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Eskimo orientation systems

Michael Fortescue



**Man &
Society**
11 · 1988

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Accepted 1987

ISBN 87-17-05570-9

ISSN 0106-1062

Printed in Denmark by AiO Print Ltd., Odense

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Fortescue, M. 1988. Eskimo orientation systems. *Meddr Grønland, Man & Soc.* 11, 30 pp. Copenhagen 1988–10–17.

Data concerning local terms for cardinal and wind directions have been gathered from all areas of the Eskimo-speaking Arctic, selectively presented in the form of maps, and analyzed into underlying parameters. Focus has been placed on terms that apply over wider geographical areas than those of the well-known common system of Eskimo demonstrative stems as applied to the immediate surroundings. An extension of a subset of the latter is nevertheless central to the generalized system of three basic orthogonal parameters in terms of which the highly heterogeneous data is analyzed. It is argued that this abstracted system – whether in its coastal or riverine variants – may be a more reliable guide to Eskimos discussing journeys over complex Arctic terrain than compass orientation can provide. The origins of the system in relation to the alignment of the walls and entrance of the traditional Eskimo house is discussed in diachronic terms.

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Eskimo demonstratives and their relationship to local terrain and coastal/river alignment has for some time been a subject of interest to linguistic investigators. Thanks to the work of scholars such as Bergsland (1951 and 1973), Gagné (1966), Dorais (1977), Robbe (1977), Denny (1982) and Jacobson (1984b), the common Eskimo heritage in this lexical area can be reconstructed with confidence. For a concise account of this system see the section on demonstratives in Jacobson's *Yupik Dictionary* (1984a: 653 ff.). As the author points out, the original system has been preserved most fully in the central Yupik language of SW Alaska, which the dictionary is based upon. Despite this excellent work, little attention has been paid, however, to the extended use of a subset of these terms – varying from dialect to dialect – to refer to directions over larger areas of the vast Arctic coastline. A somewhat more 'absolute' orientation system is clearly necessary to discuss travelling up and down the sinuous configurations of the mainland and island coasts. The highly localized senses of the demonstrative system, which may refer to diametrically opposed directions on either side of a deep fjord, for example, do not travel well over large distances, and yet Eskimos did – and still do – travel around a great deal. In fact what one typically finds when one examines the orientational terms of a particular settlement or dialect as applied to the larger region around it is that some of the common demonstrative terms, supplanted by specific wind direction terms (only some of which employ the same demonstrative stems), are held more or less constant, independent of the local vagueries of the coastline. For a graphic description of how important the knowledge of wind directions is for the Eskimo hunter see Carpenter et al. (1959, the section entitled 'Orientation'); recall too that these winds were animated in the Eskimo pantheon as powerful, individualized spirits. They can still aid the travelling Eskimo today. For

information on the impressive skill of Eskimo hunters in constructing maps of the convoluted coastlines of the eastern Canadian Arctic the reader is referred to the monograph by Spink & Moodie (1972).

One such map, taken from Parry 1824, appears on p. 4. It was drawn for Parry at Winter Island by the angakkoq Ewerat. Notice in particular the native terms given for cardinal directions: as can be seen from the position of north-western Baffin Island on the map, these directions should not be taken as corresponding exactly to geographic north, south, west and east at Igloolik. They need to be mentally swivelled around – perhaps by 45 degrees – from the latter, 'neeyuk' (*nigiq*) for example being more or less southeast. The orientation of these terms would appear to hold over the whole of Melville Peninsula, including Winter Island and Igloolik itself. They correspond well with the data for this area given on the maps in the present work, with the exception of 'penungnak' (i.e. *pingangnaq*) for south (west), this term apparently being represented by *akinnak* instead in Igloolik today.

The actual extent of the 'larger area' over which such terms apply and the particular terms used within it vary considerably from locality to locality, but the limiting case is always the immediate vicinity of the settlement, to which the common Eskimo demonstrative terms apply in their local sense. The data available is at first sight intimidatingly complex. Map 2 contains the relevant raw data (not all strictly synchronic) on which the present study is based. It has been trimmed of unreliable and tautological items and I have only indicated terms with a purely local sense relative to the coastline such as *kit* 'out to sea' and *kangi* 'inland/inside fjord' where they appear to have been extended to directions over a larger region (e.g. the whole of W Greenland); their absence elsewhere does not imply that they are not used there in their local senses. Preceding the References I

list the sources from which the data has been gleaned, but this has been checked and in numerous instances changed according to newer information I have received from informants and scholars familiar with the specific localities concerned (these are named where appropriate). I have lumped together both demonstrative and wind direction terms in the rosettes for individual localities (items preceded by an asterisk specifically indicate winds) since the majority of wind terms are in fact based on demonstrative stems and in many instances it is impossible to distinguish between terms referring to (cardinal) directions from the corresponding winds. This means that the arrows on these 'wind-rose' configurations point towards the *source* of the winds concerned, not to the direction in which they blow. A certain amount of primary data gathered from earlier sources was very approximate (and sometimes downright incorrect), as could be expected from the lack of precise information as to the locality for which the terms were reported. It was, moreover, not always possible to distinguish between terms used in a purely local sense and those – with which this study is concerned – covering a larger area, but by and large items glossed as 'north/west/south/east', etc., could reasonably be taken as referring to the latter (especially if they concerned winds). Apparent conflict between local and 'larger area' senses of the same term was continually met; as I shall illustrate below, such conflicts are by no means necessarily indicative of flawed data, but in most cases are open to a systematic explanation. By a constant 'abductive' interplay between induction from the data and deduction from the emerging common patterns it proved possible to arrive at a rather stable, simple picture of binary oppositions elucidating the situation over the entire Eskimo-speaking Arctic. In turn this could be related to the system of insular orientation along the Aleutian archipelago. The overall picture will be returned to following an examination of the specific regions in order to link it to a tentative historical reconstruction of the genesis of the Eskimo system(s) of orientation. In this context the relationship between the original demonstrative system and its extension to coastal and riverine orientation will be discussed, with particular reference to the microcosm of the Eskimo house.

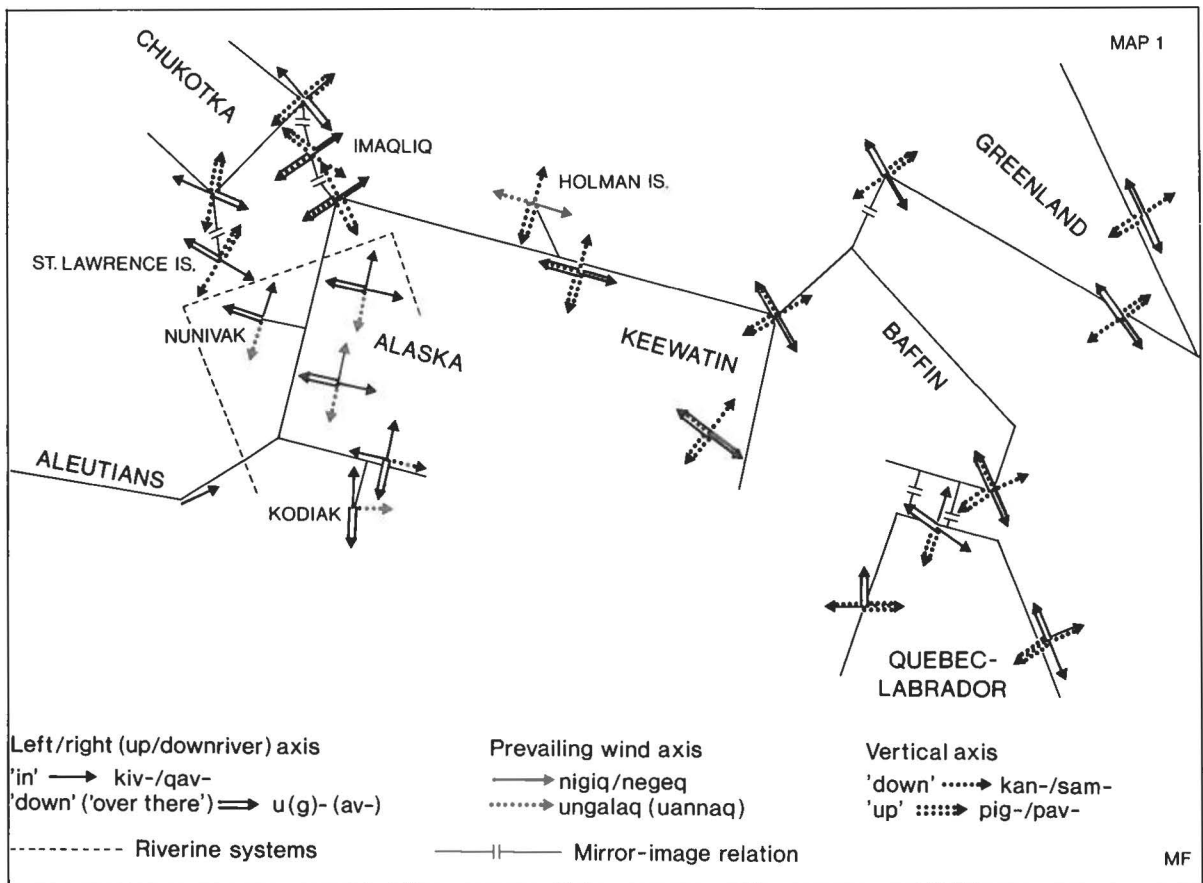
Basic parameters and regions

One fact that immediately becomes apparent when working with the data is that statements made at various times concerning the semantics of some of the key directional terms that crop up again and again throughout the Arctic have a more limited geographical validity than has been supposed. Take the Greenlandic demonstrative stem *qav-* (also derived stem *kujat-*) used everywhere in Greenland to refer to the direction to the left along the coast when facing out to sea. First, a distinction needs to be made between the local use of this

item (when it can in fact refer to just about any point of the compass depending on the exact position of the settlement on a fjord or island, etc.) and the 'larger area' use, where it refers on the west coast to approximate cardinal south irrespective of indentations and outcroppings of the coastline: this latter sense is not just the result of glossing Danish 'syd', as will be apparent from the whole tenor of this study. But beyond this, when one looks to Canada and Alaska, *qav-* and *kivat-*, corresponding to Greenlandic *kujat-*, suddenly signify the exact opposite, namely 'to the right along the coast'. This 'mirror-image' relationship of the *qav-* (& *kivat-*) ~ *av-* (& *uat-*) axis between Greenland and N American mainland appears to have escaped the notice of investigators in the extant literature (though the obvious 'homologous' reversal of the directions of these terms between East and West Greenland has long been remarked upon – e.g. by Kleinschmidt, 1871:59). Going still further afield, one finds that cognates of the same terms, *qaug-* (= *qaw-*) and *kiug-* (Siberian *kiw-*) are used in central Alaskan Yupik to refer not to a direction along the coast at all, but to inland/upriver (as opposed to *u(a)-* 'towards the coast/downriver').

Clearly, if our analysis is to result in binary axes comparable across dialects and languages, we are going to have to break the Eskimo-speaking area up into several large regions, each internally coherent, in order to see, as a final step, how these large-scale patterns relate as a whole. The first major distinction to be made is between the basically river-orientated central Alaskan Yupik system and the coast-orientated Inuit one, but within Yupik we must further distinguish Siberian Yupik as a unit and within the Inuit continuum of dialects we must distinguish Quebec/Labrador on the one hand and Greenland on the other from the rest (N Alaska plus the Northwest Territories). If we oversimplify a little (especially as regards the Kobuk river variety of Inuit, which is more like central Yupik in this respect, and certain peripheral forms of central Yupik, which go rather with the 'Inuit' – also Siberian Yupik – system), we can characterize these five major regions in terms of three axes set at right-angles to each other as in Fig. 1 (p. 22).

The significance of the various arrows and colours are to be found in the key to Map 1 and will be explained further on, but note for now that the axis marked '↔', found in all five configurations, refers to 'right/left along the coast' or 'upriver/downriver', while the axis consisting of broken black arrows refers to 'up/down from a position on the coast' and the remaining one in red refers to what I shall call the 'prevailing wind axis'. The way in which these three axes combine determines the configuration, the 'wind' axis being, for example, parallel with the 'right/left' one in Greenland and N Alaska-Northwest Territories, but at right-angles to it in central Alaskan Yupik and Quebec/Labrador (it is only present as such in the Naukan dialect of Siberian Yupik, going there with the 'up/down' axis). Each dialect area adds



items of its own to the basic regional configuration, and this will be tilted as a whole at various angles, depending on the overall orientation of the coastline in the vicinity.

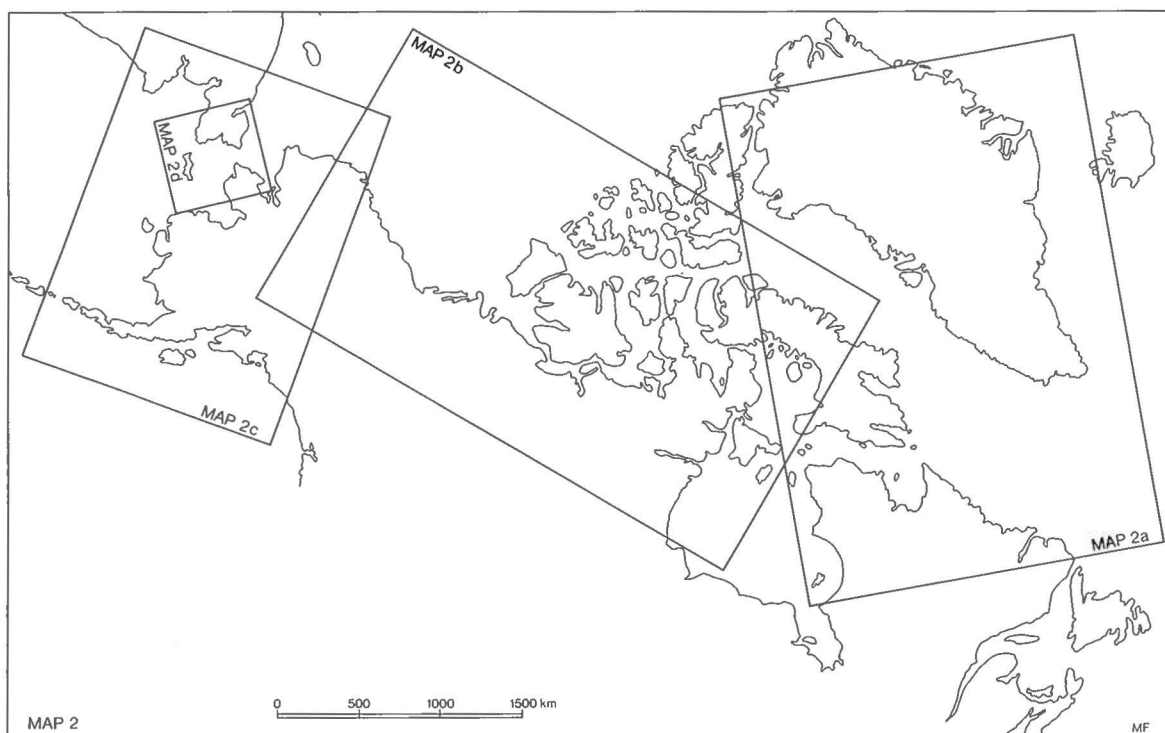
Mention should be made here of one further important concept, already adumbrated above in connection with the relationship between Greenland and the N American mainland (including Baffin Island), namely the 'mirror-image' situation at the border between certain neighbouring regions. What I mean by this term is the situation where the directional terms of two settlements/dialects facing each other across an open-ended stretch of water refer to more or less identical directions along one perpendicular axis (e.g. south-north) but are reversed along the other (e.g. east-west). This is usually a perfectly 'logical' situation, especially if it is the terms of the 'up/down' axes that are reversed, 'down' on both sides pointing down to the intervening water. It is opposed to the 'homologous' situation, where the same directional 'wind-rose' configuration can be seen to shift its absolute orientation as it moves along the angles of an unbroken coastline. A special case of the latter, where an open-ended stretch of water nevertheless intervenes and the absolute orientation of all axes remain roughly the same on both sides, can be specified as 'absolutely homologous'. Certain islands lying not far

from the adjacent mainland may thus be in a 'homologous' relationship with the latter, and I shall have something more to say on the possible factors leading to which of these two relationships holds at a particular location. Suffice it here to suggest that in certain geographical situations it would be highly confusing for speakers from either side of a strait or deep fjord regularly communicating with each other to have to switch the meaning of directional terms along one or more axis every time they crossed the water, and in others it may be more natural not to change them at all.

