. The majority of them, as of other A-beakers, have a tooth-stamp decoration. Therefore, if, for the sake of argument, we place the fragments first mentioned on the same plane as the Spanish grand style, the latter might be compared to the tooth-stamp decorated vessels of the succeeding Spanish stage. Whence did these beakers come to England? For a long time past it has been

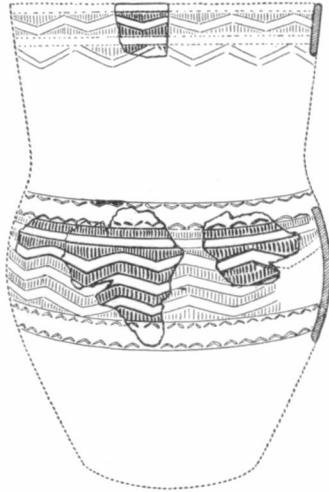


Fig. 47. Fragments of a beaker from Peterborough. *Archaeologia* 62.

customary to point to the mouth of the Rhine as the district from which the beaker-invasion started. In recent years it has been found that this attitude towards the problem was too simple, and Professor Childe and Mr. J. G. D. Clark have brought forward the suggestion of two separate invasions.<sup>1</sup> One of these — Prof. Childe supposes it was the earlier one<sup>2</sup> — brought beakers of type B to England; it had its source in the zone-beaker culture round the lower reaches of the Rhine. The other, represented by beakers of types A and C, is supposed by Clark to have started

<sup>1</sup> V. G. Childe, *The Bronze Age*, pp. 154 sqq.; J. G. D. Clark, *The dual character of the beaker invasion*, *Antiquity* 1931, pp. 415 sqq.

<sup>2</sup> V. G. Childe, *The dates of the beaker invasion*, *Man* 1932, No. 102.

from the same district, and if we take the two types of beaker *en bloc*, we can undoubtedly find something similar to them in that region. But vessels resembling the beaker from Peterborough, which interests us most in this instance (as well as the other Peterborough beakers, of course) are missing in those places, where they ought to be found, if Clark's opinion is correct; nor are they to be found further north, for instance in Denmark or north-western Germany. In fact, I think that the whole series of British beakers should be subjected to a careful renewed analysis, which would in all probability lead to a surer decision as to the position of the various types and styles than has been reached at present. Until this has been done we must rest content with indicating one possibi-



Fig. 48. Vessel from chambered cairn at Clachaig, Arran (1/3). Proc. Soc. Ant. Scotland 1901—2.

lity: the Peterborough beaker represents a contribution of the Iberian grand style, introduced along roads so far unknown, and under the influence of this the characteristic British beaker of type A is formed; note, too, that the spread of the latter coincides partly — in Wiltshire and Yorkshire — with that of the megalithic tombs.<sup>1</sup> In its later stages the A-beaker undoubtedly possesses some features in common with the Dutch beakers, but in explanation of this one is almost inclined to accept Bremer's hypothesis of an influence emanating from England;<sup>2</sup> it is, however, difficult decidedly to refute the possibility that it may have been from the

<sup>1</sup> See maps, fig. 32 above, and Clark, *l.c.*, p. 419.

<sup>2</sup> Bremer, *Realexikon* IV:2, pp. 551 sq. Bremer assumes that the whole bell beaker and zone beaker culture round the lower Rhine is of British origin; this is in any case incorrect.

opposite direction. The whole of this development begins before the invasion which brings zone-beakers of type B to England. If this interpretation of the circumstances is correct, and the oldest A-beakers are consequently contemporary with the grand style in Denmark, some otherwise insoluble problems are easily solved, which strike us in making a comparison between the development in England and in the North. We shall return to these later.

After this digression into questions concerning the development of pottery in England we must return to the rare finds which show a positive connection between the North and Britain. The best known is a dwelling-place find in the neighbourhood of West Hartlepool,<sup>1</sup> where potsherds were discovered in the dunes on the coast, exactly like the vessels of the Danish grand style. The likeness is so complete that we are easily inclined to construe the British vessels as having been imported from Denmark. The same point of view can be maintained in regard to some thick-butted flint axes that were discovered in southern and eastern England.<sup>2</sup> An urn from a segmented chambered cairn at Clachaig on Arran, excavated by Professor Bryce and referred to later by Professor Callander, is harder to understand (fig. 48).<sup>3</sup> On the one hand this vessel is connected with others from similar tombs on Arran, for instance at Beacharra, and Professor Childe has with good reason compared these with urns from Breton megalithic tombs.<sup>4</sup> But on the other hand the angular form and the arrangement of the ornamentation of the Clachaig vessel are very reminiscent of Northern pottery of the early passage tomb period (fig. 49); the designs, by the way, seem to be executed partly with whipped cord. It is uncertain, whether there is any real connection here, but the circumstances are worth mentioning.

<sup>1</sup> Stjerna, *Före hällkisttiden*, ATS 19, p. 103; O. Almgren, *Några svensk-finska stenåldersproblem*, ATS 20, p. 37; R. A. Smith, *Proc. of the Prehistoric Soc. of East Anglia* III, p. 25, pl. I; Rosenberg, p. 162.

<sup>2</sup> R. A. Smith, *Flint implements of special interest*, *Archaeologia* 72, p. 39; *Antiquaries' Journal*, p. 450.

<sup>3</sup> Th. A. Bryce, *On the cairns of Arran*, *Proc. Soc. Ant. of Scotland* 36, 1901—2, p. 90; J. Graham Callander, *Scottish neolithic pottery, l.c.*, 63, 1928—29, pp. 46 sq.

<sup>4</sup> V. G. Childe, *The continental affinities of British neolithic pottery*, *Archaeological Journal* LXXXVIII, p. 54.

These stray remarks concerning pottery may be supplemented by a few details with regard to other forms of antiquities. On the whole, however, there are remarkably few parallels to be drawn on this point, between the North and Western Europe, besides which Western types, similar to those of the older passage tomb period, have not been discovered in megalithic tombs. This applies, for instance, to the British double-edged stone axes, one of the most characteristic forms of the passage tomb period. The type with an almost symmetrically broadened edge and butt occurs in a number of instances, in England, as a rule, together

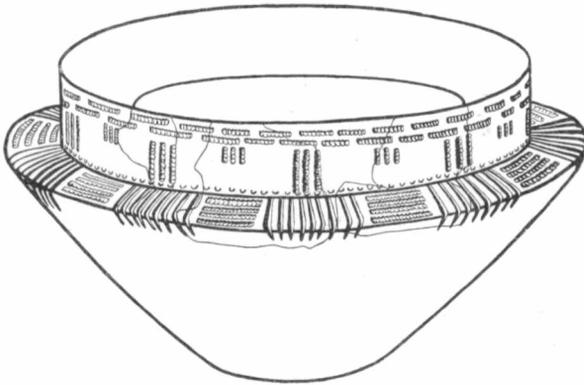


Fig. 49. Reconstructed vessel from passage grave in Ormshøj, Aarby, Zealand (1/5). Müller, *Stenalderens Kunst*.

with very early bronzes; one of the most important finds comes from Snowhill in Gloucestershire, and another from Hove in Sussex is interesting owing to its also containing an amber cup.<sup>1</sup> Another type with a slightly broadened edge and broader butt<sup>2</sup> — the so-called Fredsgård axe — is harder to determine chronologically; it appears to occur in both early and (possibly in slightly differing varieties) in late passage tomb finds. It is uncertain with which group of axes the similar examples in England should be compared.<sup>3</sup> Several of the other British types of axe-hammers

<sup>1</sup> See, for instance, R. A. Smith, *The perforated axe-hammers of Britain*, *Archaeologia* 75, 1924—25, pp. 80 sq.

<sup>2</sup> Cfr. fig. 23

<sup>3</sup> *L.c.*, pp. 83 sqq.

are certainly later, some closely approach forms that belong to the Bronze Age in the North. Double-edged stone axes have, of course, also been discovered in France; of the Breton axes some come from megalithic tombs.<sup>1</sup> They scarcely exist on the Pyrenean Peninsula, but a few specimens have been found in Italy.<sup>2</sup> These finds do not give any sure indication of the path by which this type immigrated to the North, nor is it clear, where it originated. Copper axes that may have served as models are, indeed, known in fairly large numbers in Western and Central Germany, Switzerland and Eastern France,<sup>3</sup> but are lacking in megalithic culture. What is certain in any case is that this type did not accompany the stone tombs northward from the Iberian Peninsula, for axe-hammers are extremely rare there. An isolated broken specimen can be recorded from a dolmen in Navarra in North Spain;<sup>4</sup> Forde considers it to have been imported from Denmark,<sup>5</sup> but I do not venture to subscribe to this assertion on the strength of the published photograph.

