NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER

PREHISTORIC TRADE IN NEW ZEALAND
(SYMPOSIUM - N.Z.A.A. CONFERENCE, 1975)

I.W. Keyes

The N.Z.A.A. conference for 1975, held at the National Museum, Wellington, during 13-17th May, was organised as a series of symposia around six topical themes - Prehistoric Trade in New Zealand; The Chatham Island Programme; The Wairarapa Archaeological Programme; Public Archaeology Overseas; Dating New Zealand's Prehistory; and Early Cultivation in Prehistoric New Zealand. Presented papers either outlined new work underway or summarised investigations that had been completed. The symposium on "Prehistoric Trade in New Zealand", organised by Professor R.C. Green, was the main conference theme and drew the most contributors. As a record of this symposium (which was spread over two days) the papers presented are listed below with a brief note outlining the scope of each contribution.

Any archaeological study of prehistoric trade in New Zealand (apart from use of traditional or historical records) has to be largely based on a consideration of the distribution of non perishable lithic materials that occur in early occupational sites. It is from the analysis of these materials, particularly those that are known to only occur at restricted geographic sources that possible regional trading patterns can be inferred. It has not been until more recent years when archaeologists have undertaken detailed work on the identification and sourcing of many of the more dominant rock types used in prehistory that it has been possible to reliably document patterns of human distributed rock materials with their concomitent "trade" implications.

Tuesday, 13th May

(1) Locating and sourcing prehistorically utilized greenstone sources by Mr Neville Ritchie, Otago University.

Work on the collection of nephrite from South Island sources (particularly inland Otago occurrences) and its detailed mineralogical study, is producing a better understanding of the distribution of nephrite types. Investigations are showing that the old idea of Otago nephrites being mostly semi-nephrites and largely inferior to those of Westland is not being borne out by the present study and Otago sources now need a full reassessment.

(2) Porcellanites by Mr Graeme Mason, Otago University.

These siliceous rocks were formed through the massive fusion of quartz (from terrestrial sandstone beds) by the tremendous heat generated from the natural combustion of buried lignite seams. They are found in Otago and Southland in areas where low rank coal deposits occur and the material was utilized in southern archaeological sites. This paper defined the origins, colour range, composition, terminology for and distribution of this rock type and the present research being carried out in defining source areas that may have been known in prehistoric times.

(3) Rock chemistry and mineralogy as an aid in sourcing of artifacts by Dr G.A. Challis, N.Z. Geological Survey.

Accurate identification of rock types in artifacts and correlation with a particular source may be made through detailed chemical and mineralogical analysis of very small samples.

Samples from known quarry sites in the Nelson ultramafic belt are being analysed by flame photometer for sodium and potassium, and by X-ray diffraction for mineralogy, to provide a basis for comparing adzes made of these materials. Some distinctive rock types can be recognised, and it is possible that some adzes may be identified to a specific source in the ultramafic belt.

(4) Tahanga Basalt by Mr Phil Moore, N.Z. Geological Survey.

The occurrence of fine-grained basalt at Tahanga Trig., Coromandel Peninsula, has been an important source of stone for adze manufacture in the Northland-Auckland-Bay of Plenty region. The basalt was probably widely distributed throughout this area around 1300 A.D., and close to the source may have continued to be an important material until early European times. Abundant flakes in eastern Coromandel Peninsula sites demonstrate transport and working of the raw material. Flakes could have been used for finishing woodwork and for flax preparation.

(5) Rock sources in some North Island archaic sites by Mr Simon Best, Auckland University.

Petrological work to determine variation present in Tahanga basalt has shown that it is uniform in composition making identification of this material in artifacts fairly reliable. No sources of similar basalt in Northland are known. Flakes and archaic adzes examined from Mt. Camel have shown that Tahanga basalt was used almost entirely in their manufacture. It is assumed that raw material was obtained by expeditions to Coromandel Peninsula rather than by trade as the basalt does not seem to have been used elsewhere in Northland.

Obsidian at Mt. Camel also has a Coromandel source. Many Northland 2B adzes also examined are found to be made from a distinctive gabbro, the source of which is unknown but deduced to be related to the Tangihua volcanics of the Kaipara and Hokianga-Bay of Islands area.

(6) Prehistoric materials in inland Patea
by Mr Tony Batley, Moawhangu, Taihape.