Specific regions

Greenland

Of the five major regions discerned above, Greenland is the simplest to deal with. It constitutes a homologous whole throughout which the same basic terms are used – including among the Polar Eskimo speakers in the far north around Thule (*Avanersuaq* 'way up there in the north' in W Greenlandic). The latter group is traditionally divided up in terms of wind-related expressions in fact: the 'nigerdliit' or 'people in the direction of the south(-east) wind' around Cape York, the 'oqqormiut'



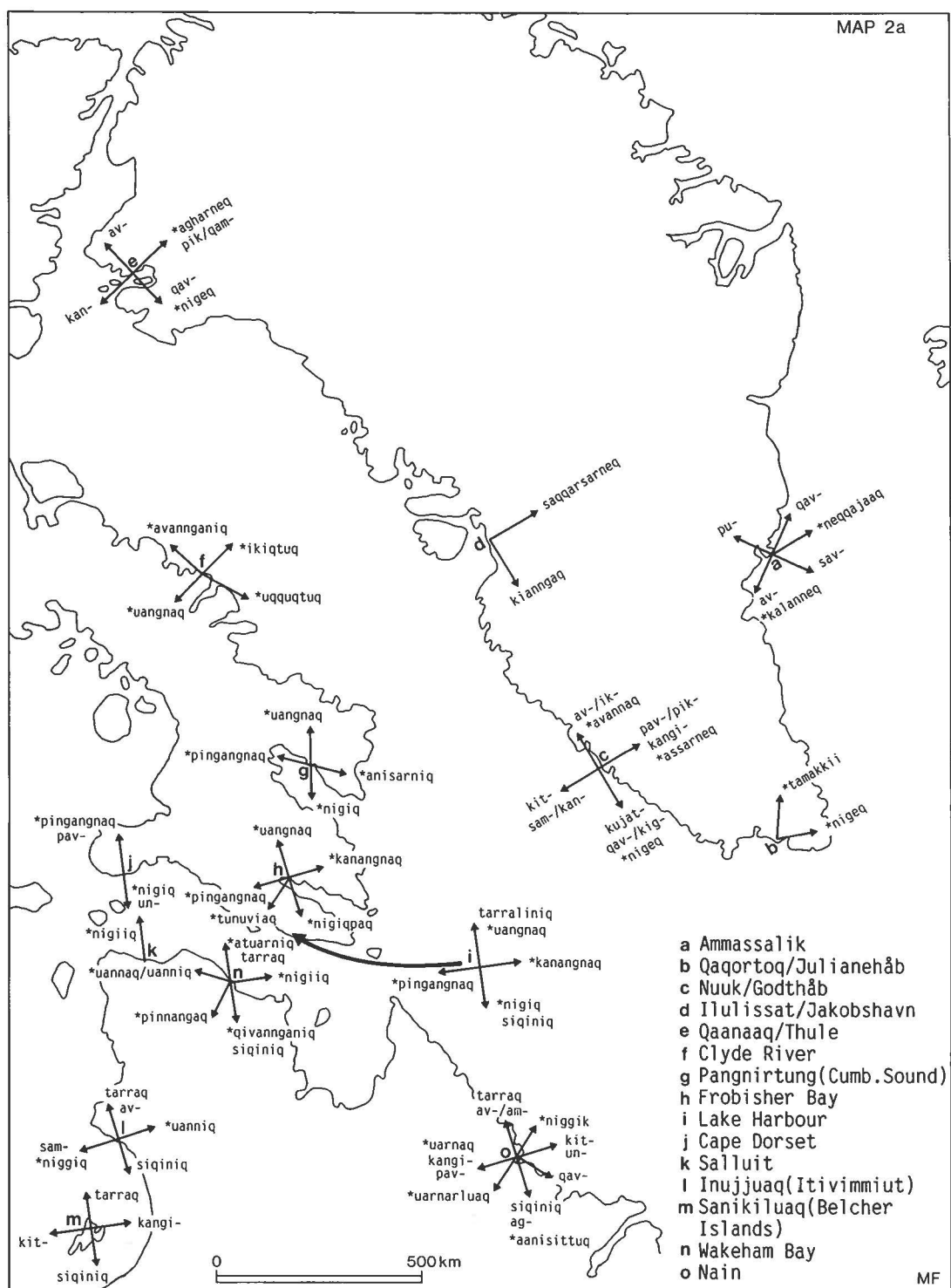
or 'people in the lee (of the south wind)' around Qaanaaq, the 'akunnermiut' or 'middle people' (between the latter and the following), and the 'avangnardliit' or 'people in the direction of the north wind' in the extreme north.

The data represented on Map 2a is largely self-explanatory in the light of the basic configuration for Greenland given in the previous section. The absence of *uat-* as the opposite of *kujat-* 'south' (from **kivat-*, a nominalization of demonstrative stem *kiv-*, as *uat-* is from **uga-tə-*) is conspicuous, but cf. the same stem in *ualeq* 'afternoon' (and in *ualir-* 'the sun sinks' in Tarramiut). *kig-*, of similar demonstrative origin to *kuj-* (<**kiw-*), also indicates the south. Greenland is the only major region where demonstrative stem *av-* (and *ik-*, which goes with it) is central to the orientation system ('north' in the west and 'south' in the east), although it is also found referring to the opposite of *qav-* and *kiv-* in various dialects in Canada and Alaska. *avannaq* (and *ikanngaq*) is similarly found instead of *ungalaq*, opposite *nigeq* (cf. *ungaleq* 'something on the far side').

As regards E Greenland, observe that *neqqajaaq* is a diminutive of *nigeq* (Rasmussen's 'ningeq'), corresponding to West Greenlandic *nerraaq* 'southerly breeze'; as on the west coast, it comes from the left along the coast, which around Ammassalik is more or less to the east (the 'cardinal' directional terms here follow the overall NE-SW tilt of the east coast). The only idiosyncratic wind terms for this dialect attested

are Rasmussen's 'piteraq' (*pilerngaq*), the violent föhn wind from inland, and the southerly wind *kalanneq*, presumably derived from **katag-* 'fall'. What is of particular interest as regards this dialect is the aspect of its directional system described by Robbe (1977), namely its clear distinction between coastal as opposed to fjord-internal terms: *kit-* and *kangi-*, which on the west coast in possessed form are used to refer everywhere to 'cardinal' W and E respectively, are apparently limited in the East to referring to the mouth and the bottom of the fjord respectively and do not enter the 'larger area' coastal orientation system. This is also the case in various dialects in Canada, though note that they have an east/west sense at for example Eskimo Point. As Robbe illustrates, the *qav-* ~ *av-* axis (and the *pu-* ~ *sav-*, i.e. *pav-* ~ *sam-*, one at right-angles to it) continues, as it follows the configuration of the coast, across the mouth of fjords so that from within the fjord *av-*, for example, always indicates to the right along the adjacent coast (and *pu-* is held constant as the direction of the bottom of the fjord). Rasmussen (1938) also has *kanannaq* 'east wind' and *kinganngartoq* 'northeast wind' from *kan-* and *kig-*, and *avannaq* from the south.

I have not marked on the maps winds and directions intermediate between the cardinal ones when these are simply derivational extensions of the latter, such as *kujasik kippasik* 'southwesterly' (where both halves of the expression may be used independently for 'southerly' and 'westerly') and *kujataata kangikannia* 'south-



easterly', with regular use of affixes (*pa*)*sik* 'lie to the-' and *kanneq* 'approximately'. These and other affixes such as *sar* and *nnaq/nngaq* are used to derive wind terms in many other varieties of Eskimo. The systematic

use of 3rd person possessed forms to refer to general as opposed to wind directions is particular to Greenland – hence the distinction between *avannaa* ‘the (land’s) north’ and *avannaq* ‘north wind’. There are various

other local terms for winds – especially föhn winds down from the Inland Ice such as *nunasarneq*, but these are usually quite transparent semantically and I have only indicated on the map *assarneq* ‘wind out from a fjord’ (<**ani-sar-neq*) as opposed to *isersarneq*, which crops up repeatedly elsewhere in the Eskimo world, plus a couple of winds specifically associated with the northern as opposed to the southern parts of the west coast. Two words for north and south wind in NW Greenland, respectively *nappuk* and *atuarseq*, are no longer in common use; *atuarnaq* or *atuarneq*, with the same stem as the latter, is given by Holtved as a westerly wind for Polar Eskimo (cf. the wind of the same name in Quebec/Labrador).

The SE orientation of *nigeq* at the southernmost end of the west coast, where it no longer remains parallel to *qav-*, illustrates the very approximate nature of the idealizations reflected in the basic configurations of the previous section. *nigeq* hugs the coastline of Greenland fairly closely (blowing from the left – the *qav-* direction – along the coast, but at Nuuk obliquely SW almost); in other regions we shall find that *nigiq* maintains a constant ‘absolute’ direction over a large area within which the direction of *qav-* or other demonstrative directionals may vary locally. We cannot expect prevailing winds and coastlines to conform perfectly at all localities, though the fit is usually remarkably good.

As a final curiosity, note that the ‘extended up’ demonstrative *pav-*, used for ‘east’ on the west coast, has in certain combinations been lexicalized in Greenland to mean specifically ‘towards Denmark’, as in *pavunnar-poq* ‘he went to Denmark’ (see any large-scale map for the reason why). This is reminiscent of the use of stem *un(a)-* ‘down there’ at Igloodik (and elsewhere in the NWT) to refer to the south of Canada in general.

Northwest Territories/North Alaska

The vast region extending from Baffin Island along the Arctic coastline to the North Slope of Alaska and the Bering Strait beyond constitutes a single homologous area as regards directional terms. Let us first look at the typical mirror-image relationship across Smith Sound, whereby the terms of the north-south axis are the same (though with slightly different sets of ‘north’ terms) but the east-west ones are reversed between Thule and Baffin. This is hardly an accidental relationship since it must have come about at least twice with successive migrations into Greenland: the orientation of the two sets of axes in Polar Eskimo is homologous with that of the west coast further south, although we know that the Polar Eskimos represent late arrivals in Greenland (there is no trace of any earlier system at Thule that could have been overlaid by the West Greenlandic system). We also know that the Polar Eskimos have occupied both sides of the sound until recently, with hunting

forays after muskox on Ellesmere Island still taking place today. One can assume movement back and forth across Smith Sound also in connection with the arrival of the first Thule Inuit migration into Greenland – the Nuullit phase of around 800 to 900 AD, which only gradually extended further east and south within Greenland during the subsequent centuries. In both cases it would be natural that the north-south axis should be held constant, whichever side of the sound population groups were moving around on, whereas the east-west one, based on demonstrative ‘up/down’ terms, would be applied in conformity to their local senses on the coast on either side: crossing this wide and, in the summer, not easily traversable stretch of open water, however frequent an activity, would have represented a lengthy journey, not undertaken in both directions in the course of a single day. Let us turn now, however, to Inuit groups who never crossed Smith Sound.

Northwest Territories

The lack of a similar mirror-image relationship between Baffin Island and the Keewatin mainland of Canada (see Map 1) may be relatable to at least two factors: first, the narrowness of almost permanently ice-blocked Fury and Hecla Strait, and secondly the fact that it is only the east (and south) coast of the great island that has been permanently settled by Inuit, with no resulting homologically reversed relationship established between the east and west coasts as in the case of Greenland. Thus the directional wind-rose configuration of Igloodik on the Melville Peninsula is homologous with those found elsewhere on Baffin, with the *uat-* ~ *kivat-* axis (merging with the *uannaq* ~ *nigiq* one) at right-angles to the *pik-* ~ *kan-* one. Of course the wind-rose swings about considerably depending on the exact orientation of the Baffin coastline with its many deep fjords, but *uat-luannaq* generally refers to the left up the coast and *nigiq* to the right, looking out to sea. Nevertheless, it does not appear to vary today as much as the local indentations of the coast might lead one to expect. The *uannaq* ~ *nigiq* ‘prevailing wind’ axis in particular tends to remain more or less constant (N-S) over large areas – even at Cape Dorset, where it now becomes aligned with the ‘up/down’ axis. Frobisher Bay, on the north side of the bottom of a deep fjord, and Lake Harbour on the southwest-facing coast of Hudson Strait, thus share the same directional orientation, according to information gathered by S. T. Mallon (pers. comm.).

The resulting senses of the larger area ‘up/down’ demonstratives at Lake Harbour appear ‘illogical’, so one can only assume the extension south of the more ‘natural’ uses they have further north on Baffin (but at Frobisher Bay too *kanangnaq* is odd). The modern terms from Pangnirtung also follow this pattern (N. Keenainak, pers. comm.), but with *anisarniq* (Boas’ *aksarniq*) instead of *kanangnaq*. The directional terms

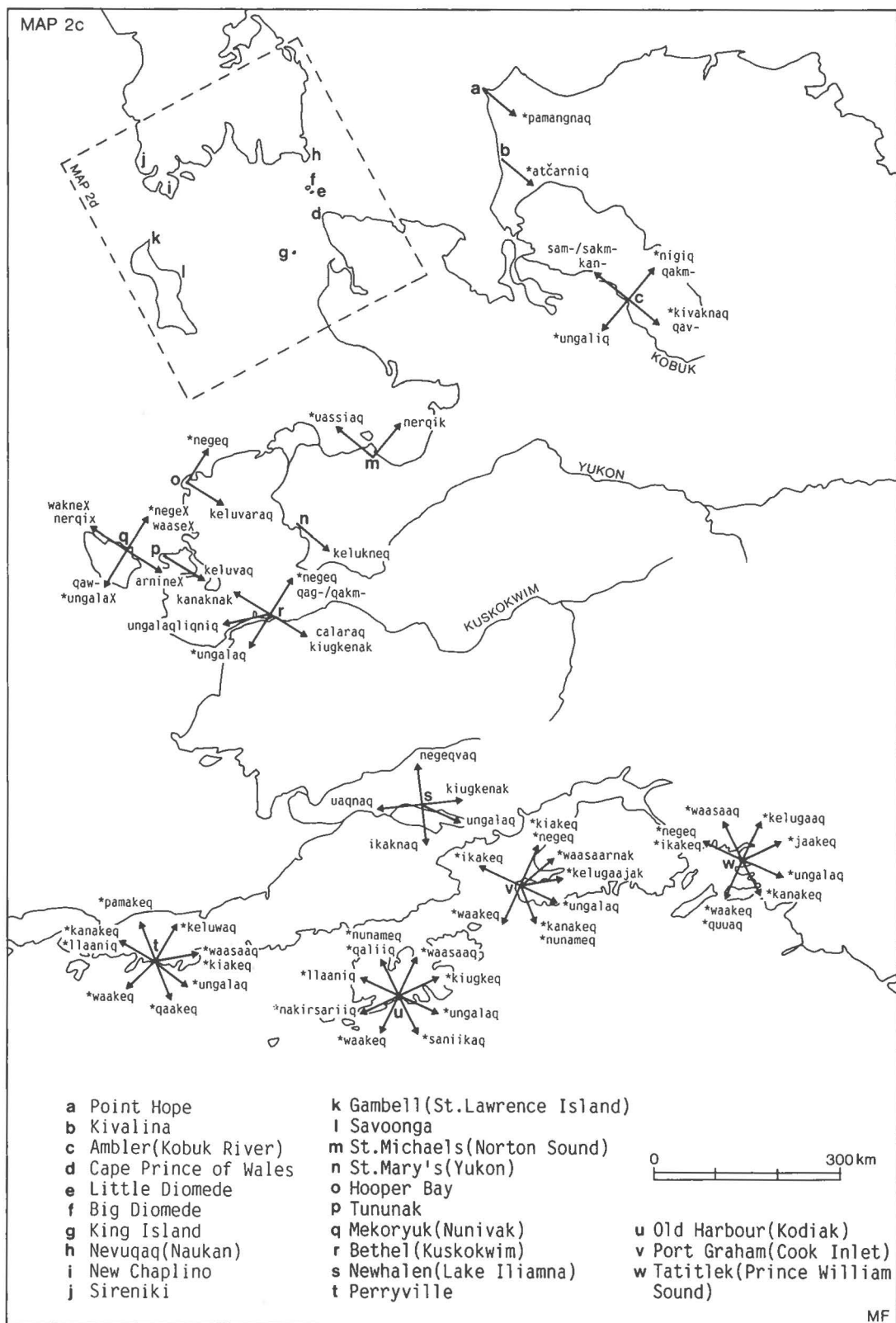
lished), for here the 'down' term *kanangnaq* (or *kanangniq*) for N (or NNW) does actually refer to relatively lower ground and its opposite, *pingangnaq* (or *pingangniq*), to relatively higher ground, corresponding to *akinnaq* on the coast. The latter term is also used at Igloodik today, according to information supplied me by S. T. Mallon. This is clearly not a matter of the 'riverine' system of Alaska being applied to Chesterfield Inlet, the narrow channel connecting Baker Lake with the coast, for the 'downriver' term of the latter system (*u(a)-*) refers here to an inland direction. The *av- ~ kiv(at)-* axis is skewed vis-à-vis the *uannaq(ua-) ~ nigiq* one in the data, but can be taken originally to have been more or less parallel with the latter and at right-angles to the 'up/down' one, as at Igloodik. There is some vagueness in the data available here, since Thibert, Rasmussen and Schneider do not always indicate where within the Keewatin their terms are meant to apply, though there is clearly a general homogeneity in the whole area. The wind *nigiq* (and *niggingajuq*, apparently more to the SE) thus comes from Hudson Bay, while its opposite *uannaq* (or *uangniq*) is the (north-west) wind bringing the winter blizzards. This is roughly the case all the way up the coast to and including Igloodik.