The discoid mace-heads that occur most plentifully in Jutland can be compared chronologically with the oldest double-edged axes in the North. This type seems to have been found in Brittany,<sup>6</sup> as well as in Italy,<sup>7</sup> but seems otherwise to be unknown;<sup>8</sup> the British mace-heads are of another kind throughout. Perhaps, in spite of its infrequent occurrence in the area of megalithic tombs, we may suppose the type to be imported into the North along the same road as the megalithic tombs. At the same time in regard to amber which plays so important a part in the megalithic culture of the North, we can consider that it was exported to the west and south-west from Denmark, that is from Jutland. Amber has long

<sup>1</sup> *Reallexikon* IV:1, p. 37 and pl. 39; Forde, *Antiquaries' Journal* 1927, p. 14 and fig. 4; *id.*, *American Anthropologist* 1930, p. 87.

<sup>2</sup> Nordman, *Aarb.* 1917, p. 314.

<sup>3</sup> Montelius, *Die Chronologie der ältesten Bronzezeit*, pp. 14 sqq.

<sup>4</sup> T. de Aranzadi and others, *Exploracion de ocho dolmenes de Alzania*, 1921, fig. 14.

<sup>5</sup> Forde, *American Anthropologist* 1930, p. 97.

<sup>6</sup> Forde, *l.c.*, p. 87.

<sup>7</sup> Nordman, *Aarb.* 1917, p. 314.

<sup>8</sup> The Danubian mace-heads, the originals or illustrations of which I have seen and that are often called disc-shaped, differ from the distinctly Nordic type.

been considered the principal asset of the Bronze Age of the North in the barter trade with southern countries, and it admittedly played the same part earlier, from the time, when the demand for copper arose. Indeed, in Jutland, especially in its northern parts, many finds have been made with quantities of amber beads lying in large round-bottomed clay vessels; the forms of the vessels and beads refer these finds to the period of thin-butted axes and to the transition stage to the next period.<sup>1</sup> Other finds are later and are presumably connected with the single grave culture in Jutland. It has been said of the earlier finds that they were trade depots intended for export to Britain.<sup>2</sup> Unfortunately, however, there are few amber ornaments in late British Stone Age finds and really none of a distinctly Danish type; the amber cup from Hove in Sussex, already referred to, is worth noting. As natural amber occurs on the East Coast of England,<sup>3</sup> and here and there on the South Coast, we cannot even be certain that all the beads discovered, or the material for them, were imported from Denmark. I ought to mention, however, that contact certainly existed: the wellknown necklaces of jet from Scotland and England have triangular ends and centre-pieces with many holes, and they correspond to Danish amber ornaments of the period of thin-butted axes and the beginning of the period of thick-butted axes. If we search further south, we find amber beads in Brittany<sup>4</sup> — Finistère — and the South-East of France;<sup>5</sup> and on the Iberian Peninsula we have them in megalithic tombs in Portugal,<sup>6</sup> in Catalonian<sup>7</sup> and South-East Spanish finds;<sup>8</sup> in some cases these beads have been chemically analysed, and have actually been found to be of Northern amber.<sup>9</sup> Here we can therefore discover a connection between

<sup>1</sup> See, for instance, Müller, *Vendsysselstudier*, Aarb. 1911, pp. 303 sq.; *id.*, *Archaeologisk Udbytte af Mosearbeidet i Krigsaaet 1917*, Aarb. 1917, pp. 151 sq.

<sup>2</sup> Stjerna, *Före hällkisttiden*, p. 122, ATS 19.

<sup>3</sup> John Evans, *The ancient stone implements of Great Britain*, 2nd ed., p. 450.

<sup>4</sup> Forde, *Antiquaries' Journal* 1927, pp. 17 sq.; *id.*, *American Anthropologist* 1930, p. 90.

<sup>5</sup> Childe, *Dawn* p. 279.

<sup>6</sup> *l.c.*, p. 119.

<sup>7</sup> *l.c.*, p. 277.

<sup>8</sup> L. Siret, *Questions de chronologie et d'ethnographie Ibérique*, p. 39.

<sup>9</sup> Siret, *l.c.*

the Pyrenean Peninsula and at any rate England, perhaps even Denmark. A find in Finistère is of particular interest in this connection, seeing that it contains some centre-pieces with several holes. Amber was exported from Denmark to North and Central Germany at an early stage, but we need not go into that side of the question.

The comparisons that I have now drawn between the form of burial and the forms of antiquities in the North and in Western Europe, should prove sufficient to establish the fact that the megalithic culture of the North during the period of thin-butted axes and during the early part of the period of thick-butted axes was in contact with the area of megalithic tombs in Western Europe. But whether this contact was due to trade and the transmission of culture or to an actual immigration of people to the North, is still uncertain. Professor Rydbeck, for instance, has of late<sup>1</sup> championed the idea held by many archaeologists of an immigration of people. Let us see how the matter stands. We must ignore the anthropological side of the question entirely, among other reasons because the supply of skeletons in the older megalithic tombs in Jutland, where the invasion should have shown up first and most strikingly, is infinitesimal. I have already pointed out that the dolmen finds of the thin-butted axe period contain a number of elements affording evidence of ancient Northern tradition, and that the tombs themselves have a special character: they are not identical with tombs in any other part of the megalithic area. This does not point to an immigration. With the transition to the period of thick-butted axes the connection with the west apparently grows closer: in the North are found passage tombs of special types which are discovered further west; the grand style possibly originates owing to influences of style from outside; some forms of antiquities were, perhaps, imported and imitated; amber was exported. But in spite of all this the culture retains its special character. A thoroughly new culture is not imported with the megalithic tombs: in the North we do not find all the antiquities that are connected with the tombs in France or Britain; only

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<sup>1</sup> Rydbeck, *Stenåldershavets nivåförändringar*, pp. 57 sqq.

certain new elements of culture appear. This points to the spread of culture, not to immigration. Far be it from me to deny that groups of immigrants set foot on the soil of Denmark — on the contrary, I think it very probable,—but it is a long step from this to the assumption of an invasion of a people. The way in which an invasion of this kind is reflected in the Stone Age finds is shown, for instance, by the single grave culture in Jutland: here everything is new, — tombs, pottery, weapons, ornaments — and without local prototypes; and the connection of the new culture with the south, with Central Europe, can be proved in every detail. Finally, it can be said that the spread of megalithic culture in the North follows the older settlements in broad lines: this can also be taken as a sign of continuity. We must assume, therefore, that the appearance of megalithic culture in the North is mainly a result of the spread of culture, but this does not exclude the possibility that a movement of peoples may have occurred in the Northern area. We can, perhaps, not assume this in regard to Bohuslän, in spite of the very lively connection of that district with Jutland, but as a very considerable megalithic settlement is seen in Västergötland at a given stage of the passage tomb period, it may be that at the back of this phenomenon there was a displacement of peoples.

Can a definite answer be given to the question, whence and how the megalithic culture spread to the North? The answers vary. Mr Cyril Fox, who allows for connections by sea from Scotland, starts from the assumption that the very strong tides prevented regular traffic by sea through the straits of Dover, where the straits — if they existed at all during the period of megalithic culture — were exceedingly narrow on account of the rising of the land.<sup>1</sup> Rydbeck, on the other hand, is of the opinion that the rising of the land, which according to him created continuous land or at any rate some islands in the North Sea from the Doggerbank southwards, facilitated the connections with Britain.<sup>2</sup> He does not define the source of megalithic culture in the west.

If we are sanguine enough to believe in the existence of continuous land in the North Sea during the period of megalithic culture

<sup>1</sup> Cyril Fox, *The personality of Britain*, p. 23.

<sup>2</sup> Rydbeck, *l.c.*, pp. 73 sqq.

without any shadow of proof, we can adopt one or other of these hypotheses; we are free to choose. But so far we know nothing of such land having existed at so late a date; that it existed earlier, is well known: everyone knows the submerged forests of the continental phase. There is a whole chain of evidence, however, proving that during the neolithic period the land was somewhat higher than it is at present. Let me quote part of it; I will start in the south. In Brittany megalithic buildings have been discovered which are now under water;<sup>1</sup> and on Guernsey Kendrick has observed submerged megaliths.<sup>2</sup> Near the Scilly Isles there are rows of stones that are visible only at low tide,<sup>3</sup> and in Southampton an axe-hammer has been dredged up in digging the docks.<sup>4</sup> On the coast of Flanders polished stone tools have been found on submerged sites,<sup>5</sup> and on the east coast of Scotland Mr Callander observed signs of the land having sunk during the neolithic period or Metal Age.<sup>6</sup> As far as the Northern area is concerned we must, above all, indicate a passage tomb on the island of Sylt in Sleswig, now completely waterlogged, and another destroyed by the sea, both mentioned by Sophus Müller;<sup>7</sup> and along the west coast of Jutland peat layers of uncertain date have<sup>8</sup> been discovered at varying depths.