A determination of the rock types used for 17 archaic adzes collected from the Inland Patea region of central North Island shows that all are of imported stone, most of which can be traced to a northern South Island origin. Obsidian finds too show connections with the Taupo area as well as with Mayor Island. From all these materials trade links, either direct or indirect, with coastal areas and beyond are implicit.

(7) Changing patterns of manufacture and trade in coastal Papuan prehistory by Mr Geoff Irwin, Auckland University.

Although not part of the New Zealand scene this contribution outlined the important relationship that sources of pottery clay, pottery manufacture and trade had for the coastal Papuans of Mailu village. Sources of raw material remained fairly static throughout time but the growth and decline of coastal villages and their manufacturing techniques with resulting changes of complex inter village trade patterns were outlined by the speaker.

Friday, 16th May

(8) Patterns of trade in orthoquartzite, veined argillite and greenstone by Mr D.R. Simmons, Auckland Museum.

The distribution of orthoquartzite (Otago), "veined argillites" (= the distinctive black-veined grey metasomatised mudstones from Ohaua Bay, D'Urville Island) and greenstone (Westland, Otago) are three rock types that are easily "sourced". These last two materials show extensive geographic distributions when archaeological recoveries are plotted, indicating wide-spread importance of these commodities in prehistory with the necessity of extensive trade to account for such distributions.

(9) Possible strategies for the analysis of obsidian from archaeological sites by Dr Roger Green, Auckland University.

Methods for sourcing New Zealand obsidian range from those dependent on colour in transmitted light to density measurements, refractive indices and trace element studies. When determining the properties critical for identification purposes it is usual to use the best (and often most expensive) analytical methods, which are usually destructive of samples. For routine analysis of large numbers of samples for source determinations the objective should be to achieve reliable results by (a) using non-destructive methods wherever possible; (b) the quickest, least expensive (but accurate) methods to divide samples into sub-samples; (c) combining methods to get reliability (i.e. colour and density for Mayor Island) restricting the most sophisticated, expensive and destructive methods to the smallest, most difficult to source sub-samples. Suggestions on achieving these aims were presented.

Although not part of the "Prehistoric Trade Symposium" a further paper presented by Mrs Kathy Prickett - "Stone resources of the prehistoric inhabitants of Palliser Bay" - in the "Wairarapa Archaeological Programme" symposium should also be mentioned. This contribution, based on a detailed analysis of recovered flake material from Palliser Bay excavations, demonstrated the great range of local and imported rock types that had been utilized. Local materials obtained from the Wairarapa were important (e.g. cherts, silicified limestone, greywacke, kokowai) but equally significant were obsidian from northern areas, metasomatised argillites, serpentine and schist from Marlborough, nephrite, bowenite and orthoquartzite from Westland, Fiordland and Otago. The presence of such a range of imported stone suggests that the obtaining of specific types was regarded as important to the occupants, and these materials entered the region through trade or deliberate collection.

At the completion of the Trade Symposium time was reserved for discussion with R.C. Green, Kathy Prickett and I.W. Keyes available to act as discussants. To round off the comments a short paper (prepared by I.W. Keyes) was given. This had "evolved" from notes made during the Symposium and attempted to provide some extranious thoughts on the subject of prehistoric trade. This text (in spite of its shortcomings and disjointed nature through hasty preparation) is presented below in its original form in the hope that it may add a few additional thoughts and stimulate further work on the subject of prehistoric trade. The only modification made has been the addition of a diagramatic summary at the end.

SOME PATTERNS OF TRADE IN PREHISTORIC NEW ZEALAND

Evidence for prehistoric trading patterns is generally based on the finding of lithic material that is known to occur in a restricted area - far removed from this natural occurrence. The conclusion that these finds suggest trading took place is not entirely reliable as a group of people may have collected and carried material away from the source themselves rather than have bartered for it with another group who occupied the general area of its occurrence.