Between Igloodik and Coppermine the only reliable data to my knowledge comes from Rasmussen's Fifth Thule Expedition account. Already at Pelly Bay we can see that the wind-rose at Igloodik has shifted through 90 degrees to follow the Arctic coast: *uat-* will now generally be to the west all the way to Point Hope in Alaska (cf. also 'ualikliit' in Briggs (1971) for 'those to the west' on Back River). At Bathurst Inlet, however, we meet again the paradoxical situation that may arise around a deep fjord, with the demonstrative-stem directions reported for Umingmaktuq on the east side of the fjord much as we would expect them, but with the two wind terms *ungalaq* (now for the first time replacing *uannaq* – or rather the reverse) and *nigiq* reported as if for the west side of the fjord, along with an alternative gloss for *kivat-*, namely 'south' (as well as 'north'). Rasmussen does not indicate, unfortunately, whether he elicited these latter terms from the Kiluhiktuarmiut of the bottom – and west – of Bathurst Inlet, whom he also visited: this would explain the anomaly. However, both these groups communicated regularly and hunted together part of the year, so one would expect a rather unified system. Note that the 'north' sense of *kivat-* is in the derived form *kivatiptiniittuq* (locally 'to our *kivat-*'), whereas *kivataa* refers to an area to the south: these two usages could well coexist. This may be a 'mixed' fjord system of a similar nature to that reported by Boas for Cumberland Sound, though again the explanation could lie in the 'absolutized' fjord-internal situation described for Greenland in the section above.

The Copper and Mackenzie areas can be treated together, as their orientation terms are homologous and

aligned in the same absolute directions. The common system here reflects what was surely the original Inuit orientation system as clearly as anywhere in the Arctic. Thus the 'prevailing wind' axis is parallel with the 'left/right-along-the-coast' one, with *kivat-* and *qav-* going with *nigiq* and *uat-* coinciding with the west wind *ungalaq*. The 'up/down' axis is at right-angles to these, with *kan-* logically pointing out to sea and *pik-* pointing inland to the south (the latter also coincides with *kilu-*, referring to the rear wall of the house). Even at Aklavik, on a branch of the Mackenzie well inland, the system is apparently coastal (see Lowe 1984b), although *sam-* and *pam-* may be used to mean locally 'down towards/away from the river'.

There are certain complications in the predominantly flat Copper region (besides those mentioned) concerning the N-S distinction. Thus Métayer (1953) gives *tunumni* 'at my back' for north and *haamni* 'at my front' for south, as if one is standing looking away from the sea. This makes sense if one considers the south-facing orientation of the traditional house here (see Synthesis). It is unfortunately not clear whether these are purely local expressions or whether they apply in both Coppermine and Holman Island (he worked in both places). The latter may well be the case since the wind-rose at both localities appears to be absolutely homologous (see Lowe 1983 for Holman Island), with 'up/down' terms *pingangnaq/kanangnaq* consequently used in an 'illogical' sense to refer to south and north respectively at Holman on the north side of Prince Albert Sound. The data Rasmussen elicited (1932) for the Prince Albert Sound Kangirjuarmiut (then apparently centered at the bottom of the fjord) is also homologous with Coppermine, though tilted at a somewhat different angle, *pik-* being east and *kiv-* north, etc. This may reflect once more a situation where both sides of a fjord were inhabited by related groups (see Jenness 1922 on the peregrinations of the highly nomadic Copper 'tribes'). Note also the ethnonym 'tunullit' based on *tunu* 'back', which Rasmussen gives for Bathurst Inlet as 'land to the south', and *killiniq* based on *kit-* 'towards sea', referring to the south coast of Victoria Island. The latter stem is given by Métayer as 'out to sea' (cf. also Rasmussen's gloss 'west' for the stem among the Netsilik of Boothia Peninsula) and corresponds to Mackenzie *saa-* (cf. Copper *haamni* above). The only directional terms that clearly have a 'mirror-image' relationship between Coppermine and Holman Island are local ones such as *tivliq* 'inland' and *killiq* 'out to sea'. Finally, observe the idiosyncratic sense of 'here' for 'down' term *ham-* in the Copper dialect (*sam-* can also mean 'invisible/obscured here' in North Slope), and the ethnonyms *uallit* from *uat-*, referring to the Mackenzie people from a Copper perspective, and *qangmaliit* from **qakam-* (related to *qav-*) used in the Mackenzie area for the Copper people and of 'Arctic coast dwellers' at Barrow (*qangma* as an independent word means 'now'-



Copper *tajja*, and cf. North Slope *pangma*). The Netsilik, on the other hand, refer to their Copper neighbours as *killinirmiut* from *kit-* 'west'.

North Alaska

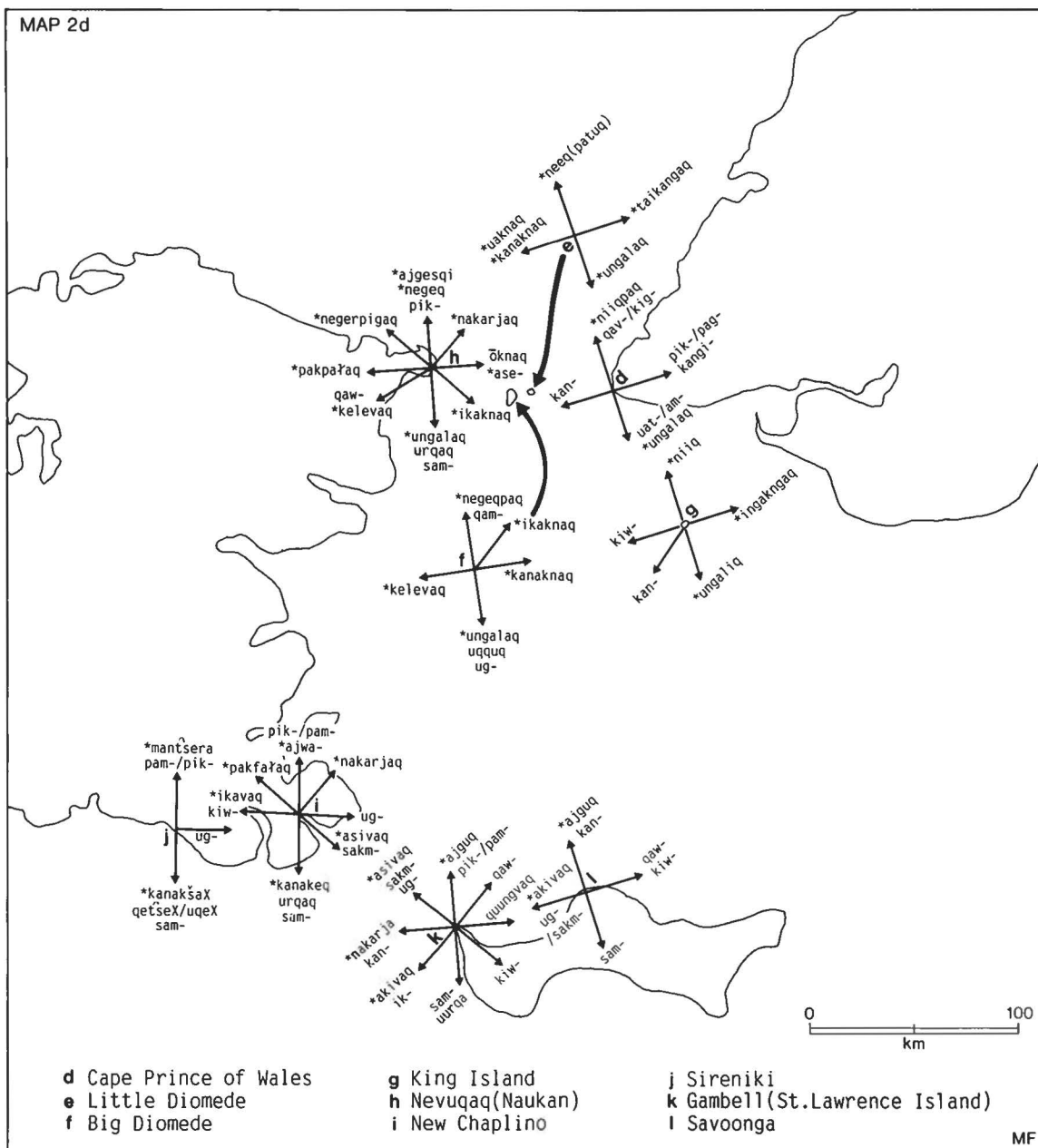
The situation in N Alaska – with one major exception – is homologous with that just described. Thus the wind-rose at the Mackenzie Delta is simply swivelled towards the southwest at Barrow, where a couple of new northerly wind terms appear (*ikagnaq* and *atuarniq*) along with a new 'down' demonstrative stem *sagm-* (MacLean's *sakim-*) referring to the west according to Jenness (1928) but 'out towards sea/in house porch/down coast to south' according to MacLean (1978); it thus goes – by analogy? – with *uat-* rather than with *kan-* from the 'up/down' axis. *qav-* (and *kivat-*) is up the coast towards Canada, opposite to *av-* (and *ik-*), down the coast. There is some uncertainty about the exact direction of *nigiq* – Jenness has 'east' but MacLean 'north' (she also has *nigiqpaq* from the northeast – the north at Wales), and the same applies to *ungalaq*, 'southwest' for Jenness but 'west' for MacLean (who also has *ungallaq* 'west' and *ungalliq* 'southwest' – corresponding to Webster and Zibell's (1970) 'uagnagruk'). It should be borne in mind that the prevailing wind axis does not everywhere lie exactly parallel to the *kivat-* ~ *uat-* one as the idealized configurations on Fig. 1 might suggest. The general picture is clear, however, and can be directly related to the wind-rose at Cape Prince of Wales as reported by Jenness (1928) and Rasmussen (1941), where it swivels through 90 degrees and *am-* is found instead of related *av-* for 'south' (parallel to *uat-*, opposite *kigat-* 'north'). Interestingly, the Nunamiut of Anaktuvuk Pass have the *nigiq* ~ *ungalaq* axis lying north-south (orthogonal to *uat-*, *uaknaq* being a west wind there, opposite *kiluagniq*), as down the Bering Strait coast rather than parallel with the Arctic coast directly north of them, suggesting perhaps the origin of at least part of the population in the Kobuk coastal region (the dialect has a mixture of Kobuk and North Slope traits). At all events, the inland system here is clearly of the 'riverine' sort.

I shall return to the Kobuk area presently, but first we must deal with the small islands in Bering Strait that represent the westernmost outposts of the Inuit-speaking Arctic. L. Kaplan has supplied me with information on Little Diomedé and King Island (the population of the latter has now moved to Nome), and Menovshchikov's monograph on the Imaqliq dialect of Big Diomedé (virtually the same as that on Little Diomedé, but now extinct) has provided additional data. All three islands shared the same north-south orientation of the *ni(g)iq* (*neeq*) ~ *ungalaq* axis as at Wales (and indeed in the whole Bering Strait area, to which these wind terms originally probably related – see below). The comparable terms of King Island and Little Diomedé Island seem to indicate a homologous relationship to the Alas-

kan mainland, with *kan-* pointing towards Siberia, but the 'left/right-along-the-coast' terms are rather confusing, which is perhaps not surprising given the diminutive size of these islands and their coasts. *kiw-* on King Island is understandable, homologous with 'right-along-the-coast' on the adjacent mainland (the south side of Seward Peninsula), and *uaknaq* '(north-) west' on Little Diomedé Island can indeed be seen as homologous with the north coast of Seward Peninsula as 'left-along-the-coast' from the viewpoint of Ungaliq on the northern tip of the island. Compare the same stem involved in Menovshchikov's *ugaq* 'south' on adjacent Big Diomedé Island (cf. *ug-na* 'that near the exit'), which is the direction one would expect for it given the position of the previous settlement of Imaqliq in the southwest and the direction of *u(g)-* on the mainland. *kiw-*, on the other hand, seems no longer to be in use in the Diomedé dialect, though Kaplan's informants have suggested 'possibly northeast' for this direction. The roughly east-pointing terms *taik-*, *ig-* and *ing-* are idiosyncratic, for terms based on these 'across there' demonstrative stems are often of a purely local nature: *ik-* goes with *av-* at Barrow, as in Greenland, but the wind *ikagnaq* is apparently at right-angles to the coast (compare also its various uses in Yupik below). Big Diomedé seems to be in a simple mirror-image relationship with Little Diomedé and the Alaskan coast, with *kan-* pointing towards Alaska and *kelevaq* towards Siberia (the cognates of the latter in Alaska, including *kilungnaq* at Barrow, from *kilu* 'back of house', all point inland). Notice also *qam-* (another 'inside' stem going with *qav-*) for 'north', consistent with the notion 'right-up-the-coast'. The local sense use of *keluk* 'north' and its opposite *ket-* 'south' may be logical, but *sakm-*, also used for north, is reminiscent of its sense in Siberian Yupik (as is *kelevaq* itself). This may be indicative of the mingling of the last speakers of the dialect here with mainland Siberians following the evacuation of the island after the last war (I have therefore not indicated it on the map).

Finally, observe that the parallelism between the *nigiq* ~ *ungalaq* axis and the *kiv(at)-* ~ *u(at)-* one that has largely held throughout the huge area we are concerned with in this section breaks down on King Island, since whereas the latter axis swivels regularly through 90 degrees compared to Wales, the 'prevailing wind' axis is everywhere held constant in Bering Strait, as we have seen. That there should be a mirror-image relationship between the two Diomedé islands and not between the smaller (American) island and the Alaskan coast may be explained by their proximity: the local and 'larger area' senses of their 'up/down' terms (the ones that are involved in the reversal) could hardly be distinguished in the course of their previously frequent contact with each other. Their 'left/right-along-coast' terms would on the other hand be quite naturally determined by the disposition of the Alaskan mainland coast.