It is therefore certain that the coasts of the southern part of the North Sea and the Channel were at a higher level during the period of megalithic culture, though we do not know, how much higher; no neolithic finds have, however, been brought up from any great depth. The data with which we are familiar at present only entitle us to speak of a fringe of submerged land round the

<sup>1</sup> O. G. S. Crawford, *Lyonesse*, Antiquity 1927, p. 10; T. D. Kendrick, *Archaeology of the Channel Islands*, p. 9.

<sup>2</sup> Kendrick, *l.c.*, pp. 130, 165 sq., 214.

<sup>3</sup> Crawford, *l.c.*, pp. 5 sqq.; H. O'Neill Hencken, *The archaeology of Cornwall and Scilly*, pp. 31 sq.

<sup>4</sup> Clement Reid, *Submerged forests*, p. 79.

<sup>5</sup> A. de Loë, *Belgique ancienne I. Les âges de la pierre*, p. 175.

<sup>6</sup> J. Graham Callander, *Land movements in Scotland in prehistoric and recent times*, Proc. Soc. Ant. Scotland 1928—29, LXIII, pp. 315 sq., 320.

<sup>7</sup> Müller, *Sønderjyllands Stenalder*, Aarb. 1913, p. 7.

<sup>8</sup> Map in E. L. Mertz, *Oversigt over de sen-glaciale og post-glaciale Niveau-  
forandringer i Danmark*.

coasts, not of any large mainland. Fresh finds may, of course, alter the picture, but perhaps it is not a matter of chance that the objects that have been fished up at any distance from the east coast of England so far have all proved to belong to the Maglemose culture; no later objects have been discovered.

In the absence of any proof to the contrary, we must assume for the present that almost the whole of the North Sea was actually sea during the period of megalithic culture. It was by sea that the megalithic culture reached the North, but it is practically impossible to establish, from what part of the Western European area the Northern culture took its source. The comparisons I have drawn point in different directions. It is possible, indeed, that some details may indicate influences from Scotland, but we have more often had to turn our attention to Brittany and the South of England: it is in Brittany, I think, that we must ultimately look for the roots of the Northern megalithic culture.

Before bringing this lecture to a close I must say a few words about one of the latest Northern types of megalithic tombs: the Swedish cists with a porthole-entrance belonging to the dagger period. In this form of tomb Montelius recognised one of the surest proofs of a connection between England and Sweden.<sup>1</sup> However this view can scarcely be correct, for to all appearances the English tombs are considerably older: they belong to the end of the neolithic period in England, while the Northern tombs belong to a period which corresponds in time to a fairly advanced Bronze Age in England. The cists with a porthole-entrance in the Paris basin, which resemble the Northern ones so much, are also appreciably older; a proof of this is provided by the Hessian cist at Züschen which was influenced by the Paris area: its finds belong to the collared-flask period.<sup>2</sup> In other words it looks as though no direct connection can be traced between the Northern cists with a porthole-entrance, and the whole group of tombs with a similar opening that I described in an earlier lecture.

However, there is further a small series of cists in Central

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<sup>1</sup> Montelius, *Orienten och Europa*, pp. 187 sqq.

<sup>2</sup> J. Boehlau and F. v. Gilsa zu Gilsa, *Neolithische Denkmäler aus Hessen*, 1898.

Germany, in Thuringia, which as a rule are fairly square and have a porthole-entrance. These tombs belong to the cord-ceramic culture and are consequently later than the West-European tombs, but older than the Northern ones. Can they have influenced the latter? We must first note that the long Northern cists with a porthole-entrance are a distinct form of megalithic tomb: they correspond to the passage cists in Jutland, and are built in the same manner as the passage tombs of Västergötland. As, in addition, their proportions differ entirely from those of the Thuringian tombs, the latter can scarcely have been models for the Northern tombs. Yet it is not inconceivable that the actual idea of making the door-opening in the form of a porthole-entrance may have come from Central Germany. We shall soon find that fairly strong influences from Central Europe were felt in the North during this time; there is evidence of them, too, in the Swedish cists with a porthole-entrance. By analogy, therefore, the door-hole in the Swedish cists might also be a German trait. In Sweden, in addition to the long cists with a porthole-entrance, smaller trapezoidal ones have been discovered, and trapezoidal tombs also occur in Central Germany at a slightly earlier date.

Thus, there is a possibility that the Northern porthole-entrance may have been borrowed from Germany. But are the German tombs I have indicated an imitation of the Western European ones? Let me remind you that a long time ago Professor Tallgren drew attention to the Caucasian dolmens with a porthole, and indicated the possibility that both the German and the other European tombs possessing the same features, were derived from the Caucasian tombs.<sup>1</sup> Many archaeologists have subsequently discussed this view either with favour or with criticism. It cannot, however, be maintained to the full, as long as the relations between the German Stone Age and the Caucasian Bronze Age are viewed as Tallgren and the majority of archaeologists view them. It is usual to imagine that a current of culture starting from the German globular amphorae culture reaches Caucasia, where, for instance, the pottery is supposed to possess traits of the globular amphorae. The wandering tribes are supposed to keep in touch with Central

<sup>1</sup> A. M. Tallgren, *Die Kupfer- und Bronzezeit in Nord- und Ost-Russland I*, pp. 202 sq., FFT XXV.

Europe and along this line south-eastern elements of culture percolate, among them tombs with a porthole-entrance. It is certain that eastern influences can actually be traced in Central Europe at that time: one of the best instances is the Göhlitzsch tomb at Merseburg, on the richly decorated uprights of which a composite bow is drawn; an eastern type. But the eastern tombs with a porthole-entrance that may possibly have been built at that time in Central Europe, could not have been the models for tombs of the type of Züschen, the Paris basin etc. If the chronology of the Stone Age accepted at present has any trace of justification, the latter must be older. We have, then, two genetically separate groups of tombs with a porthole-entrance, and it should be noted that those in Thuringia have the same square form as those in the Caucasus; in some German square tombs the porthole is placed high up on the uprights,<sup>1</sup> which does not seem to be the case in the west. The western group in Germany belongs to the West-European megalithic group, the eastern — especially in Thuringia — is derived from the Caucasian megalithic culture. In the North the long megalithic cist receives as a loan from Central German culture the porthole that is so characteristic of the tombs in Västergötland and Bohuslän, but the cist itself is connected with ancient Northern tradition.

This is no more than an attempt at explaining the circumstances which do not seem to me to be so clear and simple as is often supposed.

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<sup>1</sup> G. Kraft, *Der Heidenstein bei Niederschwörstadt*, Badische Fundberichte 1927. It is uncertain, however, whether this grave belongs to the eastern group. Cfr. also a holed stone in Ireland; Cloch-A-Foill, Tullow, co. Carlow.

## VI.

Chronology. The date of the dagger period. The Bronze Age in Central Europe and the Stone Age in the North. Influence of the Aunjetitz culture. The relation of the dagger period to the older Northern Bronze Age. Late bell-beakers in Northern finds. Parallels between the older Northern passage tomb period and culture in Central Europe. Jordansmühl and similar finds, their position as regards megalithic culture. The Bygholm find and copper in the Northern Stone Age. The whole of the Northern megalithic culture belongs to a period, when copper was used in the South. Northern megalithic culture late in comparison with many Stone Age cultures in Central Europe. Absolute chronology. Summary: megalithic culture in the North.

In my lecture to-day I must attempt to give an account of the absolute chronology of the Northern megalithic culture and define its position in relation to cultures in adjacent countries.

It is a well-known fact that in Northern archaeology two tendencies are apparent in determining the date of the later Stone Age and of the Bronze Age. One of them, led by Montelius, which prevailed for a long time, referred almost the whole of the megalithic culture to the third millenium, and Sophus Müller's attempts to establish a later date fell upon deaf ears; in his opinion the Bronze Age began after 1500, and the first appearance of megalithic culture lay about the year 2000. I must admit that, when I first took up the study of megalithic culture twenty years ago, I also believed it necessary to keep to the earlier dates. It was in 1924 during a long journey for the purposes of study that I became convinced that Müller's dates were the right ones,<sup>1</sup> and the few Northern archaeologists who subsequently occupied themselves seriously with the chronological problem, have come to the same conclusion.<sup>2</sup> British archaeologists take up the same position,

<sup>1</sup> *De forhistoriske Tider i Europa* II, 1927, pp. 120 sqq. In this work and in my lectures at Helsingfors University in the last few years I have developed my views of the relations between the Stone Age in the North and in Central Europe.

<sup>2</sup> A. M. Tallgren, *Zur Chronologie der osteuropäischen Bronzezeit*, Mitteilungen der anthropologischen Gesellschaft in Wien LXI, 1931; N. Åberg, *Bronzezeitliche und früheisenzeitliche Chronologie* III, tables at the end of the volume. The relation between the Northern and Central European Stone Age is, however, interpreted by Åberg in a way that differs entirely from the views of, e.g., Tallgren and myself.

above all Professor Childe,<sup>1</sup> who has expressed his views on Northern chronology. It is really only in Germany that the tendency of Montelius still prevails, though there are signs of a change occurring;<sup>2</sup> Professor Reinecke of Munich, alone, has always striven



Fig. 50. Bronze dagger from Denmark (1/3). Müller, Aarb. 1909.