Many early New Zealand ethnographic accounts stress the seasonality of much of Maori activity - that is, groups habitually travelled considerable distances at various times of the year for their divers wants. As a great many of the stone resources such as obsidian, nephrite, metasomatised argillite, cherts, basalts etc. were readily accessible by water, canoe movements for supplies would have been a regular occurrence once sources became known. Obviously in early periods of New Zealand prehistory when population numbers were low and territorial jealousies minimal it can be speculated that egress into any region for raw material collection would also be less likely to meet with any conflict, and the existence of any formalised trading networks for material supplies would be largely undeveloped. In contrast to this however many early European accounts also stress the conflicts, tribal boundaries, and territorial rivalries that existed between various groups and these to some extent placed strictures on widespread movements except within territories controlled by related or friendly hapu. Such restrictions would have tended to hamper movements to or from natural resources but increase the likelihood that commodities travelled through regions to be exchanged at territorial boundaries without the physical movement or intervention of people into anothers territory for a prized resource.

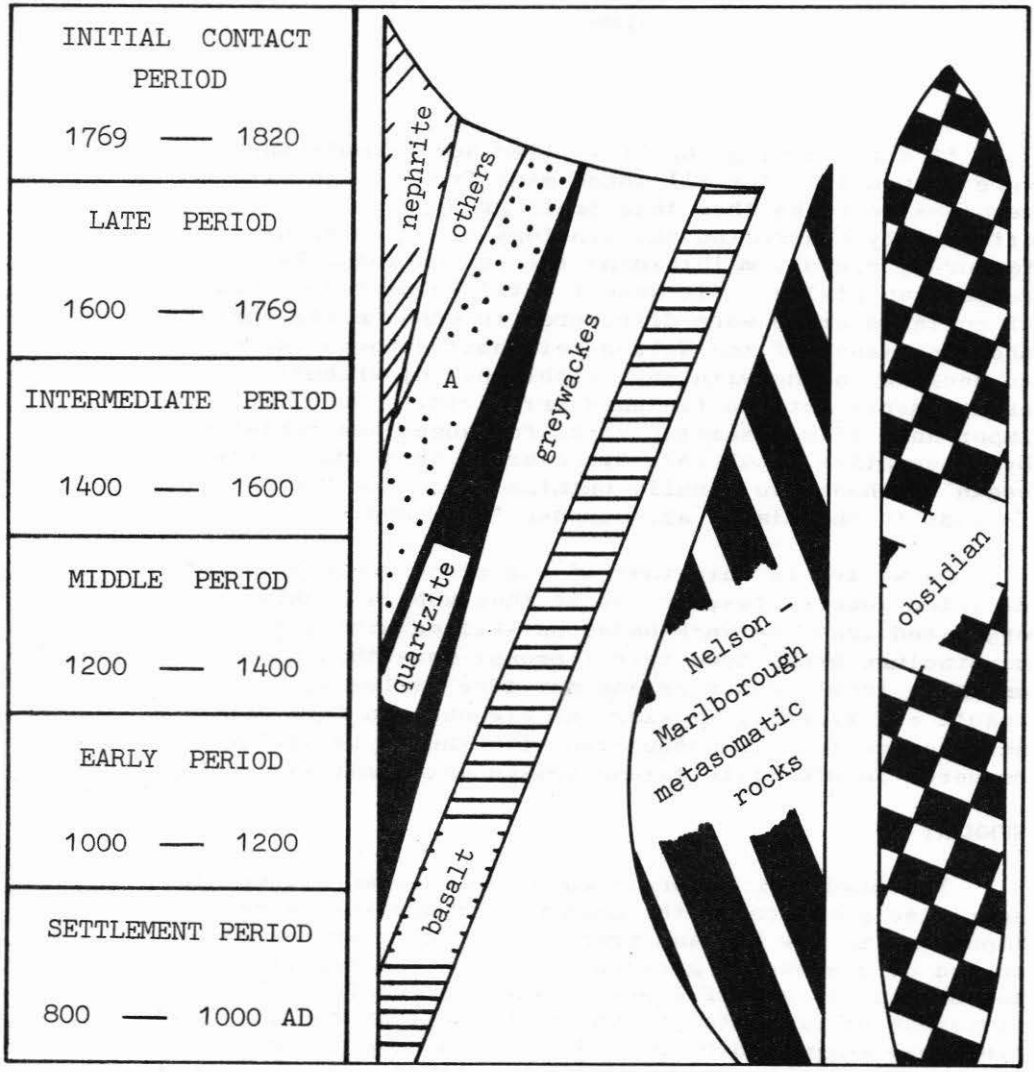
All hard rock types in New Zealand prehistory had a local significance but sometimes this importance went beyond the region of occurrence and the stone raw material from a single source became widespread. Of all the rock material that was utilized however, three types had a significance that was New Zealand wide. They were nephrite, obsidian and metasomatised rocks.