As I have hinted earlier, the Kobuk river form of Inupiaq is exceptional as regards its basic orientational



system, which is clearly riverine – as in most Alaskan Yupik – rather than coastal. It is the only large river in the Inuit world today with a series of permanent settlements along its banks. The essential feature of this system is that its *kiv(at)* ~ *u(at)* axis (‘upstream’ versus ‘downstream’) is at right-angles to the coast rather than parallel to it as at Barrow and Cape Prince of Wales. Certain terms (e.g. *uat-* itself) are not attested for this region in my data, but that which I have gleaned from the volume ‘Unipchaangich Imagluṭugmiut’ (Cleveland & Gray 1980) and other sources mentioned in the Ap-

pendix are sufficient to indicate the nature of the system. Note in particular that the ‘up/down’ axis appears to be ‘swallowed up’ by the ‘upstream/downstream’ one, the ‘downstream’ terms *kan-* and *sam-* pointing downstream and out towards the sea. A new demonstrative stem *qakm-* appears in the meaning ‘north’, as in Central Alaskan Yupik (at Barrow it means ‘just outside of the house/at neighbour’s house’), but the dialect also has *nigiq* ‘north’ and *ungalaq* ‘south’, much as at Barrow and in CAY (Kaplan, pers. comm.). In connection with the second of these terms, note the

town name *ungalaqliit* (Unalakleet) at the southernmost point of the Kobuk/Malimiut dialect area. Compare *kivaliniq* (Kivalina) at the northern end of the region, from *kivat-* in its coastal sense. It should be pointed out that MacLean lists *kivva*, *qavva* and *qamma* 'upriver' and *amma* and *samma* 'downriver' in her dictionary (forthcoming), which covers the whole of northernmost Alaska, though they are not mentioned in these senses in her 1986 grammar for Barrow. So what I have said about the Kobuk river may equally well apply – or have applied – to other large rivers previously occupied in the interior of N Alaska. We thus have distinct, but related, coastal and riverine orientation systems side by side in N Alaska (for instance, *kan-* and *un-* can also mean 'downstream' and *pig-/pag-* 'upstream' in the North Slope dialect, but this is in harmony with their coastal 'towards/away from sea' senses). The relevance of these facts to the origin of Eskimo orientation systems in general will be returned to in the Synthesis.

Quebec/Labrador

It is necessary now to backtrack to the southeast corner of the Canadian Arctic/Subarctic. In the following section we shall pick up the thread at Bering Strait once more. There is a good deal of data available for northern Quebec and Labrador (especially the latter), but some of it is rather confusing. In general it appears that the whole area stands – or stood – in a mirror-image relationship with southern Baffin, but has since become overlaid by absolute N-S terms, *tarraq* 'dark/shadow (side)' (cf. ethnonym *Tarramiut*) and *siqiniq* 'sun (side)' respectively. At all events the *nigiq* ~ *uanniq* axis (the latter, as on Baffin, corresponding to western *ungalaq*) no longer coincides with the 'left/right-along-coast' one (*av-* ~ *qav-*), as elsewhere in the Inuit regions generally: it is by and large orthogonal to the latter. The most detailed coverage is available for Labrador, for which a good modern dictionary (Jeddore 1976) exists alongside various older sources (Peck 1925 and Bourquin 1891, and also Schneider 1966). The general picture, aside from the *tarraq* ~ *siqiniq* dimension, is of an *av-* ~ *qav-* axis roughly north/south along the Atlantic coast, intersected at right-angles by the 'up/down' *pik-* ~ *kan-* one (coinciding with *kit-* ~ *kangi-*, as in Greenland). Note Kleinschmidt's remark (1871:59) to the effect that the *av-* ~ *qav-* axis refers more to absolute north/south here than is (or was) the case with these terms in Greenland. *nigiq* (modern *niggik*) blows from straight out to sea (northeast), more or less opposite to *uanniq* or *uannaq* (<**uarnaq*), a west wind, and exactly opposite Peck's *uarnngerluaq*, a derived form with affix *luaq* 'good'. Other demonstrative stems than *pik-* and *kan-* involved in wind direction terms are *un(a)-* 'down there/east', *am-* alongside *av-* and *ik-* 'north' (cf. Greenland) and (*ta*)*ag-* 'south', this latter being the 'less accessible' correlate of *av-* in the original Eskimo local demonstrative system; it is nowhere else attested in this 'larger

area' directional sense. *aanisittuq* 'south' is odd, as it seems to be based on *av(-ani)*, otherwise 'north', but is probably from *ag-*.

Schneider's data (1966/85 & 1970) for northern Quebec is a little difficult to interpret, the exact directions being sometimes vague (the information in the two dictionaries cited does not always coincide precisely) and it is not always clear which locality a particular gloss given is meant to apply to. But unless otherwise indicated it can be taken that the information in his dictionaries refers specifically to Wakeham Bay. As in the case of Labrador, *nigiq* and *uannaq* (or *uarnaq*), 'east' and 'northwest' respectively, are no longer directly opposite each other. This may be due to the falling together of two related wind terms, *uanniq* and *uannaq* (probably both from *ua-ngnaq*, but cf. also *uarnaq* – Lake Iliamna *uaqnaq* – with another variant form of **knaq*), cited as synonymous by Schneider for Wakeham Bay. The latter corresponds in absolute orientation and nature ('bringing the Arctic blizzards') to the wind of the same name on the west side of Hudson Bay (as Schneider indicates), whilst the former, also attested at Eskimo Point, is probably a back-formation with (*l*)*ir* 'provide' and is defined in his French-Innktitut dictionary (under 'vent') as a land wind. Its opposite is *nigiq* throughout northern Quebec, where the forms found are actually *nigiiq* or *niggiq*, presumably back-formations from *nigiiqtuq/niggiqtuq* (the latter also found at Eskimo Point). *uanniq* therefore comes from the east in the Itivimmiut dialect of the east coast of Hudson Bay, where *nigiq* is a west wind. S. Metcalfe (pers. comm.) has elicited 'east' for the term at Salluit on the Hudson Strait coast opposite Cape Dorset, which is odd – but compare its direction in Itivimmiut. *nigiq* is definitely a northern (sea) wind there however, as expected from the homologous relationship pertaining around the northern Quebec coast for this axis (see below). The only traces of the 'up/down' axis at Wakeham Bay is the southwesterly wind *pingannaq* (oddly close to *qavannanganiq* 'south wind' here), while Itivimmiut has *samannga(a)tuq* 'sea wind', which is quite logical. In the latter dialect *uanniq* is again definitely *not* opposite *qav-*; although the latter is not directly attested for Itivimmiut, its opposite *av-* is. *avunga* thus means 'to the north', curiously enough the exact opposite of what one would expect from the otherwise homologous relationship with the rest of Quebec/Labrador. This may be related to the 'absolutization' of the N-S axis in the whole region, *av-* going usually with *tarraq*. On the Belcher Islands Vézinet (1975) further has **killiniq* (<*kit-*) for 'west' and *kangiliniq* for 'east', with 'up/down' terms not being used for larger area directions at all, which is understandable, given the complex configurations of these flat islands.

Apart from *tarraq* and *siqiniq* (which Schneider also gives for the Keewatin, and Egede 1750, interestingly enough, also glosses as 'north' and 'south' for earlier West Greenlandic), Wakeham Bay also has absolute east and west terms, namely *siqiniup nuivinga* 'place

where the sun appears' and *nipivik* 'place where (the sun) sticks/hides', terms introduced by the missionaries and not much used in daily life, according to Dorais (personal communication). There are various more local or topologically transparent wind terms ('in/out of Ungava Bay', etc.), but let me mention here just one, *atuarniq* (from *atuar*- 'follow coastline'), a wind along the coast from the left (or somewhat more northerly) in Wakeham Bay – also in Labrador, according to Metcalfe (pers. comm.).

One can explain the confusions in this whole region, perhaps, by stating that the original common Inuit 'larger area' orientation system has here undergone a shift towards a more 'absolute' one based on the movement of the sun, with a number of original wind-direction terms now loosened from their systematic correlation with the demonstrative stem orientation axes. When one considers how far south the whole region is compared to the rest of the Inuit world, such a shift seems quite natural and need not reflect direct influence from missionaries in Labrador, for example. What justifies characterizing the relationship of the whole region to southern Baffin as a 'mirror-image' one is that the 'up/down' *pik*- ~ *kan*- axis is reversed across Hudson Strait together with the *nigiq* ~ *uannaq* one, which parallels the former, as we have seen, in southern Baffin. Compare specifically Cape Dorset and Itivimmiut (also Salluit) on Map 2a, representing the two sides of the 'mirror' (it is only at Cape Dorset on the Baffin side, as far as the available data allows us to speculate, that the two axes concerned become parallel). The *av*- ~ *qav*-axis (left/right along the coast) must be the one that remained constant across the strait here, which would explain the 'odd' use of *avunga* in Itivimmiut (the opposite to that on Baffin). Observe the absence of this stem as a larger area directional in Tarramiut, and the confusing use of related 'over there' demonstratives (*av*-, *am*- and *ag*-) for both north and south in Labrador. The relationship between the east coast of Hudson Bay and the rest of Quebec/Labrador is thus homologous as regards the 'up/down' and 'prevailing wind' axes, but the north/south terms (drawing on the old coastal orientation term axis) are held constant, resulting in a kind of partial or quasi-mirror-image relationship between the two sides of the Tarramiut peninsula. A significant clue as to what has happened here to the original 'left/right-along-the-coast' terms *uat*- and *kivat*- (& *qav*-) is the northwest orientation of *uannaq* mentioned above for Wakeham Bay, parallel to Peck's 'uavakpik' for Labrador (from *uavar*- 'blow from the NW' – as also in Tarramiut – plus *pik* 'real'). So the original use of the stem *uat*- could well have been 'left-along-coast', as on Baffin (opposite *qav*-), conflicting with the inland/sea orientation of the wind axis *uannaq* ~ *nigiq* that mirrors its orientation on Baffin. It appears reasonable to suggest, then, that the situation in Quebec/Labrador may reflect two separate interactions across Hudson Strait, one from Cape Dorset leading down the east coast of Hud-

son Bay and involving the reversal of the 'up/down' and 'prevailing wind' orientation axes, and another from SE Baffin to the Wakeham Bay area (cf. the *tarraq* ~ *siqiniq* terms on both sides here), involving initially the reversal of the *nigiq* ~ *uannaq* wind axis but the maintenance of the other two. The resulting configuration may have been better preserved in Labrador than at Wakeham Bay, where conflict between the two mirror-images patterns from the two routes of crossing Hudson Strait would have been greater.

Siberian Yupik

In some respects the position of the Siberian mainland of the Chukotkan peninsula vis-à-vis the Alaskan mainland is similar to that of Quebec/Labrador vis-à-vis Baffin and the Northwest Territories mainland, involving a (possibly complex) mirror-image relationship and the presence of a number of apparently 'absolute' directional terms common to all dialects, irrespective of the local coast alignment. However, there is also much more variation from dialect to dialect as regards the lexical stems selected for particular 'larger area' directions than in the eastern Inuktitut region. Basically, the orientation system here is of the coastal rather than the riverine kind, with the *kiw*- ~ *ug(a)*- 'right/left-along-coast' axis at right-angles to the *sam*- ~ *pik*- 'down/up' one, and the *negeq* ~ *ungalaq* 'prevailing wind' axis only attested in Naukan, parallel to the 'up/down' one. The apparent absolutization of the latter, with *pik*- everywhere indicating 'north' and *sam*- 'south' may be just a coincidence if one considers the exact geographical setting of Nevuqaq, Chaplino and other Siberian sites, for these senses do correspond quite well with local 'up' and 'down' (though see below on St. Lawrence Island). The terms *ajguq/ajwa*- for 'north' and *urqaq* for 'south' are probably of a more 'absolute' nature, however, and I shall return to these below as we look at the individual dialects/languages. Note that *ug(a)*- (whose intervocalic *g* is retained except in Naukan) everywhere refers to a direction left along the coast, including at Nevuqaq on the south-east angle of East Cape and New Chaplino, also on an angle where the coast turns 90 degrees northwards, and that *kiw*-/*qaw*- is to the right, as in N Alaska and the Northwest Territories (in Naukan, however, these terms seem to be obsolescent today).

For the Naukan dialect of Siberian Yupik previously spoken at East Cape, I have received additional information from Z. Nenlumkina (pers. comm.) supplementing that provided by Menovshchikov in his monograph for that dialect (1975). As I have mentioned, it is only here that one finds the terms *negeq* and *ungalaq*, used for exactly the same absolute directions as on the American side of Bering Strait (and the Diomedé islands) – though note also Nenlumkina's *negeqpigaaq* 'real *negeq*', which is more NW, coming round into Bering Strait from the Arctic Ocean behind East Cape.

Since it is definitely not parallel to the 'coastal' axis here, (going with *qaw-* as on the American Arctic coast) but goes rather with the 'up/down' axis, one wonders whether this isn't an areal wind term deriving from the American side of the strait, especially as it occurs as the opposite of down term *sam-* (cf. the quite different relation of down-term *kan-* and *negeq* in Alaskan Yupik). Possibly it was once specifically a Uelen term, from the settlement on the north side of East Cape. Another directional term given by Menovshchikov that suggests an earlier dialectal difference between the two settlements is *sakm-* used for 'north', a 'down' term illogical at Nevuqaq – Nenlumkina indeed glosses the term as 'southwest' there – but understandable at Uelen (and Imaqliq, where we have already encountered it). In Chaplino it goes with *sam-*, both terms referring to the south(east). *kelevaq* 'west' ('southwest' according to Nenlumkina) is also employed as in Imaqliq, and may be regarded as having the 'logical' local sense of 'inland' (cf. *keluvaraq* in Hooper Bay/Chevak Yupik and *ki-lungnaq* at Barrow), though it is not clear whether it here has replaced *kiw-* as the opposite of *ōknaq*, Menovshchikov's 'east' (< **ua(t)-* + *knaq* – probably a nominalization of ablative **ua-ken*). In that case it would go with *qaw-* as in Menovshchikov's 'qawx-ken' 'from the south' (i.e. southwest?). Nenlumkina gives the gloss 'from the right side (along the coast) towards Naukan' for this expression. J. Tarjuq (pers. comm.) states that *ōknaq* is the same as *ikaknaq*, SE wind.

In all Siberian Yupik *kelu-* 'away from sea' is the opposite of *ket-*, but whereas Menovshchikov glosses it as 'north' for Chaplino, derivative *kelevaq* in Naukan mentioned above does not go with *pik-* 'north', and, being absent in other forms of Siberian Yupik, it may again reflect areal orientation around Bering Strait. Menovshchikov's 'okra' on the other hand is undoubtedly *uqraq*, going with Chaplino (also Imaqliq and St. Lawrence Island) *urqa(q)* 'south' – literally 'lee-side'. Its opposite, *ajguqlajwa-* 'north', corresponding to *negeq*, is also shared with Chaplino and St. Lawrence Island – Nenlumkina has the related form *ajgesqi* for Naukan. It means 'against the current or wind' etymologically (cf. CAY *ajgur-* 'go against current') – there is a strong current up through the Bering Strait heading northwards here. Apparently the term has also been borrowed into neighbouring Chukchi and Koryak (Menovshchikov 1974:52). Some of the other local wind terms for Naukan as given by Menovshchikov (and, for Chaplino, Rubtsova) are a little confused but I have indicated on map 2d the latest data for these in both dialect areas which I have received from Nenlumkina. As regards the mirror-image relation across the Bering Strait between Naukan and N Alaska, it looks as if the *kiw/qaw-* ~ *u(at)-* coastal axis has been reversed vis-à-vis the Diomede islands (and the Alaskan mainland beyond) whilst the 'up/down' one – and the *negeq* ~ *ungalaq* wind one – have been held constant (recall that there is a further mirror-image as regards the 'up/down'

axis between the two Diomedes). This is a little difficult to make out at first, owing to the oddly skewed relationship between the East Cape coast at Nevuqaq and the Alaskan coastal axis as extended out to the Diomede islands. Map 1 schematically portrays the relationship. This analysis depends of course on my interpretation of the coastal axis terms in Naukan and Imaqliq being essentially correct; it should be borne in mind moreover that apart from the shared *negeq* ~ *ungalaq* axis – which confuses the mirror-image pattern – the directions involved in the mirror relationship between the Diomedes and East Cape is skewed through almost 90 degrees (compare the 'up/down' terms). One result of these relationships is that *ug(at)-* and *kiw-/qaw-* continue to point respectively left and right along the coast in Siberian Eskimo, as on the N Alaskan mainland. One must also remember that the Inupiaq dialects at Bering Strait are relatively late incursions from the north into what was once a Yupik continuum; there is incomplete data for the Norton Sound variety of Alaskan Yupik (see below) but note that its *negeq* and *u(at)-* derivatives seem to form a simple mirror-image relationship with those of East Cape.