Fig. 51. Flint dagger from Fionia (1/2). National Mus, Copenhagen, A 17468.

for the later dates with the acumen that marks all that he has written.<sup>3</sup>

In establishing the chronology of the Northern megalithic

<sup>1</sup> V. G. Childe, *The dawn of the European civilisation*, 1925.

<sup>2</sup> E. Sprockhoff, *Zur Megalithkultur Nordwestdeutschlands*, Nachrichten aus Niedersachsens Urgeschichte 4, 1930, pp. 40 sq.

<sup>3</sup> Most recently in: *Ein Kupferfund der Dolmenzeit in Jütland*, Mainzer Zeitschrift XXIV—XXV, 1929—30.

culture it is most convenient to start with its latest phase, when the stone cist was its principal form of burial, though passage tombs of earlier construction were still used; while daggers were the prevailing grave furniture. Daggers without any pronounced hilt are, of course, the oldest. The form with a narrow blade and a foursided narrow hilt are later; it seems to be more common in Sweden than in Denmark, while the still later types with a broad blade and broadened pommel are far more general in Denmark.<sup>1</sup>

It is an old-established truth that the later forms are imitations of bronze daggers: this is proved in a particularly striking manner by a comparison between an early bronze dagger (fig. 50) and a flint dagger from Fionia, a direct copy of a metal type (fig. 51). If further proof is needed of the flint daggers being synchronous with the Bronze Age in countries to the south, I can quote the fact that they do not occur further south than North Germany — on Rügen, in Pomerania, Mecklenburg, Holstein, Hannover — here, as in the North, together with bronze daggers; but further south they are replaced entirely by the latter. But the Northern finds themselves provide direct evidence of the dagger period being contemporary with the Bronze Age to the south.

A Zealand cist in Sösum, in the district of Ölstykke, contained two skeletons: flint daggers were lying by the side of one of them, by the side of the other there was what the Germans call a »Noppenring» of gold, as well as a fragment of a bronze band with small chased bosses.<sup>2</sup> Two gold Noppenrings, two flint daggers — one with a broadened hilt — and a slate pendant of the kind that is common in finds of the dagger period,<sup>3</sup> apparently came from a single grave at Nörre Snede in the district of Vrad, in North Jutland. In an irregularly built passage tomb in Enslev in the county of Randers, North Jutland, a gold Noppenring and a bulb-headed bronze pin with vertical perforation through the head, were lying alongside the remains of the person last buried there; deeper down there were found, among other things, some daggers and three bone pins — one of them bent — with vertical perforation.<sup>4</sup> Deep

<sup>1</sup> Müller, *Flintdolkene i den nordiske Stenalder*, NF I, p. 166.

<sup>2</sup> Müller, *Sønderjyllands Bronzealder*, p. 145, fig. 73, Aarb. 1914.

<sup>3</sup> *l.c.*, p. 145, fig. 72.

<sup>4</sup> J. Jensen, *To Gravhøje*, Aarb. 1866. Sophus Müller's assumption, *l.c.*, p. 144, that the Enslev grave was a cist, seems baseless.

in the bed of the passage tomb at Slotsbjergby on Zealand a bronze pin with a twisted head was found; it does not belong to the latest grave furniture in the passage tomb.<sup>1</sup> In Sweden we can only point out that a spiral wire of gold was found in a cist with a porthole-entrance in Gällby in Västergötland; in the same grave daggers and slate pendants were discovered.<sup>2</sup> Pendants of this kind which are found in the North together with flint daggers, oc-

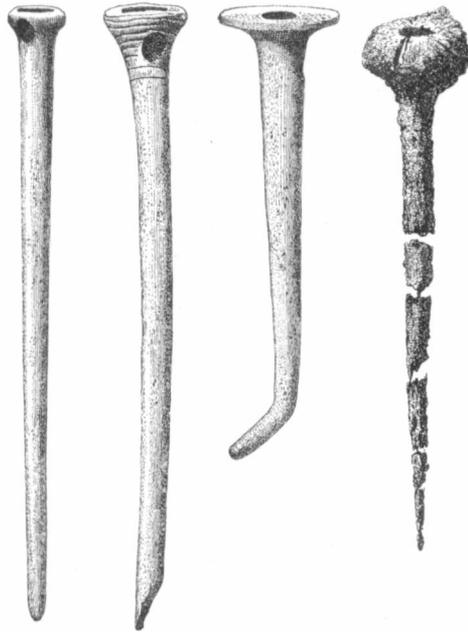


Fig. 52. Bulb-headed pins of bone and bronze from passage grave at Enslev, Jutland.  $\frac{1}{4}$ . Aarb. 1866.

cur in Holstein, very characteristically, with bronze daggers:<sup>3</sup> the Bronze Age was further advanced there.

Besides these metal objects that show so clearly, how new elements gradually filter into the Stone Age culture, there are some types of bone pins in the finds of the dagger period which imitate

<sup>1</sup> Nordman, *NF* II, p. 85.

<sup>2</sup> *Månadsblad* 1896, p. 65; Montelius, *Guldarbeten från bronsåldern, funna i Sverige*, Fornv. 1916, p. 1.

<sup>3</sup> W. Splieth, *Inventar der Bronzealterfunde in Schleswig-Holstein*, pp. 15 sq.

bronze forms. One of the types with a disc-shaped head with vertical perforation and in some cases with a bent point, is an imitation of the bulb-headed pins I spoke of just now; it is known as occurring with objects of the dagger period in passage tombs in Jutland (fig. 52),<sup>1</sup> in Zealand<sup>2</sup> and in Västergötland<sup>3</sup> and in a cist with a porthole-entrance in Nerike;<sup>4</sup> the head of the bone pins as well as that of the bronze pins is sometimes ornamented. The other type, with a loop-eye, has been found with objects of the dagger period in several passage tombs on Zealand (fig. 53),<sup>5</sup> and is also known from Fyen.<sup>6</sup> In Sweden this type is met with in finds from a passage grave in Västergötland<sup>7</sup> and dwelling places on Gothland.<sup>8</sup> Finally, the third type of pins, with a ring-head (fig. 54) is known in Gothland cist and dwelling place finds.<sup>9</sup> The models of all these types of pins can, of course, be found in Central Europe,<sup>10</sup> in the widespread area of the Aunjetitz culture from Hungary to Thuringia. The Aunjetitz culture is perhaps most plentifully represented in Bohemia and the adjacent countries, where it belongs to a fully developed Bronze Age, the date of which is about 1500 B. C. and just prior to it. A strong influence from Central Europe was exerted on the North and it was this south-eastern influence I had in mind, when I referred to the possibility of the Northern porthole-entrances going back to an idea derived from Thuringia. The date that has been arrived at in Central Europe for the mature Aunjetitz culture can be transferred to the last phase of the Nor-

<sup>1</sup> Passage grave at Enslev: Jessen, *Aarb.* 1866.

<sup>2</sup> Borreby: A. P. Madsen, *Steenalderen*, pl. 17:8—9.

<sup>3</sup> Luttra: Montelius, *Minnen* 590, 594; Ranten: *l.c.*, 591, 593.

<sup>4</sup> Lanna: Montelius, *l.c.*, 589, 592. — A similar pin was found in a gravel pit in Västkinde, Gothland: N. Lithberg, *Gotlands Stenålder*, p. 93.

<sup>5</sup> Tjaereby and Laaddenhöj, Rörby: Nordman, *Aarb.* 1917, p. 266; Slotsbjergby: Nordman, *NF* II, p. 82; Aarby: Madsen, *Gravhöje* I, pl. XX:k; Borreby (fig. 53): Madsen, *Steenalderen* I, pl. 17: 1—3.

<sup>6</sup> *Aarb.* 1917, p. 266.

<sup>7</sup> Luttra: Montelius, *l.c.* 596.

<sup>8</sup> Stora Förvar: *l.c.* 597.

<sup>9</sup> Västkinde (fig. 54): *Lithberg, l.c.*, fig. 178; Träkumla (fig. 54) *l.c.* 177; Norrlanda: *l.c.* 179.

<sup>10</sup> Montelius, *Chronologie der ältesten Bronzezeit*, p. 116; Nordman, *De forhistoriske Tider* II, p. 123; J. Schranil, *Studie o vzniku kultury bronzové v Čechách*, 1921.

thern megalithic culture, the dagger period, a period in which work in flint attains the height of perfection, and bronze sometimes occurs in the tomb finds only as a rare and precious material. It is scarcely possible to fix the end of the dagger period in Scandinavia, in which flint was used, with complete accuracy and to define its limit in relation to the time, when bronze predominated: if we determine the date summarily at about 1400 B. C., we shall in any case not be very far wrong. It is a matter of course that the



Fig. 53. Loop-eyed pins of bronze from Czechoslovakia and of bone from Zealand (1/2). Schranil, Studie o vzniku kultury bronzové, and Madsen, Steenalderen.

