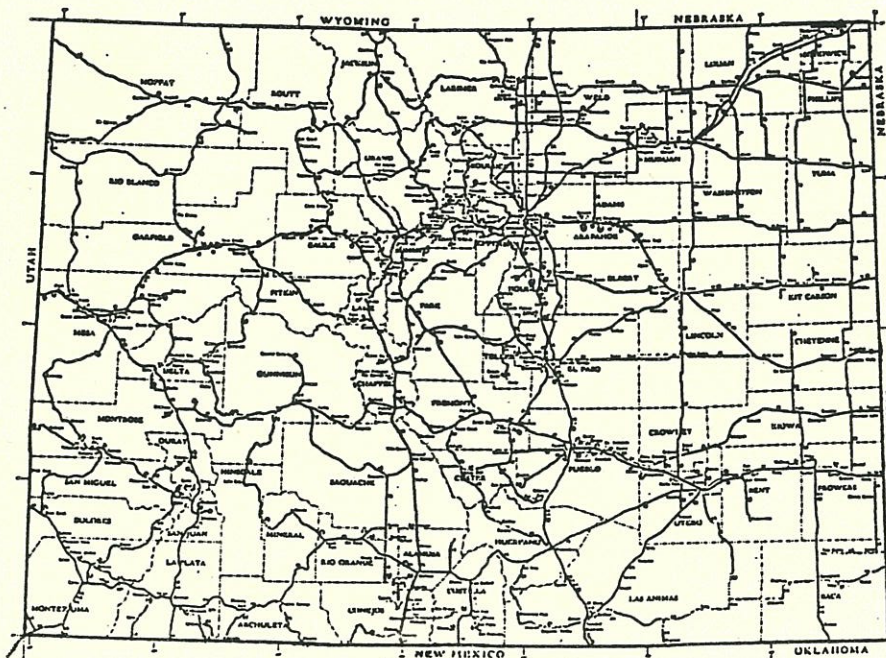


COLORADO HISTORICAL ARCHAEOLOGY CONTEXT

by

William G. and Nancy B. Buckles



COLORADO
HISTORICAL
SOCIETY

COLORADO HISTORICAL ARCHAEOLOGY CONTEXT

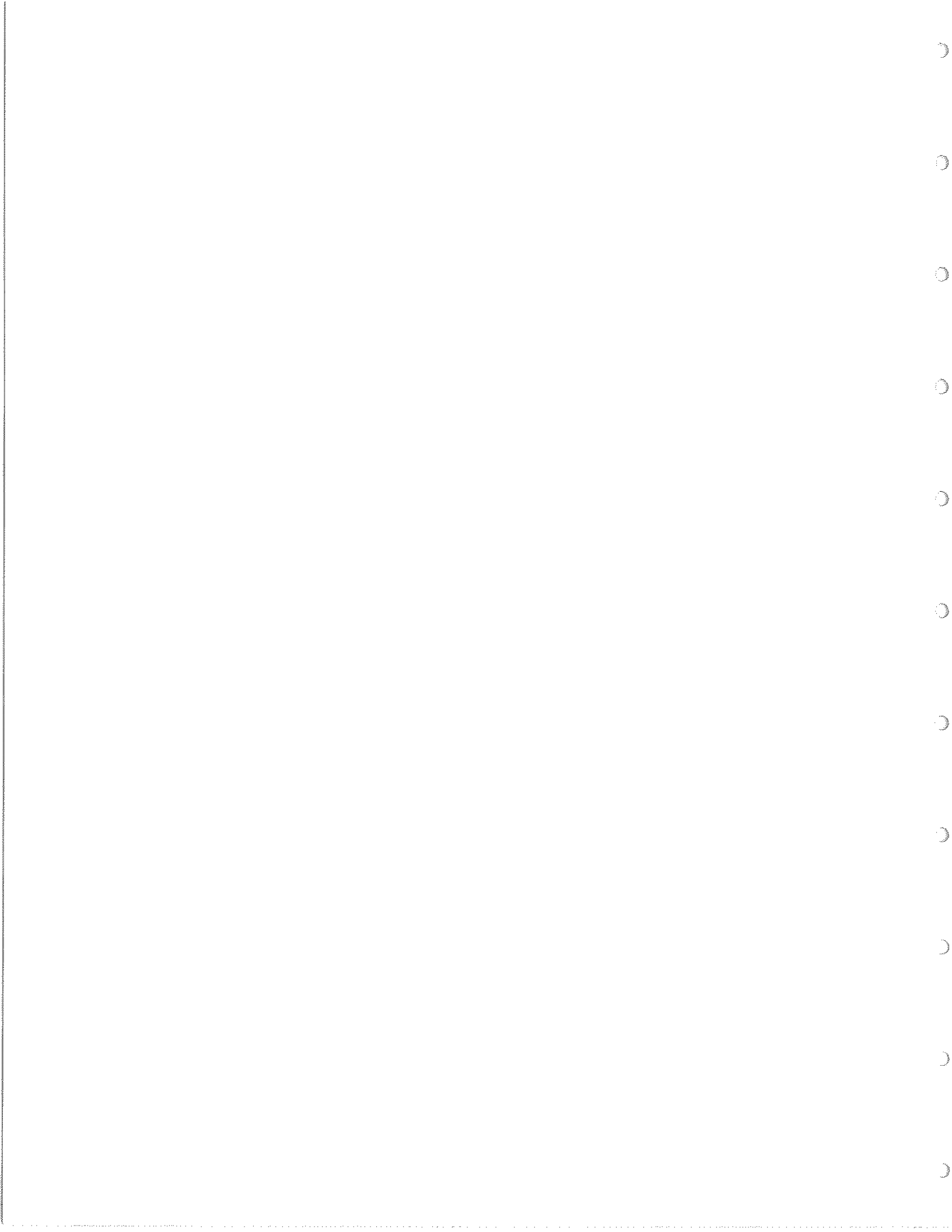
by

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Colorado Historical Society
1300 Broadway
Denver, CO 80203

1984

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PREFACE

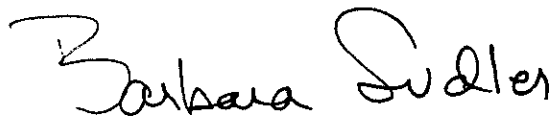
The Historical Archaeology context is part of the Colorado Historic Context reports. These reports summarize and evaluate the evidence of historic resources in the state. Additional volumes in the set include the historic contexts of four regions in the state--the Plains, the Mountains, the Southern Frontier, and the Plateau Country; historic evaluations of Urbanization and Planning and Engineering themes; and a Guide to Colorado Architecture.

The Historical Archaeology context is concerned with all manifestations of historic events and activities in the state. Researchers performing historic investigations in the state should use the Historical Archaeology context in conjunction with the other historic contexts.

The overall purpose of these reports is to provide a background for the current historical knowledge in Colorado, and to give research direction towards the protection and preservation of historical resources in Colorado. These reports can provide guidance for state and federally mandated cultural resource management, as well as direction for pure research.

The development of these reports is a direct outcome of the "RP-3" (Resource Protection Planning Process) effort led by OAHF archaeologist Judi Halasi, to whom we are indebted for her two years of hard work. The Colorado Council of Professional Archaeologists, Paul Nickens, President, also strongly supported this project and shared with each author the results of CCPA's Regional Research Design efforts of 1979-1981. This in turn had roots in both State Archaeologist Bruce Rippeteau's 1977 Statewide Prehistoric Overview and Colorado State University archaeologist Elizabeth Morris's 1978 Plains Conference Symposium on Colorado Archaeology.

We hope that these volumes will stimulate an awareness of, and appreciation for, the fragile historical archaeological resources of Colorado, and for the tedious and difficult science required to investigate, evaluate, and interpret the evidences of our past Coloradans and their worlds.