I have already mentioned the semantic confusion around some of the data for the Chaplino dialect of Siberian Yupik, as presented by Menovshchikov (1960) and Rubtsova (1971), but the general picture I have sketched above seems to fit quite well. Typical of the semantic vagueness of certain terms is the case of 'down' terms *sam-* and *sakm-*: Menovshchikov has *sam-* 'south' (as in Naukan) whereas Rubtsova has *sam-avək* and *sakm-* 'east' or 'towards St. Lawrence Island'. *kan-* is also odd since Menovshchikov aligns it with *ug-* (as in 'uxka' and 'ugalinig') 'east' – towards St. Lawrence Island – rather than with the other down term *sam-*; Nenlumkina reports it, however, as 'south' in *kanake(q)* 'south wind'. The 'up' terms *pik-* and *pam-* (and 'inland' *kilu-*) are both glossed as 'north' and 'towards the inland tundra of Chukotka'. Much of this confusion arises no doubt from the situation of New Chaplino (and older settlements in the vicinity such as Ungaziq) at the sharp SE angle of Chukotka; it is set back from the coast on a south-east-facing inlet. I should stress that the movement of a population group even a relatively small distance (say from the spit at Ungaziq to New Chaplino) can play havoc with the precise senses of directional terms in the Eskimo world. Uncertainty also surrounds the exact direction of the three local winds *pakfala(q)* ('west' for Menovshchikov, SE for Rubtsova, but note *pakpalaq* 'west' given by Nenlumkina – doubtless from 'up' stem *pag-*); *nakarja(q)* ('north' east' (also St. Lawrence Island); and *asivaq* 'southeast' in Chaplino (from *asi-* 'down') but 'east' (in the form *ase-neng*) in Naukan, according to Nenlumkina, and 'northeast' on St. Lawrence Island. These are in roughly the same orientation to each other in both Chaplino and Naukan. Note also *ikevaq* 'west' and *ikevasaraq* 'southwest' supplied by Nenlumkina, at odds with *ik-* in Gambell (see below).

The situation on St. Lawrence Island appears to constitute a mirror-image to that at Chaplino on the Siberian mainland opposite, with the N-S (up/down) axis the same, but the E-W (up/down-coast) one reversed (see *kiw-* and *ug-* on the map, which are respectively left and right along the coast on both the north of the island and on the mainland). This relationship results in the 'illogical' use of the 'up/down' terms at Gambell, as reported by Jacobson, where *pik-* and *pam-* are used for 'north' (or 'towards Siberia') and *sam-* is 'south' (parallel with the coast going south from Gambell). Recall too the parallel ambiguity of *sam-* in Chaplino – 'south' or 'towards St. Lawrence Island'. Again as in Chaplino, *kan-* is 'odd', going roughly with *ug-* '(north)west' (the reverse of Chaplino), but also with *sakm-* (not with *sam-*; cf. *sagm-* reported for Barrow by Jenness as going with *uat-* 'left along coast' rather than out to sea). The latter also can mean 'towards Gambell from Savoonga (to the southeast)'. Note also *quungvaq* 'east/up from shore' (cf. *qunge-* 'middle'; Gambell faces west), and *quutfaq* 'north(west?)' (< *qute-* 'inland/mainland') which at Chaplino is 'west wind'. Coastal term *kiw-* was given by Jacobson's informants either as SE ('towards Savoonga from Gambell') or NE, going with *qaw-*, the corresponding 'extended' demonstrative. Only in the first sense is it opposite *ug-* (the stem in *u(g)at-*) 'northwest' (Jacobson 1983); how the two 'right-along-the-coast' terms could have become unstuck is not clear, but note the expected right-angle between *sakm-* and *qaw-*. Information supplied by V. Metcalfe (pers. comm.) for Savoonga confirms the general picture, though *kan-* refers here to the north (cf. its 'local' sense) and 'up' stems like *pik-* may refer either to the local mountains to the south or to the mountains of mainland Chukotka to the northwest. Observe finally the use of 'across there' *ik-* for 'south (west)'; it appears as SW in Chaplino, SE in Naukan (and in Alutiiq may refer to opposite directions across Cook Inlet – see below); at Barrow it goes with *kiv-* and *nigiq* roughly, but in Greenlandic with *av-*, the opposite. In other words, the directional sense of this stem is highly influenced by local geography. The basic mirror-image relationship between the island and the mainland suggests once more constant traffic back and forth, and the dialect differences here are indeed very minor.

The data available for the third major division of Siberian Yupik, the separate language Sireniki, are incomplete but sufficient to show that the orientation system of this now virtually extinct form of Eskimo is homologous with that of the rest of the Siberian mainland dialects, *pam-* (and *pik-*), 'north' lying opposite *sam* (and *kana-kšaX* 'southerly wind'). Menovshchikov's (1964) *ugeŋsiX* '(north)east' is presumably from **ugaliq*, i.e. stem *ug-* ('left-along-coast' – towards Ungazik?). *manŋsera* 'north' may be from **man(u)-lira* (cf. *manu* 'front side', the opposite of *tunu*, and *tunuqliq* 'thing at rear' on St. Lawrence Island). 'uqeX' is presumably the same as Chaplino *urqaq* 'south/lee-side'

(and cf. *uqarliit* 'people of Sireniki' acc. Jacobson), but *qetŋseX*, also 'south', is obscure – it may be related to *qeteX* 'morning/early' and/or Inuit *qila-mik* and Aleut *qilaŋ* of similar meanings. Sireniki would thus not appear to represent a separate development from the rest of Siberian Eskimo as regards its directional orientation system, and shares the basically coastal nature of the *kiw-* ~ *ug-* axis common also to Inupiaq. Note how *ug-* at Chaplino gets projected out to sea towards St. Lawrence Island, by inertia as it were, continuing the line of the southern Chukotkan coast (hence the ethnonym given by Collins (1937) as 'wallit' – surely *ugaliit* – for the western group of St. Lawrence Islanders, as opposed to the 'kigaliit' at the eastern end). Further proof of the basic coastal sense of this stem is the name Uelen itself, in Naukan *ōleq* (*uqliq*), literally 'the furthest along the coast to the left'.

Alaskan Yupik

Whereas what I have called the 'coastal' orientation system has predominated in all the regions we have looked at so far, when we turn to the central Alaskan Yupik region we are clearly in an area where the 'riverine' system predominates, the *kiw-* (*kiug-*) ~ *u(a)-* axis lying at right-angles rather than parallel to the coast. There are, however, traces of the coastal system in certain coastal and island peripheral areas of southwest Alaska, and these I shall return to after a brief characterization of the system at Bethel on the Kuskokwim river, for which there is good information in the new Yupik dictionary from the Alaska Native Language Center at Fairbanks (Jacobson 1984a). Alutiiq will be treated separately thereafter.

Central Alaskan Yupik

The system at Bethel consists of two axes intersecting at right-angles, the *kiug(kiw)-* ~ *u(a)-* 'upriver/downriver' one aligned roughly along the Kuskokwim, and the *negeq* ~ *ungalaq* 'prevailing wind' one pointing north and south (see Appendix for the relation between *kiug-/kiw-* & *kig-*). Further, there is an 'east' term *calaraq* of obscure etymology (perhaps consisting of stem *ca-* 'do what/something' plus *lar(ar)* 'do repeatedly', nominalized, referring to the rising of the sun?). The 'outside' demonstratives *qag-* and *qakm-* are used to refer to the north (i.e. a different direction from 'inside' demonstrative *kiug-* above). These are not used for local riverine reference in Jacobson (1984a:656). There is also a derivation of *ungalaq*, namely *ungalaqlirneq* ('area to the south') for 'southwest'. Note that the 'down' demonstrative stems are divided between those referring locally to 'towards the river bank' and those referring to 'downstream' – at Bethel roughly west. The corresponding 'up' terms are purely local and do not enter the 'larger area' system at all (in contrast to Siberian Yu-

Alutiiq

For the remaining Alaskan Yupik area we have particularly detailed information, thanks to Leer's as yet unpublished paper on Alutiiq (i.e. 'Pacific Eskimo') directional terms. The very wealth of data here, covering not only all dialects, but all available early historical sources, makes the picture rather confusing, but it is not hard to see that the riverine system of CAY is here largely preserved intact, despite being applied to a typically coastal region. The *negeq* ~ *ungalaq* axis has swung around through 90 degrees from SW Alaska, following the coast, but it is only in the far eastern Chugach dialect, as reported by Birket-Smith (1953), that the situation has been preserved entirely, for *negeq* is lost in the western Koniag dialects, and on the Kenai Peninsula it now means 'north', according to Leer, i.e. is no longer opposite to *ungalaq*. A look at the map will show why *negeq* should have been problematical in the Koniag (= Kodiak Island plus Alaska Peninsula) dialects, situated as they are at the pivotal angle of SW Alaska's coastline: the Alaska Peninsula would have 'got in the way' as it swung round from the north, and at some stage it would no longer have been a coast-hugging wind. The sense of *negeq* on the Kenai Peninsula – as of *negeqvaq* at Lake Iliamna (Leer, pers. comm.) – is probably due to areal influence from the rest of SW Alaska: Leer includes this and *ungalaq* with what he calls 'areal' – i.e. Bering Sea – winds. The *kiw*- ~ *u(a)*-axis is less easy to discern, until one realizes that these 'inward/outward' terms are related to Cook Inlet and its extension, the Shelikoff Strait between Kodiak Island and the Alaska Peninsula, in the same way as they are to the major rivers of SW Alaska. Note how it cuts across *ungalaq* here. Thus *kiakeq/kiugkeq* (from ablative **kig(a)-ken*) blows in all the Koniag dialects and on the Kenai Peninsula from the source of Cook Inlet, opposite to *waakeq* (from **ua-ken*). Note that the local demonstrative *qaw*- 'inside' is specifically used for 'up Cook Inlet' in the Kenai dialect, as opposed to 'downstream' stem *uneg*-, towards the Pacific Ocean. Prince William Sound appears to be regarded in the same way. What is confusing is that another set of derivatives of *u(a)*- is used to apply to the opposite direction from *waakeq*, namely *waasaaq/waasarneq*, etc. The suffix here may be the same as in Norton Sound *uassiaq* and/or Nunivak *waaseX* (**uata-* plus *jar* or *(l)iar* 'go to' ? – cf. CAY *asigtaq* 'tray' from **at(a)-* 'space below', also Bergsland 1986:132, foot 12). But in contrast to these, *waasaaq* indicates a wind going towards the 'down there' (*u(a)*-) direction, rather than coming from it as in the case of *waakeq*. The underlying ablative case marker of the latter ('from *u(a)*-') is perhaps the clue we need, since Alutiiq appears to be the only form of Eskimo where one finds such a pair of cognate wind terms, one containing an ablative marker, the other not. It has in fact a larger number of 'ablative' *-keq* wind terms than other forms of Eskimo. Leer suggests that

Inuit *knaq/ngnaq* may also be from this old ablative *-kan* – certainly such a form as W Greenlandic *kiganngar-(toq)* is a direct verbalization of ablative *kigannga* 'from the south', the ending of which is relatable to Yupik *-kan*.

There are numerous other, more local winds in Leer's data, including the west wind *llaaniq* (from *lla*- 'weather' and *niq* '(have) good?') and SW *nakirsariiq* (cf. the stem in Siberian Yupik *nakarjaq*) and the inland winds *pamaqeq* and *nunameq*. Note also Chugach *jaa-keq* from **inga-*, the same stem as in the east wind of King Island, here from the NE. The other 'across there' stem *ik-* is found in west wind term *ikakeq*, blowing the opposite way across Cook Inlet to related *ikaknaq* at Lake Iliamna. Winds with this stem refer to directions determined very much by the local geographical situation, as we have seen in the Bering Strait area, Barrow and Greenland; in the latter it is firmly linked to the *av*-direction (cf. also *ing-* in Labrador), but may be opposite it elsewhere. Another demonstrative stem acting oddly is 'down' term *kan-*, which goes with *u(a)*- in CAY. In Chugach *kanakeq* is southwesterly and on the Kenai Peninsula southeasterly, both blowing logically out to sea more or less, but on the south coast of the Alaska Peninsula it is a northwesterly, i.e. blowing from the Bering Sea on the far side of the peninsula. *kelugaq/keluvaq* is also, logically, an inland wind, as elsewhere in Alaska, but it no longer forms a direct opposite to derivatives of *kan-* (cf. Barrow). Note also Alaska Peninsula *qaakeq* 'southeast' from *qag-* 'out there' (cf. the different orientation of *qag-* in CAY).

The overall orientation system of Kodiak Island is homologous with that of the mainland dialects, not in a mirror-image relation to them (see my remarks above about Nunivak Island). The riverine nature of the Alutiiq systems can perhaps be related to the relatively late intrusion down to the Pacific coast of Alaskan Yupik speakers from the northwest: this must have occurred after the adaptation of the original Eskimo orientation system to the great rivers of SW Alaska. There are nevertheless traces of coastal senses of the terms of the *kiw*- ~ *u(a)*- axis, for example in the ethnonym 'wallimut' reported by Birket-Smith for the easternmost Pacific Eskimo group – those 'most along the coast to the left' (and note the odd skewing of *kanakeq* in this direction in Chugach: recall that *u(a)*- and *kan-* go together in CAY).

Synthesis and diachronic perspectives

Having looked in some detail at individual dialect areas, we are in a position to fit the pieces together into an abstract picture covering the entire Eskimo region. Map 1 indicates in an idealized way what happens when one

pik). The *negeq* ~ *ungalaq* axis (homologous with these terms in NW Alaska) takes the place of the Inuit/Siberian Yupik 'up/down' one. The one 'down' term which does enter the 'larger area' system, *kan-*, is thus ambiguous between its local sense 'down to the river bank from above' and 'downstream towards the coast': in this latter sense (attested also on the Kobuk river) it coincides with its use in the coastal system. In the Synthesis I shall have more to say about this stem, whose coastal and riverine applications are in harmony.

Observe that the terms of the *kiw-* ~ *u(a)-* axis are taken respectively from the 'in there' and the 'towards exit' local demonstratives: they do not form polar opposites to each other *except* in their application to the river (and to the interior of the house – see below). Another interesting item reminiscent of the coastal system in the core CAY region is the stem *aw-* used for 'south' as reported by Hinz (1944). He gives it as opposite 'kayâni', which is the *qagani* 'north' of the new Yupik dictionary – cf. also *qagkumiu* 'Inupiaq Eskimo' (from a Yukon viewpoint) or 'Yukon Yupik' (from a Kuskokwim one). It lies as one would expect from the coastal orientation of the *av-* ~ *qav-* axis at Barrow (and in Greenland). E. Mather reports, however, (pers. comm.) that *awaknirtuq* at Bethel is a westerly wind. She further confirms that the directionals used at Bethel have the same senses at Kuigilnguq on the north shore of the Kuskokwim estuary. In the Inuit region (apart from the Kobuk river), *qag-* 'outside' is not generally used in a 'larger area' (coastal) sense (but cf. *qangm-* in Mackenzie and North Slope above, which goes with *qav-* 'inside/east'). In the CAY region *qag-* and *qaw-* are at right-angles, a point I shall return to later in connection with the evolution of both systems.

If one compares this core CAY system to the fragmentary data we have for the more peripheral CAY areas of SW Alaska, there are further traces of the coastal system familiar from further north. Thus in the Norton Sound dialect we find *uassiaq* 'west', i.e. 'left-along-the-coast' (derived from *u(a)-*); cf. the related term in Alutiiq in *nerqik* 'north' is derived from *negeq* (cf. W Greenlandic *neraaq* and E Greenlandic *neq-qajaaq*), and corresponds to the direction *negeq* blows from throughout the Bering Sea area. It indicates the same direction in the Hooper Bay/Chevak dialect further down the coast, where one finds also *keluveraq* 'east' from *kelu-* 'rear of house' (cf. Siberian Yupik and Inupiaq); related terms are used on the Yukon and at Nelson Island, on the mainland opposite Nunivak Island. The opposite stem is *kete-* 'towards the shore/away from back wall of house'. In all these localities the 'prevailing wind' axis is at right angles to the *kiw-* (HBC *kiûg-*) ~ *u(a)-* one, as in core CAY, with *kelu-* corresponding to *kiw-*, except presumably in Norton Sound, where the latter axis appears to be parallel with the coast. This being a transitional zone on the way from NW Alaska down to the core CAY area, it is geographically quite logical.