Fig. 54. Ring-headed pins of bronze from Czechoslovakia and of bone from Gothland (1/2). Schranil, Studie, and Lithberg, Gotlands stenålder.

beginning of the Bronze Age sets in later, the further north we go: it is symptomatic in this respect that the finds of the dagger period in Västergötland and Nerike and on Gothland only contain imitations of bronze pins, while original bronze pins and other contemporary metal objects are discovered from time to time in Danish tombs; in North Germany they are commoner.

Before leaving the dagger period I must touch briefly on the question, whether the period of flint daggers can be considered an entirely independent section of time, distinctly divided from the first period of the Northern Bronze Age, or whether, perhaps, the

two coincide, partly or wholly. It is difficult to form an opinion on this subject, seeing that the latest finds containing daggers and the oldest finds containing bronze objects as a rule include exceedingly few artifacts: mixed finds are therefore rare. However, it would be quite justifiable to say that many of the forms enumerated by Sophus Müller in his first period of the Bronze Age,<sup>1</sup> are contemporary with the latest flint weapons: this applies to the bronze daggers of the form that I compared a short time ago with a rare flint dagger from Fyen; it applies to the broad-edged bronze axes which must be construed as the models of the broad-edged flint axes of the dagger period; it applies to the oldest bronze spear-heads, a specimen of which was found in a cist of the dagger period<sup>2</sup> and so forth; in short, to the majority of the forms of the first Danish Bronze Age period. Some other types, which Montelius includes within the limits of his more spacious first period,<sup>3</sup> for instance the large halberds, apparently originated in a still more distant period than the flint daggers. It is really only some dagger blades with rivets with ring-heads of the end of Müller's first period that are, in all probability, slightly later than the flint daggers. With regard to the period of the later flint daggers we might, therefore, employ the expression »Stone-Bronze Age», but flint still predominates. If such a view is correct, the end of the Stone Age in Southern Scandinavia may probably be said to occur even a little later than 1400 B. C., but this date does not refer to megalithic culture, because the very latest tombs with flint objects are single graves, and single graves are likewise the oldest graves with furniture solely of bronze. The whole question of the continued use of stone implements far into the Bronze Age does not come into a description of megalithic culture; it can be proved in the case of certain types even in the wealthy South-Scandinavian settlements, all the more so in outlying districts, where stone still retained its hegemony for centuries.

My description has thus resulted in our finding points of con-

<sup>1</sup> Müller, *Bronzealderens Begyndelse og ældre Udvikling i Danmark*, Aarb. 1909, pp. 6 sqq.; *id.*, *Sønderjyllands Bronzealder*, Aarb. 1914, pp. 54 sq.

<sup>2</sup> Over Vindinge, Zealand: H. Kjaer, *Et mærkeligt arkæologisk antropologisk Fund fra Stenalderen*, Aarb. 1912, pp. 58 sqq.

<sup>3</sup> Montelius, *Minnen*, pp. 48 sqq.

tact between the Northern dagger period and the Central European Aunjetitz culture and by this means we have obtained a definite date for the dagger period. We can now take a step backward and see, whether similar fixed points can be obtained for the older phase of the megalithic culture. This is rather a hopeless business. It is true that in Northern and Central Germany many phenomena can be pointed out parallel to features in the Northern megalithic culture, but the absolute chronology is vague, so they need not concern us here.

Some points of contact to the south are afforded by a number of beakers of different types. You will remember that curved beakers



Fig. 55. Beaker from passage grave at Bigum, Jutland (1/2). NF II.

with tooth-stamp decoration have been found in a couple of megalithic tombs on the southern Danish islands;<sup>1</sup> they are connected to similar vessels on Rügen and in the zone-beaker group in North-Western Germany. One of them comes from a passage-cist at Örebygaard on Lolland, which of itself gives a fairly late date in the period of thick-butted axes. A more exact date is provided by a find on Langeland, in which a beaker of this kind was discovered in a single grave in company with a battle-axe of a type belonging to the ground graves of the Jutland single grave culture,<sup>2</sup> that is, to the second of the sections into which the Jutland culture may

<sup>1</sup> Örebygaard, Lolland: Montelius, *Chronologie*, p. 118, fig. 290—91; Gaa-bense, Falster: Müller, *Stenalderens Kunst*, 186.

<sup>2</sup> J. Winther, *Langeland*, fig. 1—2.

be divided. If we transfer this date to the megalithic culture, it means that these clay vessels belong to the last third of the period of thick-butted axes, when the late East-Danish styles were in use in pottery. We get approximately the same date for a beaker with rich tooth-stamp decoration (fig. 55), which, perhaps, chiefly represents a development of some Central-German and Bohemian bell-beakers. It was found in a passage tomb at Bigum in the county of Viborg, North Jutland, in the bottom layer of which there were remains of the original megalithic grave furniture, as well as amber ornaments of forms that are characteristic of the oldest Jutland single grave culture, of bottom graves. The beaker



Fig. 56. Bell beakers from Zealand and Bohemia. Aarb. 1929, and Stocky, Fa Boheme préhistorique.

and some other things were lying at a higher level and at the top there were a number of early daggers. The beaker is consequently later than bottom graves, and older than the daggers which are often found in the upper graves of the Jutland tumuli.

A bell-beaker (fig. 56 left) discovered by Rosenberg in a passage tomb at Kirke Helsing on Zealand is of still greater importance.<sup>1</sup> It is of precisely the same type and has the same decoration as, for instance, the bell-beaker from a rock grave at Anghelu Ruju on Sardinia<sup>2</sup> or as a Bohemian vessel (fig. 56 right), almost the only difference is that the design of horizontal stripes and lozenges

<sup>1</sup> Rosenberg, *Nye Jaettestuefund*, Aarb. 1929, pp. 211 sqq., 221 sqq.

<sup>2</sup> *Notizie degli scavi* 1904, p. 319, fig. 16; *Il convegno in Sardegna* 1926, fig. 18.

on the Danish vessel is lightly carved, and not carried out with a tooth-stamp. Fragments of this vessel were lying outside the mouth of the passage together with parts of other vessels, all belonging to grave furniture that had been removed from the grave during the Stone Age owing to the grave becoming too full, in order to make room for further burials. Rosenberg's observations made it possible to establish that the passage tomb had been emptied on two occasions, and that the grave furniture could be divided into three groups: one part was connected with the first emptying of the grave, another with the second emptying, and the objects found in the chamber itself belong to the latest group. The fragments of the bell-beaker were lying in the second group together with pottery of the end of the grand style and with bits of vessels ornamented with a tooth-stamp, the latest of which belong to the former of the declining styles of East-Danish megalithic pottery. By this means we are enabled to refer the bell-beaker to the middle of the passage tomb period, and consequently Sophus Müller's old suggestion that the tooth-stamp ornamentation of the bell-beakers was a contributing factor towards the origin of the tooth-stamp style of the megalithic pottery, gains some support. In regard to other countries further south all this signifies that some of the bell-beakers in Southern and Central Europe that are ornamented with a tooth-stamp, can be placed on a level with that part of the passage tomb period, during which the tooth-stamp style was in use. On the other hand we are not yet familiar with any find which would enable us with the same certainty to place the Northern grand style and the South-West European one on a level. The sole Northern finds which can be mentioned in this connection are some fragmented early vessels from Scanian passage graves which to my opinion display traits evidently borrowed from bell-beakers — they are to be published by Dr Bagge — but I expect that archeologists who do not believe in the possibility of dating the Southern grand style and the first bell-beakers as early as the beginning of the Northern passage grave period will deny these influences.

