Paleoclimatic studies conducted on the Canadian and Columbia Plateaus (Hansen 1955; Alley 1976; Hebda 1982; King 1980; Mack, Rutter, and Valastro 1978; Campbell 1985a; Mathewes 1984) indicate that from ca. 8000 to 4500 BP the climate was slightly warmer and drier than present (Figure 14). Sometime between ca. 4500 and 4000 BP cool and moist conditions were established, followed shortly by the commencement of the Plateau Pithouse tradition between 4000 and 3500 years ago. Modern climatic conditions were established between ca. 3000 and 2000 BP, characterized by warm and dry conditions.

Cultural changes during the Plateau Pithouse tradition may be attributable to several factors, including: (1) minor environmental changes and consequent cultural re–adaptation (i.e., the onset of slightly warmer and drier conditions sometime between 3000 and 2000 BP may be related to the shift from the Shuswap to Plateau horizons); (2) increasing adaptive efficiency to a reasonably stable environment; (3) adaptive changes related to increasing human population density; and 4) adaptation to a changing socio–cultural environment, perhaps related to southward Athapaskan migratory pressure (see Wilmeth 1978b; Magne and Matson 1984:301–365, 1985), or socio–economic pressures exerted by the more highly developed Northwest Coast cultures to insure a reliable supply of Canadian Plateau nephrite and steatite (Fladmark 1982:131,135).

During the Plateau Pithouse tradition there is a general pattern of sustained cultural continuity, although the horizons are recognized and defined as variations on a basic cultural adaptive theme. Continuity in human population and ethnicity is suggested by the data. Since people occupying the Canadian Plateau at the time of contact were primarily Interior Salish, it is likely that the Plateau Pithouse tradition represents the prehistory of this ethno–linguistic group. Other researchers have also postulated long–standing population/cultural continuities on the Canadian Plateau (e.g., Sanger 1970:127; Stryd 1973b:30,31). A late prehistoric southward migration of Athapaskans onto the northwestern Canadian Plateau is also apparent (see Wilmeth 1978b; Magne and Matson 1984, 1985), but the repercussions of this event or process are as yet poorly understood.

DISCUSSION AND SUMMARY

One important question raised in this synthesis is: to what degree did the inhabitants of the Mid–Fraser River region (Boston Bar to Big Bar Creek) participate in Canadian Plateau cultural horizons? It appears that during the Shuswap horizon, cultural patterns in this region were much like those noted for the rest of the Canadian Plateau. During the following Plateau and Kamloops horizons, however, this region diverged to some degree with respect to other regions. The most salient difference is in housepit size—on average they are

substantially larger than elsewhere. This may be attributable, in part, to significant differences in social organization. It has been hypothesized that important cultural developments in the Mid-Fraser River region involved changes in social organization and intensification of interaction with coastal cultures between ca. 2000 and 1000 BP (see Stryd 1971, 1973a, 1974; Fladmark 1982; Hayden *et al* 1985).

Hayden *et al* (1985) postulate that large late prehistoric housepits (greater than 15 m in diameter) in the Lillooet and mouth of the Chilcotin localities were occupied by large socioeconomic coresidential "corporate groups" who had exclusive control over certain important resources or trading rights, whereas smaller dwellings (9 to 15 m) were occupied by socioeconomic units of lesser importance. They argue that the larger average size of Mid-Fraser River region housepits compared to those found elsewhere on the Canadian Plateau (see Tables 4 and 5) may indicate the existence of corporate groups resulting from trade contacts with the Northwest Coast.

The only single component excavated Shuswap horizon housepit from the Lillooet locality (HP 1, EeRk 4) is 16.4 m in diameter, which is 4.8 m larger than any other single component Plateau or Kamloops horizon housepit from this locality. Like elsewhere on the Canadian Plateau, it may be that the use of very large housepits was also common in the Lillooet locality during the Shuswap horizon, and therefore, it is possible that many of these large houses may simply owe their size to adaptive or behavioral factors which are unrelated to the existence of corporate groups. This may be especially true of large multi-component pithouse sites which span the entire Plateau Pithouse tradition. If such is the case, we caution that the provisional identification of "corporate group" pithouses simply on the basis of large house diameters might be erroneous in some instances.