One peripheral CAY area for which there is more complete data is Nunivak Island. At first sight this data seems contradictory, for there are two derivatives of *u(a)-* standing at right-angles to each other, namely *waaseX* – from *waasiaq?* – 'north' (also 'close to the doorway/downstream') and *wakneX* 'west', as given in Hammerich's manuscript dictionary and in Lantis (1946), who also gives the sense 'north' for stem *u(a)-* and the other 'towards exit' demonstrative *uneg-*. Moreover, while *negeX* is 'north', related *nerqix* (cf. Norton Sound) is 'west'. The lexical term *amineX* for 'east' means 'dawning', and the 'inside' demonstrative *qaw-* is found for 'south' (as well as *ungalaX*). What is going on here? A reasonable conclusion is that we have evidence here of the superimposition of a coastal system, with the *kiw-* ~ *u(a)-* axis parallel to the coast (hence *wakneX* 'left along the coast' at north-facing Mekoryuk), and a (later?) riverine one shared with the Alaskan mainland opposite. The latter would account for the 'south' sense of 'inside' stem *qaw-* and the 'out-to-sea' one of *waaseX* (cf. Norton Sound and Alutiiq below). The right-angle between the latter and *nerqix* results in a mirror-image relationship to the equivalent terms in Norton Sound, whereas *negeX* and *ungalaX* are absolutely homologous with the corresponding terms in core CAY. The fact that different derivatives of *negeq* and *u(a)-* are involved in these contradictory directional senses avoids any actual ambiguity. The picture suggesting itself, then, is of a coastal system in mirror-image relationship with that still in evidence in Norton Sound, overlaid by a riverine system from the core CAY area. In the case of the latter relationship there is no mirror-image to the mainland: the riverine system is not organized in terms of coasts facing each other, but in terms of rivers on both banks of which the larger area orientation parameters are absolutely homologous, so this possibility does not arise. However, there is one other factor that should be mentioned: the population of this large island, now concentrated at Mekoryuk, was once spread around its coasts, so possibly there has been some mixing of terms originally applied to the south and the north of the island respectively.

The last peripheral region within the CAY area is Lake Iliamna in the southeast. Here we find the *kiug-* ~ *u(a)-* 'upstream/downstream' axis following the axis of the lake, roughly orthogonal to the coast at Bristol Bay (with *kiugkenak* 'northeast' from *kiug-ken* and *uaqnaq* 'southwest' from *ua-* – cf. *uarnaq* in Canada). The *ungalaq* ~ *negeq* axis is skewed somewhat (for this and *ikaknaq* see under Alutiiq), but clearly crosses the axis of the lake. This is then the riverine CAY system, with the lake treated as a river-like projection of the sea inland. I assume that the information given in the new Yupik dictionary applies to settlements on both sides of the lake.

applies the major wind-rose configurations and axes presented earlier to key positions along the Arctic coastlines. The arrows point towards the same binary pairs of directional terms indicated in Fig. 1. All points connected by a solid line are in a 'homologous' relationship, whereas the intrusion of a '-||-' sign marks a 'mirror-image' relationship across an intervening strait, with at least one axis reversed (certain other, partial mirror-like relationships have been discussed in the preceding). This simplified chart is in theory sufficient (with the addition of a few rather more local terms for the directions of intermediate points) to allow the Eskimo traveller to interpret local 'larger area' directional terms on journeys to any corner of the Eskimo world. It represents more relevant information than could be supplied by a compass, which would of course point towards Boothia Peninsula wherever one happened to be. To see how this chart functions as a whole, imagine the solid lines as permanent sledge tracks, by and large following the coastline. On a specially equipped sledge (or, rather, skidoo, if our hypothetical traveller is to cover the whole Arctic in one lifetime) that followed these tracks, three weather-vanes linked at specific angles to each other would continually point in the directions labeled by the key terms of the relevant axes within each of the five major regions we have discussed. The angles of the three vanes to each other would simply have to be altered at the border when crossing into a new major region. Thus, in crossing from Greenland to the Northwest Territories the 'up/down' axis has to be reversed through 180 degrees vis-à-vis the other two. Between Baffin Land and northern Quebec the *nigiq* ~ *uannaq* axis has to be shifted, and, depending on where the crossing is made, this may draw in its wake a reversal of the 'up/down' axis also (recall the situation in the Itivimmiut dialect and its quasi-mirror-image relationship vis-à-vis the rest of northern Quebec/Labrador). The result of this shift is that the *kiv*-/*qav*- ~ *u(a)*- coastal axis no longer stands parallel to the *nigiq* ~ *uannaq* 'prevailing wind' one. Between Little and Big Diomed Islands at the other end of the N American Arctic the 'up/down' axis needs to be reversed, and between the latter island and the Chukotkan mainland the *kiv*- ~ *u(a)*- axis needs in turn to be reversed (so that 'left/right-along-the-coast' is again homologous with these directions on the Alaskan mainland). Finally, between the Siberian mainland and St. Lawrence Island, the *kiw*- ~ *u(ga)*- axis again needs to be reversed.

When one considers these instances of 'mirror-image' reversals and compares them with 'homologous' relationships between other islands and the mainland opposite (e.g. Victoria Island and Little Diomed), one wonders whether there could be some common historical/geographical explanation common to all of them (cf. the discussion of Smith Sound earlier). Perhaps the conditions for such a relationship are present when there is sufficiently close contact back and forth across the intervening water to make a homologous interpretation

on either side confusing along an axis whose terms locally point in opposite directions. Other factors involved may be the closeness of the two dialects concerned (and whether they share the same 'larger area' over which their directional terms apply) and how large the island is compared to the mainland. A homologous relation may be more natural if the strait is narrow, the island small, or the settlements not directly facing each other on either side. We have also seen instances where 'prevailing' wind terms hold constant over a larger area (e.g. around Bering Strait), irrespective of local mirror-image reversals along other axes: one is reminded once again that winds constitute a principal means of orientation (along with coastal landmarks) for the traveling Eskimo.

There is one more crucial boundary marked on Map 1, namely that between the regions where the 'coastal' interpretation of directional terms prevails, and that where the 'riverine' one does. All that needs to be done with the three vanes on our special sledge as it enters the latter region – loading it, say on a boat up a river – is to swivel the *kiw*- ~ *u(a)*- 'left/right-along-coast' vane through 90 degrees so that it comes to coincide with the previous 'up/down' one, which can then no longer be used unambiguously for 'larger area' (as opposed to local) orientation, for one obvious reason: at any point along a river 'up' terms will point up away from the river on either side and 'down' terms will point towards the river from positions higher up on either side. The *nigiq* ~ *ungalaq* axis, now at right-angles to the *kiw*- ~ *u(a)*-one, replaces the 'up/down' axis for larger area orientation throughout SW Alaska. At least one residual 'down' term is nevertheless still found as in the coastal orientation system – thus it is that *kan*- goes with *u(a)*- for 'downstream' in both CAY and Kobuk Inupiaq, although in its local sense this stem will refer to a direction at right-angles to the river. Recall what was said about Nunivak for why 'mirror-image' relationships should be absent from the riverine system regions.

The point about *kan*- is important when we turn now to the question as to which represents the older type of Eskimo orientation system, the coastal or the riverine. In fact it seems somewhat easier to derive the riverine application of the axes concerned from the coastal one than vice versa, although both systems can easily live side by side, as can be seen in Kobuk Inupiaq and some peripheral forms of CAY. This is not only because the coastal system has an extra axis and does not display any ambiguity in its use of 'up/down' terms, but also because, as regards the crucial *kiv*- ~ *u(a)*- axis distinction between the two systems, one can rather easily envisage a shift in meaning for these terms as they became adapted to riverine situations whereby 'upstream' and 'right-along-coast' became equated, and 'downstream' with 'left-along-coast'. The former – based on a local demonstrative stem meaning 'inside there' – is the direction requiring in both applications more effort to travel along, at least in N Alaska, where 'up-the-coast-to-the-

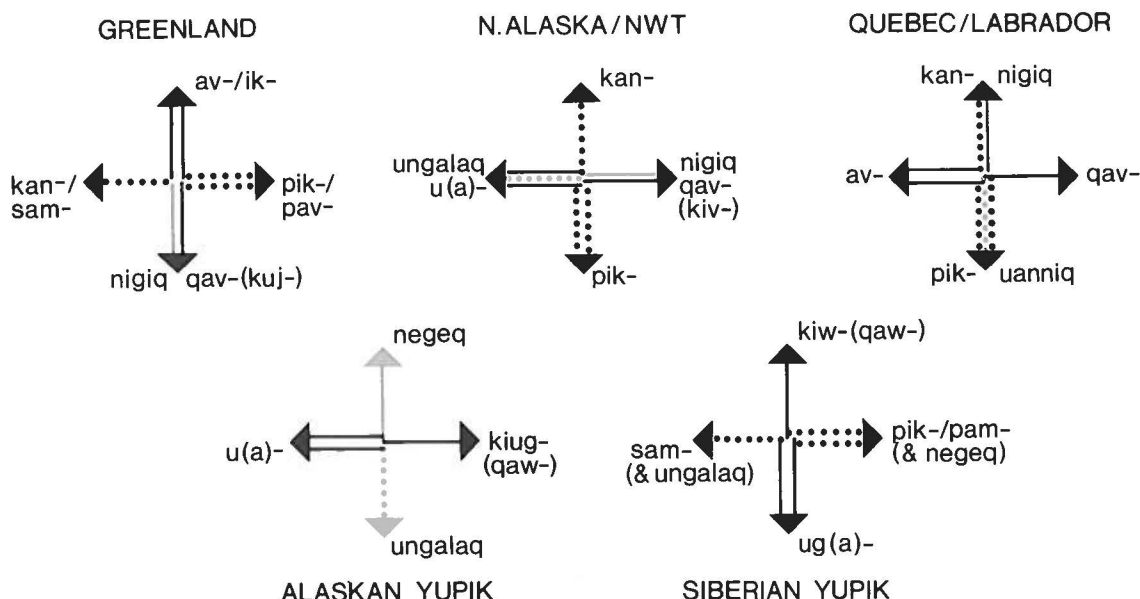


Fig. 1

right' means in towards the colder central Arctic regions against the polar *nigiq*, regions more difficult to traverse by water owing to the ice, whereas 'down-the-coast-to-the-left' is the 'easier' direction. It is perhaps not irrelevant that the right arm is generally stronger than the left. If one hypothesized the other direction of change (as the 'inside' sense of the upstream term tempts one to do) and regarded the riverine system as the source of the coastal one, difficulties would arise in correlating the 'up/downstream' terms with 'left/right-along-the-coast', since a river has two banks and what is 'left' (downstream) from one bank is 'right' (also downstream) from the other. Yet it is always the 'downstream' term which corresponds to 'left-along-the-coast', never the reverse. The fact that 'down' stem *kan-* must have retained its coastal sense of 'in the direction of the sea' after the hypothetical shift to a riverine system (despite the resulting conflict with its local sense) could well have something to do with the fact that this stem is an intruder into the otherwise neat pattern of local demonstratives (see Appendix), and may reflect an early specific meaning of 'down by the shore'. I shall return to this below. The hypothesis of the development of the riverine system from the coastal would appear logical in the light of the fact that Eskimos have lived longer on coasts than they have along rivers: recall the prehistorical shift from a primarily coastally orientated culture – the Norton culture of about 500 BC (earlier if Choris is included) to 200 AD, from which most archeologists derive all subsequent Eskimo cultures – to a more river-orientated one along the great rivers of SW Alaska as the Norton culture spread southwards (cf. Dumond 1977:106 ff.). Interestingly, the dia-

lect of Norton Sound, where Iyatayet, the earliest investigated Norton site, is located, is pivotal between the coastal system to the north and the riverine one to the south. The Siberian Yuit may have crossed to Chukotka during an early phase of the Norton era, before the riverine system spread throughout SW Alaska. Another linguistic point in favour of the hypothesis is the non-alignment of stems *qag-* 'outside there' and *qaw-* 'inside there' in Alaskan Yupik (and Kobuk Inupiaq) – they are at right-angles to each other in 'larger area' usage (cf. Aleut below where they refer, logically, to the same 'towards entrance/exit' direction). *aw-* 'that over there' reported for Bethel in Hinz (1944) is 'south', opposite *qag-* but at right – angles to the 'inside' direction (*kiw-*, going with *qaw-*). This reflects just the 90 degree shift of the *kiw-* ~ *u(a)-* axis suggested for the transition to the riverine system above: in the coastal system *aw-* is everywhere the opposite of *qaw-*. There is something intrinsically odd about 'inside' and 'outside' terms being used for directions at right-angles to each other, given a common starting point in the alignment of the Eskimo house entrance.

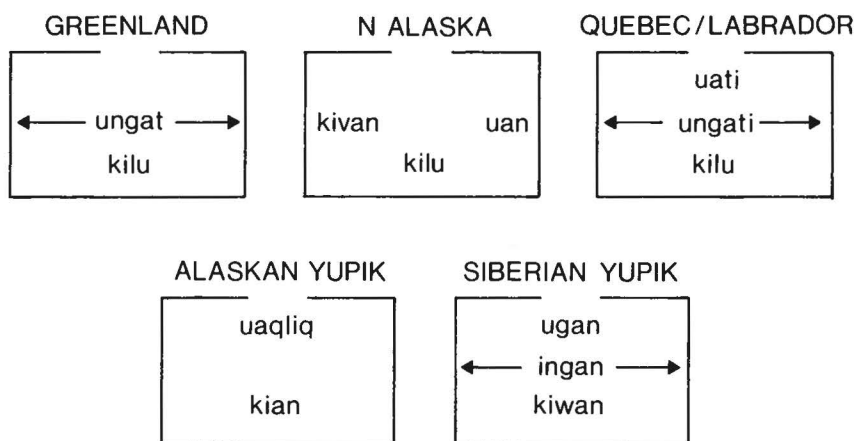
Further light is cast on these matters in fact by looking at the various designations for the front, back and side walls of the traditional Eskimo house in different regions (see Fig. 2; *uvkaq* 'front wall by entrance' is omitted on it for W Greenlandic – it is also attested for Copper and Netsilik). The opposition reported by Jenness (1928) for Barrow is of particular interest here, namely that between *kivan* the 'left-hand' wall when looking towards the exit, as opposed to *uan* on the right. This only makes sense – i.e. corresponds to the coastal sense of the terms – if the exit faces south, which is

precisely the direction most houses were orientated at Barrow at the end of the last century (Murdoch 1892:79). Perhaps this was an innovation from Barrow east along the Arctic coast. It was also the case around Coronation Gulf (the Copper area) according to Morrison (1983); in both these flat localities exposure to the northern winds is suggested as the reason for the alignment. Murdoch mentions that Franklin and Perry also reported south-facing houses for the Mackenzie Delta and Copper areas respectively. In all these areas, then, it may be that the *kivan/uan* directions along the coast corresponded directly to the opposition between the two walls of the house of the same designation, but the latter use of the terms only survived long enough to be recorded at Barrow. Unfortunately it is not attested anywhere else to my knowledge, and in the modern Barrow dialect the corresponding terms are, according to MacLean (pers. comm.), *ualliq* 'west wall or room' and *kivalliq* 'east wall or room'. Everywhere else the *kivan/uan* opposition inside the house is between the back and the front wall, where still attested. Thus, for example, Barnum (1901) has 'uatliq' as opposed to 'kāān' (*kian*) 'back of sleeping platform' for Central Yupik, Tarramiut has *uati* 'front wall' and Baffin *ualliq* 'foremost (entrance) vault of snow house', as attested by Boas. Even at Point Hope, just down the coast from Barrow, *ualliq* and *kivalliq* are used in this sense: 'front room of house (nearest door)' as opposed to 'inner room of house', according to MacLean. Such basic opposition must have deeply infused the Eskimo conceptual world, appearing also in the semantic domain of the human body (*kian* 'upper part of body' – from related 'outside' stem *kig-* – against *uan* 'lower part of body') and in that of boats (cf. Siberian Yupik *kiwan* in the sense 'rear of boat').