In regard to the older Northern finds, however, some references can be made that are of interest. The vertically ornamented pottery of the dolmen period is, as we know, also represented south of

Denmark: the principle of decoration is repeated both on collared flasks and on funnel-necked beakers of different varieties in Holland and North-Western and Northern Germany from Hannover and Oldenburg over Holstein and Mecklenburg to Rügen.<sup>1</sup> In many cases such pottery has been discovered in stone tombs, the furniture of which also includes thin-butted axes. Although the form of tomb is different in the North — a circumstance that

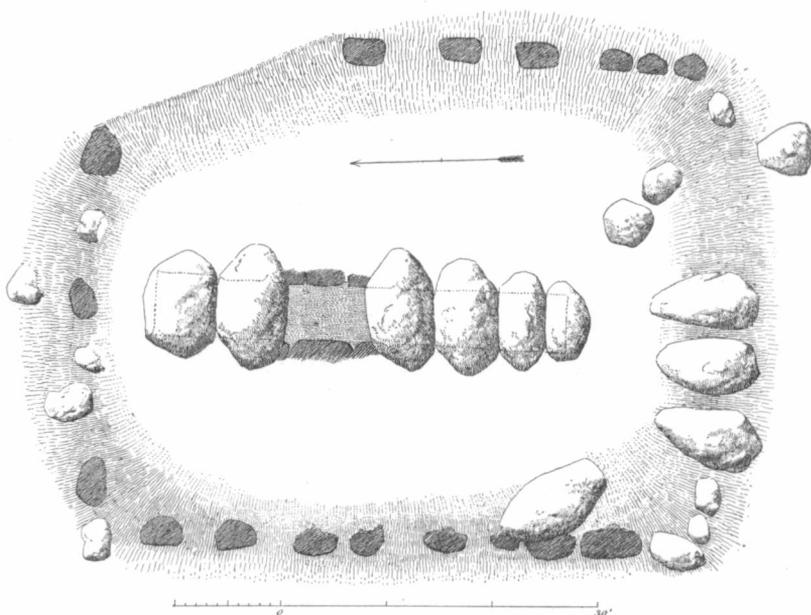


Fig. 57. «King Svens Mound», Pederstrup, Lolland. Madsen, Gravhøje I.

we have touched on already — we can assume that the different vessels of this kind are approximately contemporary. The similarity may be partly due to the pottery having developed on a fairly homogeneous soil throughout the entire area — note, for instance,

<sup>1</sup> See, e.g., J. H. Holwerda, *Zwei Riesenstuben bei Drouwen in Holland*, Präh. Zschr. 1913, pp. 435 sqq.; A. E. van Giffen, *Die Bauart der Einzelgräber* 1930; *id.*, *De Hunebedden i Nederland*, 1927; G. Kossinna, *Entwicklung und Verbreitung der steinzeitlichen Trichterbecher, Krugfläschchen und Kugelflaschen*, Mannus 13, 1921; H. Gummel, *Megalithgrab C. Nordwestdeutschland*, Reallexikon VIII.

that in Holland,<sup>1</sup> as in Denmark, there are single graves with vertically decorated pottery — represented in the North by the kitchen-midden finds. As these are lacking in Holland and North-West Germany, it may be connected with the fact that the former settlements along the strip of coast are now buried beneath the sea. After the period of vertically ornamented pottery there is a greater differentiation in the cultures: in Holland and part of North-West Germany the development continues on the whole on the same lines, but the connection from west to east which was represented, for instance, by some vertically ornamented

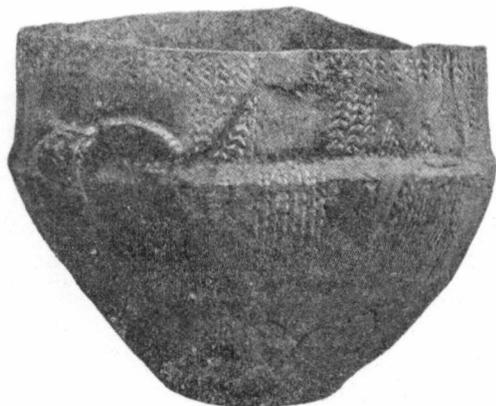


Fig. 58. Bowl from Rügen. Petsch, *Steinzeit Rügens*.

potsherds in Holland and Rügen,<sup>2</sup> is severed. However, the long barrow with long cists remains a characteristic feature of the whole Dutch and North German area; in one case only does this form of tomb appear to have reached across to Denmark, that is Lolland — nearest to the German coast — where there is a rectangular barrow with an enormous cist apparently of the German type (fig. 57). In other points, too, a close connection is visible between Eastern Denmark and Rügen, for instance: late passage tomb pottery of the Zealand type occurs on Rügen in many finds (fig. 58). Between Denmark and Holland-North-West Germany, however,

<sup>1</sup> v. Giffen, *Die Bauart* etc., pp. 10 sqq.

<sup>2</sup> N. Åberg, *Die Steinzeit in den Niederlanden*, fig. 10; W. Petsch, *Die Steinzeit Rügens*, pl. VI:2, etc.

there is no connection worth mentioning at such a late stage of the megalithic culture. The grand style is well represented both in Holland and in North-West Germany, to some extent by forms of vessels that are strange to the North, and a rather later stage also seems to be represented, but the latest Northern styles do not occur.<sup>1</sup>

In Central Germany, too, — in Altmark, in the Elbe-Saale district, in the southern portion of the area covered by the German megalithic tombs — pottery is found with points of contact to the north and north-west. The culture that has been named after Walternienburg in the province of Saxony, is best known: its series of forms includes characteristic pottery that is closely connected to the grand style in the megalithic culture in the north-west, yet possesses features which show that even in its oldest stage it is slightly later.<sup>2</sup> A few other vessels, in some cases excavated from long barrows, approach the grand style, perhaps, even more.<sup>3</sup> In the Walternienburg group double-edged axes and transverse arrowheads of flint are found; even Northern amber occurs, but the form of tomb varies: megalithic tombs are only one form of tomb among several.

The cultures of Northern and Central Europe which we have dealt with so far have all had very important features in common with old Northern megalithic culture: though not derived from the latter, they form parallel phenomena to the Northern ones. However, they do not afford any direct possibility of establishing the chronological relation of Northern culture to those cultures that flourished in more southern parts of Central Europe. We find such possibilities in a culture that is plentifully represented in Silesia, Czechoslovakia and Bavaria. A celebrated find in Jordansmühl in Silesia forms the most convenient starting-point for the following reflections. In one of the Jordansmühl tombs — a single grave under level ground and with a frame of small stones

<sup>1</sup> Åberg, *l.c.*, fig. 12, probably belongs to the latest vessels in Holland, but it differs slightly from the latest vessels in Zealand and is older than the latter.

<sup>2</sup> Nils Niklasson, *Studien über die Walternienburg-Bernburger Kultur* I, pl. III.

<sup>3</sup> Paul Kupka, *Alter, Wesen und Verbreitung der mitteldeutschen Steinzeitkulturen*, Beiträge zur Geschichte, Landes- und Volkskunde der Altmark V, pp. 201 sqq. and older essays by Kupka cited there.

— a collared flask and a funnel-necked beaker were discovered (fig. 59), and these objects have tempted some archaeologists to look upon the Jordansmühl group as fundamentally Northern. In recent years other points of view have been voiced: I will only mention that Professor Childe, Reinecke, Stocky and myself have opposed this view. We have, as far as I know, quite independently of each other, emphasised the southern character of the Jordansmühl group.<sup>1</sup> As a matter of fact the Jordansmühl finds belong chiefly to a north-eastern ramification of the Danubian culture, the best known site for whose finds is Lengyel in Hungary; Professor

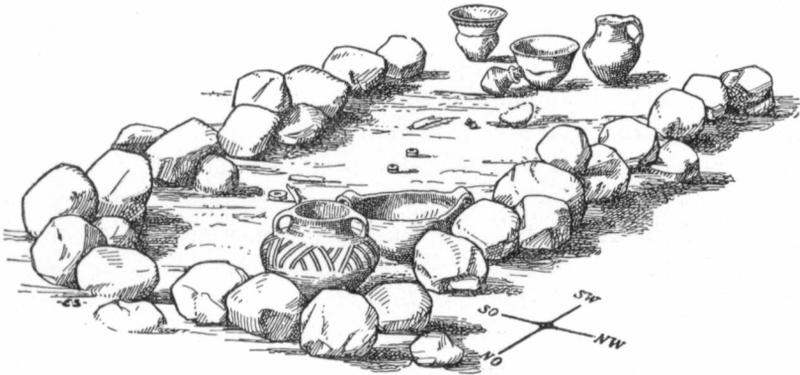


Fig. 59. Single grave at Jordansmühl, Silesia. Schlesiens Vorzeit, NF VII.

Childe, whose description is, no doubt, familiar to everyone present, includes this culture in his group Danubian II. Thus, numerous finds in Bohemia-Moravia and in Bavaria are synchronous with Jordansmühl; here Münchshofen is the best known site for finds. As regards the Jordansmühl tomb in particular, containing a collared flask and a funnel-necked beaker, it should be placed quite at the end of Danubian II. Therefore those cultures that are characterised by spiralmæander pottery and by stroke-ornamented ware, and all that belongs to Danubian II, are older than it. This gives us a very valuable indication in regard to the

<sup>1</sup> Childe, *Dawn*, pp. 176 sqq.; *id.*, *Danube*, pp. 82 sqq.; P. Reinecke, *Der Münchshöfer Typus im rechtsrheinischen Bayern*, *Der bayerische Vorgeschichtsfreund VII*, 1927—28, pp. 8 sqq.; A. Stocky, *La Bohême préhistorique I, Les âges de la pierre*, pp. 80 sqq.; Nordman, *De forhistoriske Tider II*, pp. 64 sq.

placing of the Northern megalithic culture in the chronological scheme.