In considering the small sample (n = 5) of single component excavated Plateau horizon housepits from the Mid-Fraser Region (Table 5), they are considerably larger than elsewere on the Canadian Plateau, having a mean diameter of 9.9 m (s.d. = 1.72; range = 8.0 to 11.6 m). This phenomenon may be due to the existence of "corporate group" behavior as hypothesized by Hayden *et al* (1985), although this remains to be demonstrated. House dimensions during this time appear to be similar to those for the later single component Kamloops horizon dwellings in this region (n = 6), which have a mean diameter of 9.48 m (s.d. = 1.32 m, range = 7.5 to 11.2 m). The Mid-Fraser River region Kamloops horizon houses have diameters similar to those from other regions of the Canadian Plateau during this time.

Fladmark (1982:131) suggests that on the Canadian Plateau there appears to have been a ". . . marked peak of cultural deposition about 1000-1500 BP . . .

perhaps indicating some kind of climax in the number and size of pit-house settlements at this time." This statement was based upon his plotting of radiocarbon dates by 100-year increments, and the assumption that ". . . the frequency of dated site/levels may be a rough measure of the relative density of aboriginal occupation through time" (Fladmark 1982:115). This assumption is questionable because of the non-representative manner in which most investigations have been carried out; and because of the biased nature of the archaeological record, in which older sites are under-represented due to erosion in the river valleys where most pithouse villages were located. To test Fladmark's hypothesis, we plotted all currently available radiocarbon dates by 100-year increments, but we have distinguished Mid-Fraser River region dates from those derived from sites located elsewhere on the Canadian Plateau (Figure 24; Table 13). Mid-Fraser River region dates definitely cluster between 1000 and 1500 BP, but the dates from the rest of the Canadian Plateau are not exceptionally frequent during this period and instead reflect a general increase in numbers through time.

Another important question is: to what extent did prehistoric Athapaskan Chilcotin, Lower Carrier, and Nicola populations participate in the Plateau Pithouse tradition? To properly answer this, it is important to know precisely when these groups or their ancestors appeared on the Canadian Plateau. At Tezli, located in ethnographic Lower Carrier territory, Donahue (1978) sees cultural and population continuity for over 4000 years without evidence for any disruptive influx. It is possible that ancestral Lower Carrier Athapaskans were partially acculturated to the Plateau Pithouse tradition and occupied the area for thousands of years.

A socio-ecological model proposing a southward intrusion of Chilcotin Athapaskans has recently been advanced by Magne and Matson (1984:301-365, 1985). They propose that as a result of the White River volcanic eruption, there was a southward influx of northern Athapaskan groups between ca. 1250 and 650 BP which passed through south-central B.C. (see also Wilmeth 1978b; Workman 1978). A "tension zone" between Athapaskan and Salishan groups is hypothesized to have existed around 450 years ago with the southern extent of winter villages occupied by small Athapaskan groups located in the approximate vicinity of Anahim Lake (Magne and Matson 1984:360, 1985; Wilmeth 1978b). Such a tension zone would no doubt have resulted in greater contact between the western Shuswap and Chilcotin commencing around 450 BP. Several ethnographic accounts mention that there was frequent interaction between these two culture groups (i.e., through intermarriage, trade, warfare) (see Lane 1953; Morice 1893; Ray 1939; Teit 1909). Available archaeological and ethnographic evidence suggest that the Plateau Athapaskans were at least partially acculturated to the primarily Salishan Plateau Pithouse tradition.