At this point we need to make a detour to the Aleutian islands, a virtually riverless region where the etymological correlates of the Eskimo 'inside/outside' demonstratives, *qag-* and *qig-* (also *qaw-*) are used, as mentioned, for the same 'larger area' direction, namely

the east (Atkan *qagaa-hadaa*). In the traditional semi-subterranean Aleut house they point to the entrance – a hole in the roof reached by a ladder at the eastern end of the house interior. This neo-Aleut house form, appearing around 1500 years ago (Dumond 1977:67), was typically aligned along the northern coast of an island. *qag-* 'outside' and *qig-* 'inside' thus both point towards the Alaskan peninsular mainland, following the bowl-like arc of the archipelago, and vary from east in the west to northeast in the east. There is no question of mirror-image relationships from island to island (how confusing that would be for long-distance travel here!), the east/west axis being everywhere homologous with the same axis in the coastal Eskimo system on the mainland (cf. *qav-/kiv-* in N Alaska; in SW Alaska these of course project inland rather than continuing around the coastline). The other three cardinal directions in (Atkan) Aleut are *naa(hadaa)* 'west', *chug(a)* 'north' and *nguu* (from **nga-*) 'south' (Jochelson (1966) gives intermediate wind terms such as *qigaadix*, which he glosses as 'north' for eastern Aleut, but Bergsland (1980) gives as 'northeast'). These terms are not directly relatable to those of the Eskimo directional axes we have investigated. Bergsland (pers. comm.) relates *naa* to Eskimo **ene* 'house' (cf. Greenlandic *ini* 'place' and Aleut *na-ga* 'inside it'; initial **n-* would go to *t* in Aleut). This forms a natural opposite to *qag-* 'outside there' and takes similar demonstrative inflectional endings. He further relates *chug-a* tentatively to Inuit *siuraq* 'sand/sandy beach', again a natural association, given the orientation towards the Bering Sea of the typical Aleut settlement; compare also *sadaa* 'out to sea (to the northwest)' corresponding to Eskimo *saa-* 'front'. The fourth direction term *nguu* (from *ngu-* plus 3rd person singular possessive *a*) is more uncertain etymologically. It appears also in the shape *nga-(txuŕ)* in (older) Atkan and *nam-hadaa* in older eastern Aleut (where *ngam-hadaa* and *num-hadaa* are now found; the *ng-*initial forms are original and *hadaa* means 'direction'). This is one of the few stems in Aleut beginning with *ng* (cf. *ngaan* 'to him')

Fig. 2



from **əl-nga-ni*) and Bergsland suggests an original shape **(C)əŋ(ə)-ləŋu-* but offers no certain Eskimo correlate. My own tentative proposal is that the original Eskimo-Aleut stem here is the same as in *ungalaq* 'south' in CAY; cf. also Inuit *ungalliq* 'furthest south' in N Alaska – the source perhaps of place name *ungaziq* (Chaplino), whose odd 'z' suggests a corresponding Sirenik form **ungaŋsiq*, exactly parallel to Chaplino *uka-ziq* 'hare', Inuit *ukaliq*, Sirenik *ukaŋseX*. The demonstrative-like stem *unga-* seems to be a variant of *inga-*, both perhaps from **anga-*, and like this and other demonstratives it can be extended by *-n/te* to form a locational nominal, namely *ungan* 'side-wall' – St. Lawrence Island *ingan* – just like *kiwan* and *u(g)an* discussed above. This term is only attested in the 'side-wall' sense in (certain) dialects lacking the *kiwan/uan* left/right wall distinction, namely Greenland, Quebec/Labrador and Siberian Yupik (see Fig. 2). In North Slope it means 'partition within house' (Jenness) or 'space beside bedding' (MacLean), and in Copper 'housewife's place on platform' (Rasmussen). The same stem is widely distributed in the sense 'way over there', as in for example Greenlandic *unga-sig-* 'be far', Tarramiut *unga-va(q)* '(place) far away', Copper *unga-ta-* 'place furthest away', North Slope *unga-ni* 'on the other side' and Naukan *unga-vŋaq* 'current through Bering Strait'. Significantly, these meanings are expressed in CAY by related **inga-*, that is *jaa-*, as in *jaa-qsig-* 'be far'. Note also North Slope *ingattaq-* 'go too far', *inga-liq*, the name of Little Diomed Island (as opposed to Big Diomed, *imaqliq*, 'most out to sea') and perhaps even *ingluliglu* 'one of a pair/other' (see Bergsland 1966:219). Both semantically and geographically the correlation between Aleut *ngu-* and Alaskan Eskimo *ungalaq* seems to be in order. If this hypothesis is correct there may thus be more than one directional axis common to the two distantly related branches of the Eskimo-Aleut family.

A correlate of Eskimo *negeq*, the opposite of *ungalaq* on the 'prevailing wind' axis is not evidenced in Aleut, at least in a directional sense. However, Bergsland (1956) sees the stem in derived form *gi-dgiŋ* (<**nəga-ðgiq*) 'breeze': it could well be that the stem once referred specifically to the predominant wind from the north blowing down across the island chain. It is interesting to recall in this connection Jochelson's remark, op.cit., p. 86, to the effect that speaking of the wind was a 'sin' or taboo amongst the Aleuts, who feared that a storm could thus be summoned. *negeq* is perhaps related to *negur-* (**nəga-ur-?*) 'go around/avoid', referring to the way the polar winds are funnelled around the capes of Chukotka and N Alaska down through Bering Strait. Its opposite, *ungalaq*, is then the wind from 'beyond/the far side'. As I have suggested, the *negeq* ~ *ungalaq* axis seems to have originated in this part of the Arctic, where it provides with its clear opposition of a cruel northern and a benign southern wind a stable

orientational axis throughout the Bering Sea region. Further east, where the wind axis is tilted east-west, it becomes much more dependent on the coastline – hence its alignment with the *kiv(at)-* ~ *u(at)-* axis in the Northwest Territories, extending on over into Greenland, where the surviving term *nigiq* again stabilizes along the north/south axis, in opposition to *avannaq*. In Quebec/Labrador on the other hand it is predominantly east/west, becoming reinterpreted as an on/off-shore opposition. This parting of the ways of winds and coasts gives us a hint as to why three orientation axes should be more reliable than two. The terms of the remaining axis, the 'up/down' one, have their counterparts in the Aleut local demonstrative system, but these do not appear to be used in the 'larger area' orientation sense in Aleut. To sum up, the Aleut orientation system is a rather straightforward one, with 'east/west' along the island chain corresponding to Eskimo 'left/right-along-coast' (and with possible traces of a common Bering Sea wind axis).

The point of this excursion into Aleut has been to suggest the antiquity of the Eskimo and Aleut coastal orientation system (the ancestors of the modern Aleuts may have moved out onto the island chain around 4000 years ago, according to archeologists), but it also serves to tie together the clues as to the origin of coastal and riverine applications of directional terms to be found in the interior of the Eskimo and Aleut house (see Appendix). As Bergsland puts it when discussing directional terms in Aleut (pers. comm.): "the house, of course, would be the 'microcosm', the macrocosm being the world, where the sun comes from the east, *qaga-agan*, to set in the west, *na-nguda-ŋaan*" (he adds that the Aleut world lies on the same latitude as London rather than that of Kap Farvel or Oslo: the island chain is south of the regions of 'midnight sun'). I believe that something similar can be said of Eskimo as well, though here the sun is of course a less permanent feature. The 'macrocosmic' orientation system which corresponds most directly (homologously) to the Eskimo house interior would appear to be the coastal one at Barrow in so far as the *kivan/uan* wall distinction can be taken as paralleling the line of the coast. However, the distribution of the other, 'front/back wall', sense of these terms, as preserved best in Siberian Yupik – where a clearly coastal system also prevails – , suggest that we are dealing here with a specific North Slope innovation, that draws the macrocosm back into the house, so to speak. The coupling of an 'in there' and a 'down there' term to form this crucial axis can surely only find a natural explanation in the 'towards/away from exit' dimension within the house, and this axis must originally have been at right-angles to both the coast and the river-bank, towards which the Eskimo house typically faced. Recall too that the exit of the traditional Eskimo house was down through a tunnel.

It seems reasonable to suppose, then, that the coastal

and riverine Eskimo orientation system are both ancient (though the former presumably somewhat more so), representing related extensions of the original local demonstrative system within and around the Norton Eskimo house. Since the distinction cuts right across the Yupik-Inuit language split it must predate it. The essential framework of these 'larger area' orientation systems (supplemented later by more local usages, especially as regards wind terms) consisted of an 'up/down' dimension away from and down to the shore (coastal only in this 'larger area' sense); a 'left/right-along-shore' one (reinterpreted as 'up/down river') deriving ultimately from within the house; and a 'major wind' axis, originally down through the Bering Strait region, which would have provided a more 'absolute' frame of reference than the first two dimensions, more closely bound to the configurations of the local shoreline.

Appendices

Eskimo-Aleut demonstrative stems

The reader is referred to Jacobson (1984a:654) and Bergsland (1973:7) respectively for schematic listings of the Central Alaskan Yupik and Atkan Aleut demonstratives; for the contemporary North Slope Inuit equivalents see MacLean 1986, Chapter 13 (also the listing of demonstrative stems for Barrow below). Thanks are due to P. Denny for his comments on this Appendix, a number of which have been incorporated into it. The Aleut material in Bergsland's table of 1973 needs to be adjusted according to the more recent semantic information provided in Bergsland 1980 and 1986, which explains why, for example, Bergsland's 'delimited' column only partly corresponds to the 'restricted' category in Eskimo. Once this is taken into account it is possible to integrate the two tables to reconstruct the following common system (where phoneme /g^w/ corresponds to more traditional 'w'):

Apart from the 'down' items, only partially integrated the system, the sound symbolism is rather straight-forward: open vowel for extended, close vowel for restricted; nasal or labio-velar for more accessible, other velar consonant for less accessible. One suggestion of Denny's I have not included on the table above is to treat the 'longitudinal' Aleut forms in final *k* as filling the original 'less accessible extended' slots instead of placing them together with the 'less accessible obscured' items of Eskimo, as Bergsland (1986:111) proposes. This would require explaining why the *k* should have weakened to *g* just here in Eskimo, though the symmetry (*k* symbolizing 'less accessible' throughout) would be improved. On the table as it stands, it will be seen that the obscured items combine the vowel of the extended column (with the exception of *im-*, see below) with consonant *m* (more accessible) or the *k* of the corresponding restricted column (less accessible); the addition of (ə)*m* also to the latter items is probably a later development (Yupik and westernmost Inuit only). The distinction between 'moving' and 'extended' on Bergsland's table is not as clear as it might suggest and doubtless represents a secondary development: some of the 'moving' items, notably *wa-* (from **ug^w-a*) and *ing-* are nowhere glossed by Bergsland directly as involving movement – they correspond on the contrary very closely with the glosses of the related 'restricted' items in Eskimo (thus *wa-n* and *u-na* < **ug^w-na* are both used the same way of things pointed at nearby or held in the hand). The category 'extended' in Eskimo in fact includes objects in motion (for instance *ag^w-* and *pag^w-*). Bergsland's 'transversal/longitudinal' parameter corresponds roughly to the Eskimo 'restricted/extended' one. The 'oblique' ('to the side') items in Aleut are probably also secondary, taking vowel *u* (as opposed to the *a* found also in Eskimo adverbial forms) after the corresponding less accessible restricted and obscured stems (*ukna* does not by form belong here and presumably should be placed in the 'delimited' column). Oblique 'up' stems *hiku* and *haku* seem to have replaced *pag^w-* and *ping-* in their 'upslope' sense in Aleut, where the cognates of the latter stems, *haw-* and *hing-*, are used

	extended	restricted	obscured
1) Close to speaker	mað-(>uð-?)	ug ^w -	im-
2) Away from speaker on level			
a) More accessible	ag ^w -	ing-	am-
b) Less accessible (across barrier)	ag-	ik-	ak(ə)m-
3) Inside/outside from speaker			
a) More accessible (inside)	qag ^w -	qig ^w -(>kig ^w -?)	qam-
b) Less accessible (outside)	qag-	qik-(>kəg-?)	qak(ə)m-
4) Down from speaker			
a) same plane (more accessible)	un-	ukn-(>kan-?)	cam-
b) Further plane (less accessible)	(unəg-?)	ug-	cak(ə)m-
5) Up from speaker			
a) Same plane (more accessible)	pag ^w -	ping-	pam-
b) Further plane (less accessible)	pag-	pik-	pak(ə)m-

primarily anaphorically today (see Bergsland 1986:110). Similarly, oblique *qiku* and *qaku* have largely replaced 'inside' terms *qig*^w- and *qag*^w- (and *qam*-).

Let us look more closely at each of these sets. The first one ('close to speaker') seems to be missing one item, namely *uk*-; as Jacobson sees it (1984b), this stands outside of the system as such, referring to a person or thing moving towards the speaker (and Bergsland glosses it in Aleut as 'one in here – e.g. the house'). Denny suggests that this item once filled an original 'less accessible restricted' slot in set 1. The extended item in Eskimo, *mað*-, corresponds to Aleut *uð*-, which may derive from it, taking on the vowel of the other items in the set (and losing *h*- from *m*-) as Bergsland suggests (1986:111), though it is not impossible that it corresponds rather to Aleut *hað-a* 'direction towards', which however Bergsland tentatively relates to Eskimo verbal stem **pa(ð)ər*- 'meet' (p. 115). Another interesting, though purely speculative possibility is that Eskimo *u-na* itself reflects – or has been influenced by – an original **uð*-: observe the odd fact that deictic prefix *ta(ð)*- plus *una* produces *taunna* in Inuit (regularly reduced to *tauna* in Yupik) – the prefix is restricted in CAY to this and 'extended' *tamana* in a 'nearer the listener' sense, whereas in Inuit – and some other Yupik – it can be attached to any demonstrative in an anaphoric or 'other (not speaker's) field' sense. The latter is Denny's term: he sees the basic sense of *ta*- as having nothing to do with accessibility. The relative case of *taunna* is (in W Greenlandic form) *tauššuma* < **ta-uð-ðu-ma* (?), with the same *-ðu-ma* as on other stems such as *paššuma* < **pav-ðuma* and non-anaphoric *uuma* < **u-ðuma*. **ug*^w- plus *na* /*ðuma* should have produced *uv-na* /*uv-šuma* (cf. *uvani*), parallel to *pav-na* /*pav-šuma*. Could the *ð* here be the same locational element in **sa-ð* 'front' (cf. Bergsland 1986:111), and indeed in **mað-luð*? The relative form of the latter, *matuma* (and by analogy *katuma* from *kan*-) might even suggest a correlation with locational formant *-t(a)* in *kiwat* and *uat* discussed in this paper (and cf. Aleut *anga-da* 'opposite'). It is, however, quite possible that Greenlandic *taunna* does derive ultimately from **taug^wna* via *tau^wna*, which must also be the source of *taamna*, the equivalent of Yupik *tauna* ('that nearer listener') in Inupiaq and western Inuktitut.

Bergsland has suggested that the origin of *ug*^w-/*uw*- may lie in a geminate form **uvv-a* (1986:70), as reflected in the non-case-inflected adverbial Inuit form *uvva*. However, it is not at all certain that Inuit *vv* is original and not the result of expressive gemination. In Aleut this phoneme (phonetically [g^w]) is also restricted to demonstrative stems. In Inuit (where it appears as an ordinary *-v/w-*) note Greenlandic *ugga* alongside *uvva* and vialis *ugguuna*. The development of Aleut *wa*- (and *haw*-) to *gu*- (and *hagu*-) before suffix *ma* is probably secondary, however (Bergsland, pers. comm.). There is at all events no harm in hypothesizing an original phoneme **g^w* here, even if it only occurred geminated, and

there is some explanatory value in doing so also for the single segment: consider the development of **ug^w*- into *g^w*-, *x^w*-, or *k^w*- in different forms of Yupik from **ug^w*- *anga*, Inuit *uvanga* 'I'.

