CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 Introduction and Research Objectives

"Key-shaped formed unifaces" constitute a unique chipped stone tool type occasionally found at late prehistoric archaeological sites on the Interior Plateau culture area of northwestern North America. They are conspicuous by their distinctive recurrent morphological and technological attributes, and most are made of "exotic" cryptocrystalline silicates (Chapters 2.2 and 3.4).

Despite their previously acknowledged potential to be regarded as temporal horizon markers and indicators of specific task execution at sites (Fladmark 1978), the cultural, chronological, and functional significance of these tools has never been fully explored or assessed.

The main objectives of this thesis are: (1) to determine the approximate geographical extent and temporal distribution of "key-shaped" formed unifaces in northwestern North America; (2) to determine the primary function of this tool type on the Canadian Plateau by undertaking a detailed research design including design theory, microwear analysis, residue analysis, and tool replication and experimental use; and (3) to discuss the significance and implications of these considerations with respect to our current understanding of the late prehistoric period on the Interior Plateau.

Specific research questions to be addressed are:

1. What is the presently known geographic distribution of key-shaped formed unifaces in northwestern North America?

2. When did the use of these items commence and terminate in the Northwest?

3. What cultural and technological significance do the geographic and temporal distribution of these tools have with respect to late Plateau prehistory?

4. What was the primary use-behaviour (function) of this tool type, and what technological or adaptive significance does this have?

5. How did resharpening and hafting strategies influence the design of these tools?

6. On the Canadian Plateau, why were the majority of these items manufactured from relatively rare "exotic" microcrystalline and cryptocrystalline silicates rather than from the more readily available and more commonly used basalts?

This study is considered to be an important contribution to our understanding of Interior Plateau prehistory for the following reasons:

(1) determining the geographical distribution of these items will provide some insights regarding their primary function and environmental context of use;

(2) disclosing their chronological history will permit them to be used as temporal horizon markers for relative dating of components;

(3) determining their primary function will permit specific use-behaviours and related adjunct activities to be directly inferred for components bearing these tools;

(4) ascertaining why the majority (ca. 90%) of these items were produced from relatively scarce "exotic" cryptocrystalline and microcrystalline silicates on the Canadian Plateau may provide some insights into the poorly understood relationship between lithic raw material properties and functional considerations, and will permit advancement of models relating to obvious preferential selection of lithic materials on the Plateau;

(5) this study will contribute to development of "middle range theory" on the Plateau, and may serve as a model for similar studies in the future; and

(6) this study will also provide an opportunity to assess the relevance, efficacy, drawbacks, inadequacies and future potential of several methodological techniques and procedures (i.e., microwear analysis, residue analysis, and tool replication and experimentation).

1.2 Previous Research

On the Canadian Plateau (Figures 1 and 6), key-shaped formed unifaces have been previously called "curved tail end-and-side-scrapers" (Grabert 1968), "crescent scrapers" (Stryd 1974) "combined convex-concave-scrapers" (Blake 1976), "concave formed unifaces" (Turnbull 1977), "zinken-like implements" (Donahue 1975), and "concave side-scrapers" (Fladmark 1978). The term "key-shaped formed uniface" was coined by Richards and Rousseau (1982) because these tools have general formal similarity with a contemporary lock key (Figures 2, 3 and 11 to 20), and it does not infer a prejudged function (e.g., scraper), nor does it refer to inappropriate European functional analogues.

Fladmark (1978) has been the only researcher to previously discuss and draw attention to the potential importance of these items on the Plateau. In a short unpublished conference paper he remarked that:

(1) they appear to be chronologically restricted to between ca. 3300 and 1200 BP, and therefore, have potential to be regarded as reliable diagnostic temporal horizon markers;

(2) they appear to be geographically confined to the Interior Plateau culture area;

(3) the majority have been manufactured from "exotic" lithic materials (i.e., chalcedonies and cherts) rather than from the more commonly used basalt which often comprises about 90% of most chipped stone artifact classes in excavated assemblages from the Canadian Plateau;

(4) when laid dorsal face up and the projection oriented distally, they all have a left-handed concavity; and

(5) that they likely functioned as carving tools for hard organic materials, such as wood.

Fladmark's brief paper forcefully emphasized the potential for these tools to be regarded as temporal horizon markers, and also raised several important and interesting questions germane to both Plateau prehistory and lithic studies in general. Although his initial observations and preliminary interpretations were academically intriguing, a subsequent detailed study designed to explore and assess the significance and function of these distinctive tools has not been attempted until now.