It is, of course, not open to doubt that the collared flask and funnel-necked beaker of the Jordansmühl tomb should be compared with the Northern vessels of the same forms. We can say, therefore, that the early Danish finds — dolmen finds and single grave finds — with vessels of that kind and with thin-butted axes must, on the whole, be contemporary — whether slightly later or slightly older, it is impossible to decide at present — with the Jordansmühl tomb, with which, by the way, we might feel inclined to compare a couple of the Jutland single graves in which these types occur. The same thing applies to the Dutch and North-West German grave finds with similar artifacts. Some other details confirm the correctness of this argument: among the clay vessels of the Northern grand style, which belong to the period immediately after the collared flasks, there are pedestalled bowls and ladles; both types occur among the Danubian II finds: here we have the models of the Northern specimens and also of the ladles in the Dutch finds.

We can go still further. In the same areas as the Jordansmühl culture another culture with more pronounced Northern features occurs, in immediate connection, and in its oldest parts presumably contemporary with, such late Jordansmühl finds as the tomb I have referred to; the Bohemian-Moravian finds, in particular, are, however, very heterogeneous and require detailed analysis. This culture is known, as a rule, by the name of Nordic culture, but the term Danordic, coined by Professor Childe, gives a far more correct characterisation: alongside the Northern features the Danubian traits are very conspicuous, in my opinion even more conspicuous. In this culture, probably during the stage contemporary with the Jordansmühl tomb,<sup>1</sup> a type of battle-axe with a large round hammer-end and often a broadended edge occurs: we find it, for instance, in Silesia,<sup>2</sup> Czechoslovakia<sup>3</sup> and

<sup>1</sup> In this connection, *e.g.*, some South-Polish grave finds can be noted with, among other things, similar axes, collared flasks and bowls with *ansa lunata* handles, see, *e.g.*, Seger, *Die Steinzeit in Schlesien*, Archiv f. Anthropologie NF V, reprint p. 17.

<sup>2</sup> Seger, *l.c.*, p. 17.

<sup>3</sup> Stocky, *l.c.*, pl. CVI:20—22.

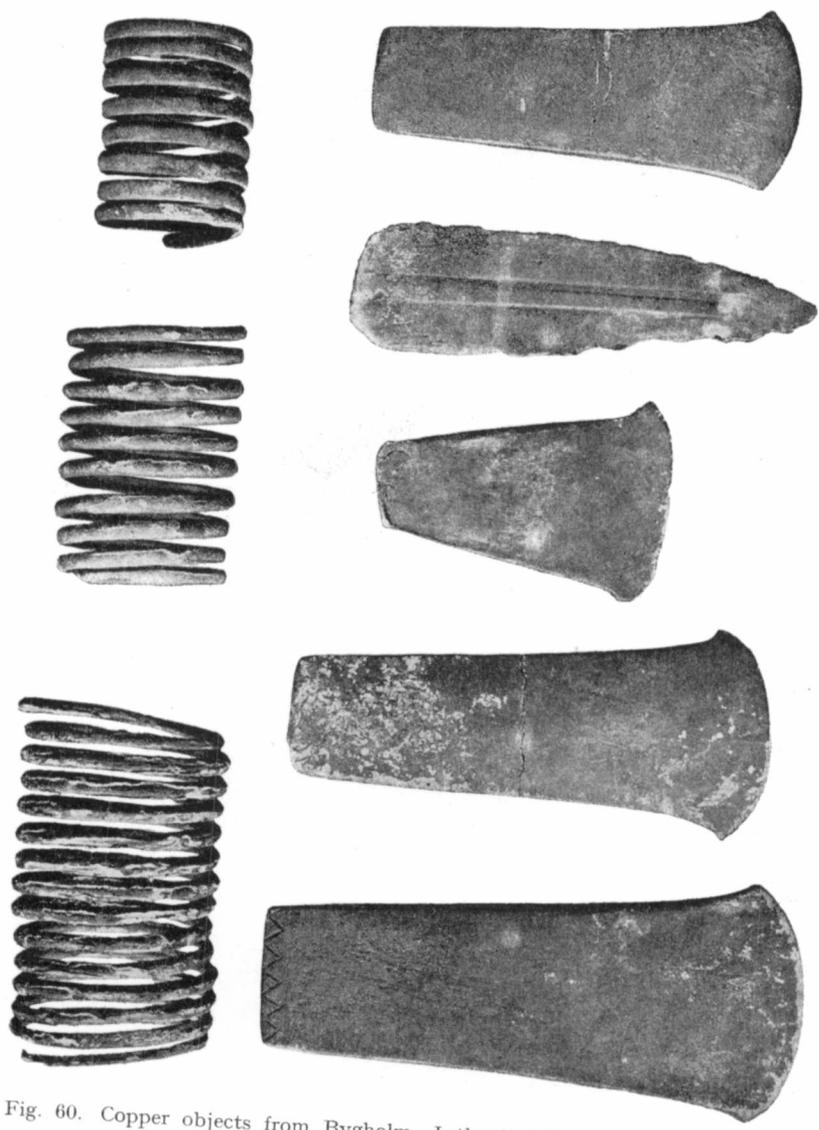


Fig. 60. Copper objects from Bygholm, Jutland (1/2). Horsens Museum.

Bavaria,<sup>1</sup> also in the heterogeneous finds in Mondsee and Attersee<sup>2</sup> in the Eastern Alps, and in a slightly different form in graves belonging to the Italian Remedello culture.<sup>3</sup> This is a metal form transferred to stone: among its models I can mention a copper



Fig. 61. Fragmented vessel from Bygholm, Jutland. (2/3). Horsens Museum.

axe from Sweden<sup>4</sup> and one from Hungary.<sup>5</sup> Now it is a good

<sup>1</sup> Reinecke, *Der spätneolithische Altheimer Kulturkreis*, *Der bayerische Vorgeschichtsfreund* IV, 1924, pl. V.

<sup>2</sup> Åberg, *Das nordische Kulturgebiet* fig. 179—186.

<sup>3</sup> Åberg, *Chronologie* III, fig. 179, 180, 189 etc. — The spread of the type — in Eastern Europe, too, — is, of course, much larger than these scattered notes indicate.

<sup>4</sup> Montelius, *Chronologie*, fig. 22.

<sup>5</sup> Åberg, *Das nordische Kulturgebiet*, fig. 193.

thing that we are able to point to a couple of Danish finds with such axes, discovered with thin-butted flint axes,<sup>1</sup> a fresh point of chronological contact of the same kind as those just referred to.

At this point of my description it may be most suitable to refer to a find which is, in my opinion, of absolutely decisive

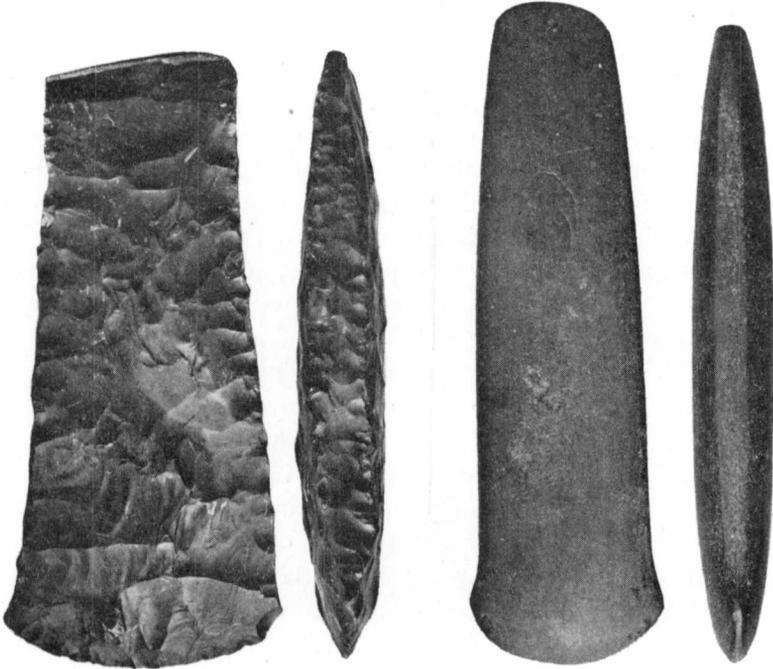


Fig. 62—63. Axe of flint and greenstone from Zealand (1/2). National Museum, Copenhagen.

importance in establishing the cultural and chronological position of the Northern megalithic culture. This is a depot find in Bygholm near Horsens on the east coast of North-Jutland<sup>2</sup> and it consists of four flat axes — one of them shorter than the others and more trapeze-shaped — with edges curved slightly outwards, three spiral

<sup>1</sup> See above p. 87.

<sup>2</sup> Nordman, *De forhistoriske Tider* II, pp. 120 sq. — The find is also mentioned by Rydbeck, *Stenåldershavets nivåförändringar*, pp. 31sq., though he has misunderstood its character and the reasons for the dates given by me.

armlets and a dagger blade, cast rather clumsily and with an imitation of a middle ridge made by means of two shallow furrows on the other, slightly curved side (fig. 60). All these copper objects were lying in a clay vessel, a little more than a third of which is preserved; its form with vertical lines across the belly and under its edge refers it to the vertically ornamented pottery of the period of thin-butted axes (fig. 61). Vessels of this kind have not been discovered in a single case in finds that can be referred to the period of thick-butted axes, although derivatives of it occur as late as that.<sup>1</sup> The value of the Bygholm find strikes us immediately, if only we are prepared to appreciate what all this means, but so far this has been utilised to a very small extent by research,<sup>2</sup> and as the authenticity of the find has been questioned recently,<sup>3</sup> it is as well to state the following.