The obscured stem *im*-, which Jacobson (1984a) regards as outside the system (in Yupik it is purely anaphoric), arguably does not belong in the 'close to speaker' set at all. But it is no doubt the source of Aleut *um*- 'here invisible', whose vowel is by analogy with that of other members of the set. The consonant here is doubtless responsible for the *m*-symbolism of the other 'obscured' column stems. The correlation by Bergsland mentioned above of the Eskimo forms in *k(a)m* with Aleut ones in *k* suggests the addition of final *m* in the Eskimo forms. But actually the Aleut forms are not glossed by Bergsland as 'obscured' or 'out of sight' at all, but merely 'longitudinal' (further away). This could reflect a shift from a 'restricted' versus 'extended' or 'obscured' dimension to a simple 'nearer' versus 'farther' one, as appears to have occurred in Greenlandic, but if Denny is right and the development of *kam* obscured forms in Eskimo is secondary, the 'less accessible extended' slots vacated in Eskimo by the transfer of original *k*-final stems into the 'obscured' column must have been filled by non-labialized forms in *g* differentiated from the 'more accessible' ones in *g^w*. In Aleut, on the other hand, the original *g^w*-final forms would have become specialized for moving objects, with corresponding non-labialized *g*-forms filling the 'more accessible' slots.

The second and fifth sets are self-explanatory and quite parallel (at least in Eskimo), but the third and fourth sets are of particular interest in so far as items taken from them appear again and again in the larger area directional terms this work is concerned with. The Aleut 'inside' terms are either obsolete or restricted to place names (see Bergsland 1986:112 – also for **qam*-); note that **qig^w*- appears as *qig*- in Aleut (*w* only occurring next to *a*). It is the only item – apart from the newer oblique terms – referring to 'inside' ('there by the door') on Bergsland's table. The displacements here doubtless have something to do with the layout of the neo-Aleut house discussed earlier. Two items in Eskimo appear with an initial *k* rather than the expected *q*, namely 'inside' *kig^w*- (Siberian Yupik *kiw*-, Inuit *kiv*-; CAY *kiug*- reflects the same development as Norton Sound *qaug*- < **qag^w*-), and 'outside' *kæg*- (Inuit *kig*-, lost in Siberian Yupik). This could be due to assimilation (at a distance), though it is conceivable that the *k*- is original and that Aleut has regularized this to *q* (cf. Bergsland 1986:112, who relates Aleut *qig*- rather to *kæg*-). The Aleut form fits the sound symbolism of the system better, however, and it is quite possible that the voiceless final consonant (plus preceding vowel) of the Yupik form reflects the original voiceless final stop idiosyncratically (cf. also the fricative in corresponding 'down' term *ug*-). At all events, the semantics of Aleut *qik*- 'right out there near entrance' goes with 'outside' *kæg*-

rather than with 'inside' *kig*⁻, which goes with Aleut *qig*⁻ 'there by the door'. As we have seen, both 'outside' *qag* (and *qak*⁻) and 'inside' *qig*⁻ (and in place names *qaw*⁻) may refer to the east (same direction as 'in here by door' and 'out there by door'), whereas in Eskimo 'inside' *kiw*⁻ and *qaw*⁻ are 'right-along-the-coast' ('up-river' in riverine systems) and 'outside' *qag*⁻/*qakm*⁻ are in their directional sense restricted to the riverine systems, where they are at right-angles to the former. Inuit *kig*⁻ (from 'outside' **qik*⁻) functions like 'inside' *kiv*⁻ for 'right-along-the-coast' in Cape Prince of Wales and Greenland. But the development within Greenlandic of converse 'inside' and 'outside' senses for *qam*⁻ and *qav*⁻ (and perhaps at some stage *kig*⁻, now just 'outside') is however a later development, largely motivated by phonological assimilation; they now mean 'outside (from within)' or 'inside (from without)'. The specialization of *kiv*⁻ in its 'along the coast' sense is shared with Canadian Inuktitut. What appears to have happened in Aleut is that 'in there' senses developed for 'less accessible oblique' forms while the original 'more accessible (inside)' stems became largely restricted to their geographical directional sense. The corresponding 'straight' less accessible stems retained 'out there' senses.

The 'down' stem set clearly contains items from outside the system of sound symbolism altogether, two (or possibly three) original stem sets being only partially integrated into it. Only the first, consisting of *cam*⁻/*cak* (əṃ)⁻ (the former only in a place-name in Aleut acc. Bergsland 1986:113), fits the system well. It is possible that Aleut *ukn*⁻, semantically correlated to Eskimo *kan*⁻, does in fact reflect the origin of the latter, via loss of initial vowel and compensatory vowel epenthesis. Support for this supposition is found in the fact that prefixing deictic *ta*(ð)⁻ to this stem produces *takan*⁻ in Inupiaq, as opposed to *tatkig*⁻ from *kig*⁻, whose initial consonant is clearly original; *kan*⁻ might then once have been vowel-initial (cf. *taik*⁻ from *ik*⁻). If this was so, perhaps the other items here, *un*⁻ (and *unəg*⁻) and *ug*⁻ (found only in a place-name in Aleut, acc. Bergsland 1986:112) are also relatable to this stem via syncope and metathesis, though Bergsland instead suggests that *ukn*⁻ may itself be by metathesis from *un*(ə)g⁻, despite the imperfect semantic match. Denny suggests that both *ukn*⁻ and *ug*⁻ could be from **unk*⁻, both forms belonging originally in the 'less accessible restricted' slot and the final **k* being the 'less accessible' marker as in Jacobson (1984b:89). It is possible that the Yupik stem *unəg*⁻ (absent in Inuit as well as Aleut) is a later development from *un*⁻ (cf. the final *g* of the other less accessible extended items). The latter would at all events seem to represent an ancient stem with a specific sense of 'down at the beach' pre-dating the integration of the sound symbolism system of the other demonstratives, hence the Aleut ethnonym *un-angis*, roughly 'seaside dwellers'. *un*⁻ could well be one of the handful of originally quite independent demonstrative stems ingredient in

the formation of the system; other likely ones would be *mað*⁻, *ug*⁻, *im*⁻, *uk*⁻ (all 'outside the system' in some respect), plus *cak*⁻ (cf. the *k*), *ing*⁻ or *ping*⁻ (cf. the *ng*), *ag*⁻, *pag*⁻ and/or *qig*⁻ (cf. the *g*). In Inuit *ug*⁻ has largely merged with *un*⁻ to form a single 'extended' set, *ung-na* (= *unna* in Barrow) going with adverbial *una-ni* (though note also *ta-ugga* 'down there').

The restricted stems *ug*⁻ ('down there/towards exit/downriver') and *kig*⁻ ('inside/upriver') came to be coupled to produce one of the major directional axes discussed in this paper, a coupling whose ultimate justification can be found in the layout of the ancient Eskimo house, as I have argued. An alternative coupling of terms for this axis – more typical of Inuit – employs extended stems *qag*⁻ 'inside' and *ag*⁻ 'over there' rather than the extended term *unəg*⁻ corresponding to *ug*⁻ as *qag*⁻ does to *kig*⁻. As well as supporting the hypothesis that *unəg*⁻ is secondary, this would seem to suggest that the *qav*⁻ ~ *av*⁻ linkage took place in a coastal setting, referring from the start to directions along the coasts (as opposed to 'down to the shore' versus 'into the house'); the selection of 'extended' items rather than 'restricted' ones also suggests application to larger areas than the house and its immediate confines.

The demonstrative system described above has been considerably simplified in modern W Greenlandic (see Fortescue 1984:261). The (partial) collapse of the 'more/less accessible' distinction in Canadian Inuktitut represents an intermediate stage. The basic distinction in W Greenlandic is between 'nearer' and 'further' items, such as *ping*⁻ (adverbial *pik-ani*) as opposed to *pav*⁻ (adverbial *pav-ani*), there are only traces of the original 'restricted/extended' distinction left – especially as regards the *una*/*manna* pair. Several stems have, moreover, become specialized in a coastal orientation sense (thus *av-lqav*⁻ and *kiv-kig*⁻). The 'reshaping' that has taken place in the modern Aleut system (see Bergsland 1986, section 4.3) seems in part to have followed the same direction, but with the 'more/less accessible' dimension partly reinterpreted in terms of 'moving/non-moving', and the 'more accessible up' terms now anaphoric only. The 'less accessible' items of sets 2, 3 and 5 have moreover been further differentiated into 'oblique' correlates with following *u*. The latter presumably spread from 'outside' *qik*⁻ and *qak*⁻ in connection with the introduction of the 'new' Aleut house with roof entrances: the floor of the house was now obliquely down from the entrance ladder. The development in Aleut was thus indeed a reshaping rather than a simplification.

Sources of the data (published or in manuscript)

East Greenlandic: Robbe & Dorais (1986); Robbe (1977); Rasmussen (1938)

West Greenlandic: Schultz-Lorentzen (1926); Klein-schmidt (1871); Berthelsen et al. (1977)
Polar Eskimo: Holtved (1951)
North Baffin-Igloodik: Dorais (1978); Zeilich-Jensen (1974)
South Baffin: Boas (1894); Dorais (1975a & 1975b)
Aivilik: Rasmussen (1930); Carpenter et al. (1959)
Caribou: Rasmussen (1930); Thibert (1958); Schneider (1966)
Netsilik: Rasmussen (1931)
Copper: Métayer (1953); Rasmussen (1932); Lowe (1983)
Mackenzie: Métayer (1953); Lowe (1984a & 1984b)
North Slope: MacLean (unpubl.); Webster & Zibell (1970); Jenness (1928); Rasmussen (1941)
Kobuk: Webster & Zibell (1970)
Seward Peninsula/Bering Strait: Jenness (1928); Rasmussen (1941); Menovshchikov (1980)
Northern Quebec: Schneider (1970 & 1985/66); Dorais (1979); Véziné (1975)
Labrador: Peck (1925); Jeddore (1976); Bourquin (1891)
Siberian Yupik: Menovshchikov (1960, 1964 & 1975); Rubtsova (1971); Jacobson (forthcoming).
Central Alaskan Yupik: Jacobson (1984a); Hinz (1944)
Nunivak: Hammerich (unpubl.); Lantis (1946)
Alutiiq: Leer (unpubl.); Birket-Smith (1953)
Aleut: Bergsland (1980); Jochelson (1966)

Distribution of principal directional terms in the data

ag- (cf. *av-*) Lab
aanisittuq Lab
ajguq/ajwa- Ch, SLI, Na
akinnaq Ig, Car
akivaq SLI
am- (cf. *av-*) Wa
atčarniq/agsarniq/anisarniq Ai, WG, Ko, PE, CS
atuarniq NS, Tar, Lab
av- CAY, NB, SB, It, Lab, WG, EG, PE, Car, NS
avannaq WG, PE
ik- Ch, NS, WG, SLI, Di
ikakeq Chu
ikevaq Ch
ikaknaq/ikangnaq NS, Na, Im, LI
ing- (cf. *ik-*) KI
jaakeq Chu
kan- Ko, KI, Di, NS, NB, WG, Wa, Ch, SLI
kanaknaq/kanangnaq Ai, EG, WG, Co, KI, Car, NB, SB, Ma, NS, Wa, Im, Di, CAY, PE
kanakšaX Si
kanakeq Al, Ch
kangi- WG, Net, Wa, Lab, It
kig- (cf. *kiv-*) WG, EG, Wa
kilu/kelu- Co, NS, Ch, Im, Ma

kilungnaq/kelukneq NS, CAY (Yu)
keluvaq/kelevaq/kelugaq Na, Im, HBC, Al, CAY (NI)
kit-/ket- Net, WG, EG, Ch, Im, Lab, It
kiv-/kiug- Ko, KI, Ch, SLI, CAY, LI, Al
kiakeq/kiugkeq Al
kivat- Co, NS, Car, Ko, Ma
kujat- WG
nakarjaq Na, Ch
nigiq/negeq Ko, Wa, KI, Di, Co, Ma, NS, CAY, Nu, Chu, WG, PE, Nun, NB, SB, Ai, Car, Na
neqqajaaq EG
nerqik NSo, Nu
niggiq Tar, It, Lab
nigiqpaq/negeqvaq LI, Im, NS, FB
negerpigaq Na
pag- (cf. *pav-*) Wa, SLI
pakpalaq Na, Ch
pam- Si, SLI, Ch, Al (Kon), PH
pav- WG, EG, Lab, CD
pik-/ping- (cf. *pav-*) NB, NS, Wa, Na, Ch, SLI, Lab, Co, WG, PE
pingangnaq Ai, Co, Car, Tar, Lab, SB, NB, Ma
qag- (cf. *qav-*) CAY
qaakeq Al (AP)
qak(e)m- (cf. *qav-*) CAY, Ko, NS
qam- (cf. *qav-*) Im
qav- NB, WG, NS, Ma, Co, Lab, Wa, Al, SLI, Nun, Ko, PE, EG, Na, Tar
sagm-/cak(e)m- (cf. *sam-*) Ko, SLI, Na, NS, Im, Ch
sam- Ch, SLI, Na, WG, EG, Ko, It
siqiniq Tar, It, Lab
tarraq Tar, Lab, It
tarraliniq LH
tunu Co
tunuviaq FB, CS
uangnaq/uanniq/uaknaq (cf. *ug-*) Ai, NB, SB, Tar, Car, Lab, Di, Na, It, Nun
uaqnaq LI
uangnagruk NS
uannirluaq Lab
u(g)- Ch, SLI, Im, Si
uat- Wa, NS, Ma, Co, Net, Car
waakeq/waakneX Al, Nu
waasaaq/waaseX Al, Nu
un- Lab, CD, Nun, BI
ungalaq/ungaliq Ko, NS, Wa, Ma, Co, Di, KI, Al, LI, Im, Nu, Nun, Na
ungalaqliqniq CAY
ungalli NS
uququq/uqraq/urqaq Im, NB, Ch, Na, Si

Abbreviations: Lab (Labrador), Ch (Chaplino), SLI (St. Lawrence Island), Na (Naukan), Ig (Igloodik), Car (Caribou), Wa (Wales), Ai (Aivilik), WG (West Greenland), EG (East Greenland), PE (Polar Eskimo), Ko (Kobuk), NS (North slope), Tar (Tarramiut), CAY (Central Alaskan Yupik), NB (North Baffin), SB

(South Baffin), It (Itivimmiut), Di (Little Diopmede), Chu (Chugach), Im (Imaqliq), LI (Lake Iliamna), KI (King Island), Co (Copper), Ma (Mackenzie), Si (Sirenik), Al (Alutiiq), Net (Netsilik), Yu (Yukon), NI (Nelson Island), Nun (Nunamiut), Nu (Nunivak), HBC (Hooper Bay/Chevak), NSo (Norton Sound), FB (Frobisher Bay), Kon (Koniag), PH (Point Hope), CD (Cape Dorset), AP (Alaska Peninsula), LH (Lake Harbour), CS (Cumberland Sound), BI (Bathurst Inlet).

Demonstrative stems in Barrow Inupiaq

uv-	here; restricted
mař-	here; extended
ik-	over there <i>or</i> across there, down coast to west; restricted
av-	over there, down coast to west; extended
am-	there (behind a barrier), in another room or house; not visible
ag-	across there; extended
akim-	across there; not visible
kan-	down there, near or on sea, near exit; restricted
un-	down there, near or on sea, near exit; extended
sam-	down there, far out to sea, inside container, <i>or</i> here, below speaker, on or by sea; not visible
sakim-	outside in cold porch; not visible
kig-	out there nearby; restricted
qag-	out there; extended
qakim-	out there, in neighbouring house; not visible
kiv-	in there, up the coast to east; restricted
qav-	in there, up the coast to east; extended
qam-	in there, up the coast to east; not visible
pik-	up there, landward; restricted
pag-	up there, landward, extended
pam-	up there, upstairs, in heaven, inland; not visible
pakim-	up there on roof; not visible

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