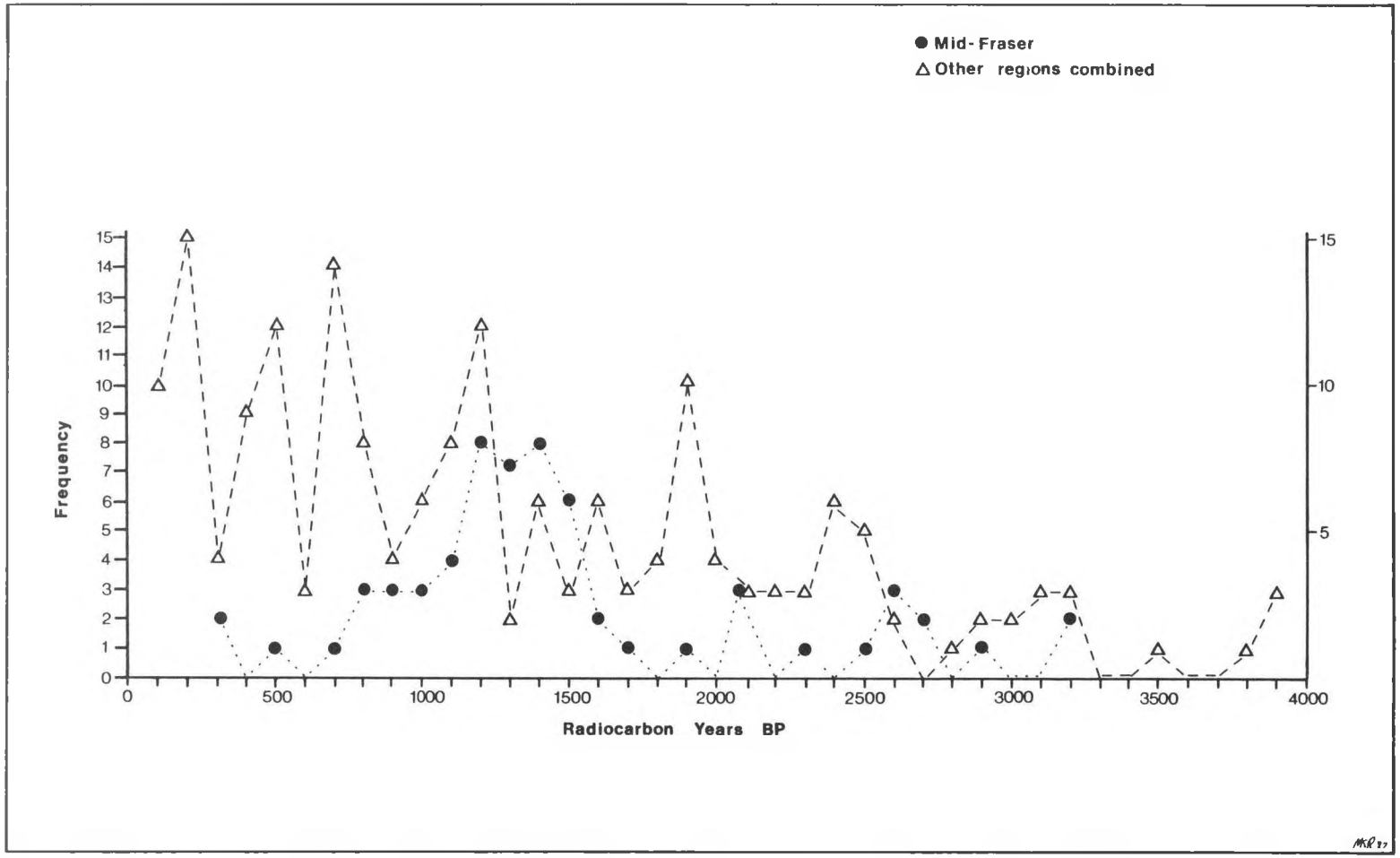

Figure 24. Frequencies of radiocarbon dates secured from Plateau Pithouse tradition components plotted in 100-year intervals for the last 4000 years (see Tables 12 and 13). The solid dots represent Mid-Fraser River region dates only; the triangles are all other regions combined.

The Nicola-Similkameen are recognized as being a small group of Athapaskans who arrived relatively late on the Interior Plateau, and occupied the Nicola and Similkameen Valleys as far south as the mouth of the Similkameen River in Washington (see Bouchard and Kennedy 1984:12-22). The duration of Athapaskan Nicola-Similkameen occupation in this area remains controversial and poorly understood. Dawson (1891:24) and MacKay (1899:74-75) maintain that they arrived in the mid-1700s as a result of a Chilcotin war expedition against the Shuswap, whereas Boas (1895:31-33) argues that they had occupied the area for much longer. On the basis of linguistic evidence, Wyatt (1972:196) suggests that Athapaskan occupation of the Nicola Valley began after ca. 600 BP. Archaeological research directed at identifying prehistoric Athapaskan (Nicola-Similkameen) occupation of the Nicola Valley produced inconclusive results (Wyatt 1972:196). Perhaps future archaeological research will help to resolve this important problem.

In spite of a considerable amount of research conducted on the Canadian Plateau over the last 25 years, subsistence and settlement patterns are still very poorly understood. Most researchers make extensive recourse to analogy with Interior Salish ethnographic data. For example, house depressions from prehistoric sites are often described by archaeologists as the remains of winter habitations, but this assumption is never substantiated by analysis of floral or faunal seasonal indicators. It is possible that some housepits were occupied during other seasons, or perhaps even year-round. Also, salmon have been widely regarded as the most important food resource throughout most of the Canadian Plateau in late prehistoric times. Until recently, this assessment has been based entirely on ethnographic analogy. The archaeological evidence surely does indicate that salmon was a major food resource throughout the Plateau Pithouse tradition, however, fluctuations or major changes in its relative importance or proportion respective to other food resources has yet to be properly examined.