While working in a gravel-pit in Bygholm outside Horsens a workman's spade struck a clay vessel, which broke. When the part that remained whole was lifted up, the largest axe fell out of it; the other copper objects were lying immediately beneath this axe. The workman only preserved a part of the vessel, but distinct proof of the truth of his account of the circumstances of the find is afforded by the traces of verdigris visible on the inner side of the vessel. One of the larger axes and an armlet have been analysed: they are of pure copper. The largest axe has a strongly indented zig-zag line on both sides of the butt and the next largest had had a decoration on the edges and partly on the broad sides which had consisted, at any rate in part, of lozenges; the man who discovered it had, however, ground the whole axe, so that the decoration had almost disappeared. The zig-zag decoration, which we come across at the end of the period of thin-butted axes and during the transition to the next stage, indicates that this find cannot be referred to the beginning of the period of thin-butted axes.

<sup>1</sup> See, e.g., J. E. Forssander, *Gropornerad megalitkeramik*, Meddelanden från Lunds universitets historiska museum 1931, pp. 16 sqq.

<sup>2</sup> P. Reinecke, *Ein Kupferfund der Dolmenzeit aus Jütland*, Mainzer Zeitschrift 1929—30, pp. 58 sqq.; E. Sprockhoff, *Zur Megalithkultur Nordwestdeutschlands*, Nachrichten aus Niedersachsens Urgeschichte 4, 1930, p. 40.

<sup>3</sup> Paul Kupka, *Beiträge zur Geschichte, Landes- und Volkskunde, der Altmark* VI, p. 71.

It is consequently impossible to doubt the authenticity of the Bygholm find, it is thoroughly reliable. It provides the first sure evidence that copper implements were known in Denmark before the period of thick-butted axes and gives the final explanation of the origin of thin-butted flint and greenstone axes with broad edges, such as figs. 62 and 63.<sup>1</sup> It knocks the ground from under the feet of the whole tendency in archaeology which re-



Fig. 64—65. Thin-bladed and thin-butted axes from a dolmen, Jutland (1/2). National Museum, Copenhagen.

cognises a primitive civilisation in the Northern megalithic culture which was of decisive importance in shaping the Stone Age not only of North Germany, but of pretty well the whole of Central

<sup>1</sup> The flint axe No. A 27728 was found in Bavelse, Zealand, the other axe No. A 15983 in Herstedvester, Zealand. Stone axes of this type are sometimes made of a red stone that imitates the colour of copper.

Europe. It has been said<sup>1</sup> that copper axes in the district of the Alps came into use as copies of the thick-butted axe, the source and prototypes of which were the Northern thick-butted flint axes. Now the Bygholm find shows that imported copper axes in Denmark belong to a period that precedes that of the thick-butted axes. We can state that both the Northern thin-butted axes of type figs. 62—63 and the thin-bladed (fig. 64) flint axes with a thin or a thick butt,<sup>2</sup> which occur in the oldest passage tomb finds, as well as the ordinary thick-butted axes came into being under the influence of copper forms. In regard to the actual thin-butted axes this cannot yet be proved, but as thin-butted copper axes also occur in Northern stray finds,<sup>3</sup> it is probable that the same conditions obtain on this head, too. We might add that the dagger blade of the Bygholm find strongly supports the view that the thick-bladed Northern dagger or halberd blades that have been found with thin-butted and thick-butted axes<sup>4</sup> were shaped after metal models.

The question as to whence the copper objects in Bygholm were introduced into the North, is still unanswered. There are two possibilities. It is possible to indicate the Iberian Peninsula, where similar axes have been discovered in South-Spanish and Portuguese megalithic tombs.<sup>5</sup> From the cupola tombs in Los Millares and in Alcala in Portugal dagger blades are known, curved on one side, which remind us of the Bygholm blade.<sup>6</sup> But spiral armlets seem to be lacking in the south-west. It is therefore, perhaps, as well to turn our eyes to the south-east, to the area of the Danube and Alpine countries. There are spiral armlets in early, but not easily dated finds, and for instance, in Altheim in Bavaria, from which

<sup>1</sup> E.g., H. Reinert, *Die Chronologie der jüngeren Steinzeit in Süddeutschland*, pp. 49 sq.

<sup>2</sup> The axes, fig. 64—65, and the vessels, fig. 66—67, were found together with a long-necked flask of dolmen type in a dolmen, probably in Central Jutland. No particulars are known as to the type of the dolmen. National Museum, Copenhagen, Nos. A 29578—82.

<sup>3</sup> Montelius, *Minnen* 147—148.

<sup>4</sup> Above, p. 32.

<sup>5</sup> E.g., L. Siret, *Questions de chronologie et d'ethnographie ibériques*, pp. 333 sq.

<sup>6</sup> *Id.*, pp. 371 sqq; Åberg, *La civilisation énéolithique*, p. 105.

a well-known find of the Danordic kind comes, copper axes are known similar to the Danish ones; they also occur in the Mondsee and Attersee finds. We can thus follow the copper axes to the same southern cultures in which we found corresponding types to the collared flasks and funnel-necked beakers and early battle-axes of stone. If we go still further south, we have, of course, similar copper axes in the Remedello group; Reinecke looks upon the Bygholm dagger, too, as of Italian workmanship, but without seeing the Italian specimens I do not venture to subscribe to his assertion.

All these comparisons also give us some definite points for



Fig. 66—67. Vessels from the same dolmen as fig. 63—64 (1/3).

the absolute chronology. I cannot now go into a detailed discussion of this question which would demand my going through an extensive Central- and South-European material, but will only refer you to Professor Childe's expositions, for instance, with which you are acquainted.<sup>1</sup> Their result is that the late Jordansmühl finds that are of importance in this connection, and the early Danordic finds belong to the time shortly before 2000 B.C. We can therefore refer the end of the Northern period of thin-butted axes and the transition period to the next stage to this time. For the beginning of the period of thin-butted axes and for the kitchen-midden period we have no fixed points to hold on to. However, so much seems to be clear in any case, that the developed megalithic culture

<sup>1</sup> Childe, *Danube*, p. 95; cfr. Nordman, *De forhistoriske Tider* II, pp. 64, 121.

in the North begins a couple of centuries before 2000 B. C. and in its latest forms it extends to the century immediately after the middle of the second millenium.

I might conclude here, but perhaps you will allow me to say a few words to sum up with.

During the period of thin-butted axes, probably towards its end, the oldest megalithic tombs appear in the North, bearing witness to influences from Brittany and Britain. Western influences grow stronger, but do not provide evidence of the immigration of whole tribes. The pottery is marked by a style which is, perhaps, Iberian in origin, many antiquities correspond to Western forms. But autochthonous features are also perceptible in the Northern megalithic culture, and during the period of thin-butted axes it is already possible to establish signs of contact with the southern part of Central Europe. They enable us to establish that the whole of the Northern megalithic culture belongs to a period, when copper was generally in use in the south, for even in the Jordansmühl finds there are copper ornaments. The Northern megalithic culture is consequently younger than the band-ceramic culture in the Danube region. No neolithic culture in the North can be placed on a level with it chronologically. However, the Dutch and North-German megalithic groups, for instance, are contemporary with the Northern, though they possess distinct special features of their own. From the bell-beaker culture isolated influences percolate northwards, but the single grave culture is of greater importance. It interrupts the development of megalithic culture on Jutland and makes itself felt on the Danish islands. Another branch of it extends to Sweden: here, too, the megalithic culture is altered. Other southern influences show themselves more and more pronouncedly during the dagger period: many imported articles from the Aunjetitz culture enable us to fix the end of the Northern megalithic culture as the time after 1500 B.C.

Its relation to Britain might, perhaps, be indicated in the following manner: the British megalithic tombs and their finds are in some cases older than, in others contemporary with the Northern dolmens and the oldest passage tombs. The whole of the development of the later Northern megalithic culture corresponds to the Bronze Age in Britain. The grand style in North-

ern pottery has some correspondence, possibly, with British vessels, though the latter have not been found in megalithic tombs; from them the British beaker group of type A is developed, belonging to the Bronze Age. The zone-beaker invasion with vessels of type B is contemporary with the later Jutland single grave culture, that is, the end of the period of thick-butted axes. All this is Bronze Age in Britain, and all the more so the Northern dagger period. But I am not able here to draw any parallel in detail. It seems, however, as though the oldest Northern Bronze Age were not older than the Middle Bronze Age in Great Britain.

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