NEPHRITE: This was a later discovery but a prestige material that was widely sought - and traditional accounts (as well as archaeological discoveries of this rock) provide the best outline of a trading pattern that existed in prehistoric New Zealand. It was the Poutini branch of the Ngai-Tahu that occupied Westland who were the traditional collectors of nephrite. This was traded with the main body of Ngai-Tahu who occupied the Marlborough-Canterbury-Otago region of the South Island, either across the Southern Alps or by sea. Otago Ngai-Tahu also collected nephrite from inland Wakatipu sources carrying this back to the coast. Thence from the east coast of the South Island some went to the east coast of the North Island to the remnant hapu of Ngai-Tahu (who were largely assimilated by the Ngati-Kahungungu) of southern Hawkes Bay. Again some of this nephrite crossed mountain ranges, by trade or raid, to be taken far inland to the Rotorua-Taupo region.

OBSIDIAN was an early discovery in New Zealand settlement, with Mayor Island providing the main source throughout prehistory. Little is known of how any network of trade worked for obsidian, except that the movement from Mayor Island into the South Island could have, in later times, been related to the Ngai-Tahu trading network. If not, the alternative was only hundreds of kilometres of sea or land travel!

METASOMATISED ROCKS from the Nelson-Marlborough ultramafic belt were widespread and extremely important in the earlier periods of prehistory, and their distribution may be evidence for a special form of trading system based on D'Urville Island. These metasomatic rocks were an early discovery probably because they occur close to the waters edge. They would appear to have been located during the earliest "settlement period" (c.800-1000 AD), as early adze assemblages found in Northland and Cook Strait (identified by the range of strictly East Polynesian forms e.g. Types 1, 2A, 4 of Duff) have utilized this material.

On D'Urville Island vast quantities of flakes in earliest occupation layers show that adze working was significant, and with evidence for early agriculture it is practicable to consider a possible equation - extensive adze working + agriculture= permanent occupants with an adze making tradition! The tonnes of flakes signify extensive working on the Island and moa bone from middens show outside contacts. Nowhere in the North Island has there ever been found a working site where raw metasomatic rock was flaked into finished adzes - it all appears to have been done at or near the original quarry sites. The alternative to a resident group of adze manufacturers (and traders) is that voyages from outside the area periodically converged on D'Urville Island, made their annual supply of stone tools then departed. This presupposes that all tribal groups in the country knew of the quarries, the sailing directions, positions of best material, the means of quarrying, flaking and working etc.



A = Otago — Southland metasomatic rocks

"others" = gabbro, andesite, diorite etc.

If a resident group of skilled adze manufacturers were responsible for all adzes made from the localised metasomatic rocks then this small group also effectively controlled the typology of adzes manufactured, rigidly maintaining the conventional East Polynesian styles. It wasn't until substitute sources of suitable stone were discovered in other areas that the importance of the Nelson metasomatic rocks began to decline, along with any established distribution arrangements for the finished artifacts. Once the importance of metasomatic rocks for adzes was replaced by alternative local rock discoveries then adze styles began to change to finally culminate, in the North Island, in the simple all-purpose "2B" adze.

Do we see in this that it was stone varieties that dictated adze styles, or was it that when a highly organised trade network based on skilled artifact manufacture broke down tribal groups were thrown back on their local resources and new adze styles were the result - noticeably lacking the elegance in form and manufacture that is associated with the early styles rendered in D'Urville Island-Nelson metasomatised rocks.

SUMMARY

The included generalised diagram is an attempt to summarise graphically the main rock types that were important in New Zealand prehistory, their approximate period of discovery, greatest period of utilization and decline in significance. The time scale and divisions of prehistory used on the left of the diagram are those suggested by D.R. Simmons in several publications. Of the rock types obsidian (on the right) was discovered early, its use was wide and constant throughout prehistory. Similarly, the metasomatic rocks of the Nelson-Marlborough ultramafic belt had an early discovery (D'Urville Island) reaching their greatest use and distribution during the "Early Period" only to gradually decline in importance over later periods. This decline largely coincided with the rise in importance of other newly discovered local rock types (to left of diagram) which reduced the dependence on the use of this one previously dominant rock type to finally replace it.