In order to determine the dietary importance of individual mammal, bird, or plant species, detailed faunal and floral analyses must be undertaken. Such studies are rarely conducted as standard procedure in Canadian Plateau sites, and we strongly emphasize that this situation must change. Detailed study of faunal assemblages from sites widely separated in space and time will probably only provide a general picture of Canadian Plateau subsistence. What is desperately needed to gain an understanding of Plateau Pithouse tradition subsistence/settlement patterns is a regional approach as advocated by Binford (1964). We believe that this approach would be facilitated by the use of regionally defined phase sequences.

Following a model of Upper Columbia drainage basin settlement dynamics recently posited by Choquette (1985), Lawhead, Stryd, and Curtin (1986:31-32) have hypothesized that there may have been a decreased availability of salmon

during the Plateau horizon compared to the earlier Shuswap horizon and later Kamloops horizon as a direct result of changing climatic conditions. They suggest that the decline in this important resource may have been offset to some degree by an increase in the intensification of upland root and plant resources, and increased group mobility. An overall population decline throughout the Plateau horizon is also postulated. Alternately, we hypothesize that although salmon may have decreased slightly at that time, we regard the Plateau horizon as a period of probable population increase in relation to the Shuswap horizon. Resource stresses imposed by growing numbers of people, and perhaps a reduction in salmon numbers, may have been offset by simply expanding the repertoire of resource options, and/or by intensifying the use of secondary resources (i.e., upland roots, berries and game), a readaptive strategy that may not have detrimentally affected population growth. Carbon isotope ($\delta^{13}C$) analysis of an adequate sample of Plateau and Shuswap horizon skeletons would be useful in determining if in fact there was a notable decrease in the relative quantity of dietary marine protein.

A major problem in Canadian Plateau archaeology involves microblade technology. The formal and technological attributes of microblades and cores have been documented as the "Plateau Microblade tradition" (Sanger 1968c), although many microblade assemblages lack some of the characteristics of this technological tradition as described by Sanger (see Ludowicz 1983:11; Campbell 1985b:299–304). It has been hypothesized that this tradition originated in the northwestern Subarctic area and spread southward either through population migration or diffusion (see Sanger 1967:191, 1968c:112, 1970:127; Borden 1969:2, 1979:967). The Plateau Microblade tradition remains poorly understood, and we are presently uncertain about its commencement and termination dates, spatial distribution, function, and cultural significance (see Sanger 1967; Donahue 1975, 1978; Stryd 1973a; Fladmark 1982; Borden 1979: Wilmeth 1978b; Helmer 1977a,b).

In a recent assessment of microblade technology on the Columbia Plateau, Campbell (1985b:299–304) notes that it is represented between ca. 7000 to 3000 BP in the Rufus Woods Lake region, and it is evident only at temporary field camps and resource procurement stations/locations and not at winter village/base camp sites. Ludowicz's (1983:153–164) study of Lochnore–Nesikep locality and Upper Hat Creek Valley microblade assemblages concludes that microblades were more common at lithic scatter base camps than winter pithouse settlements. We concur with Campbell (1985b:301) that the presence and frequency of microblades at a site are most probably related to functional considerations arising from specific activities and their executive strategies, rather than being indicative of ethnic affiliation. Microblades are represented in notably high frequencies at upland sites immediately adjacent to small lakes and/or streams (see Pokotylo and Froese 1983; Stryd and Lawhead 1983; Lawhead, Stryd, and Curtin 1986). Some researchers hypothesize that the apparent high density of microblade sites observed

in upland areas adjacent to the Thompson River valley may be indicative of Athapaskan presence (see Lawhead, Stryd, and Curtin 1986:190; Magne and Matson 1985:18). Adequate sampling and investigation of upland resource procurement sites should be conducted in many regions on the Canadian Plateau to examine this important problem in greater depth. A regional approach involving the investigation of various types of contemporaneous sites will undoubtedly help to solve the "microblade problem".

Pictographs and petroglyphs have not been discussed in this synthesis due to the present inability to date them by absolute means, although we think that they are late prehistoric phenomena. The dating of pictographs may be possible by the Accelerator Mass Spectrometer (AMS) method (Nelson, Korteling, and Stott 1977) if uncontaminated organic binding constituents of the paint can be recovered.

In conclusion, this study is a synthetic summary and general culture–historical framework that will facilitate the chronological ordering of archaeological data in localities or regions on the Canadian Plateau that are currently unknown or poorly understood. The horizons are to be considered as Canadian Plateau–wide archaeological integrative units which should be useful for general levels of comparison with other archaeological areas. This synthesis will hopefully permit archaeologists conducting research on the Canadian Plateau to speak a common language, and allow us to begin addressing problems relating to culture process and adaptation.