Barbara Sudler
President
State Historic Preservation Officer

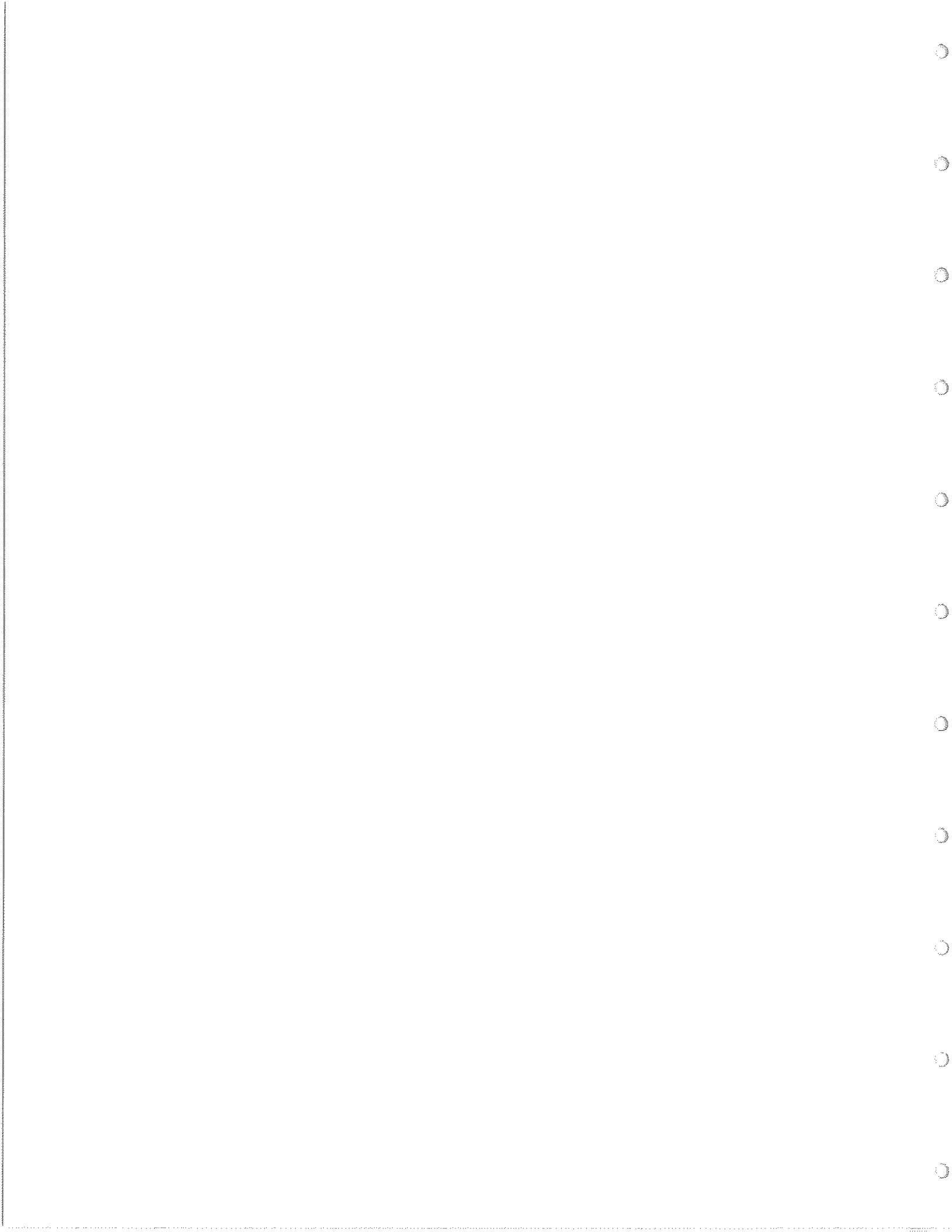
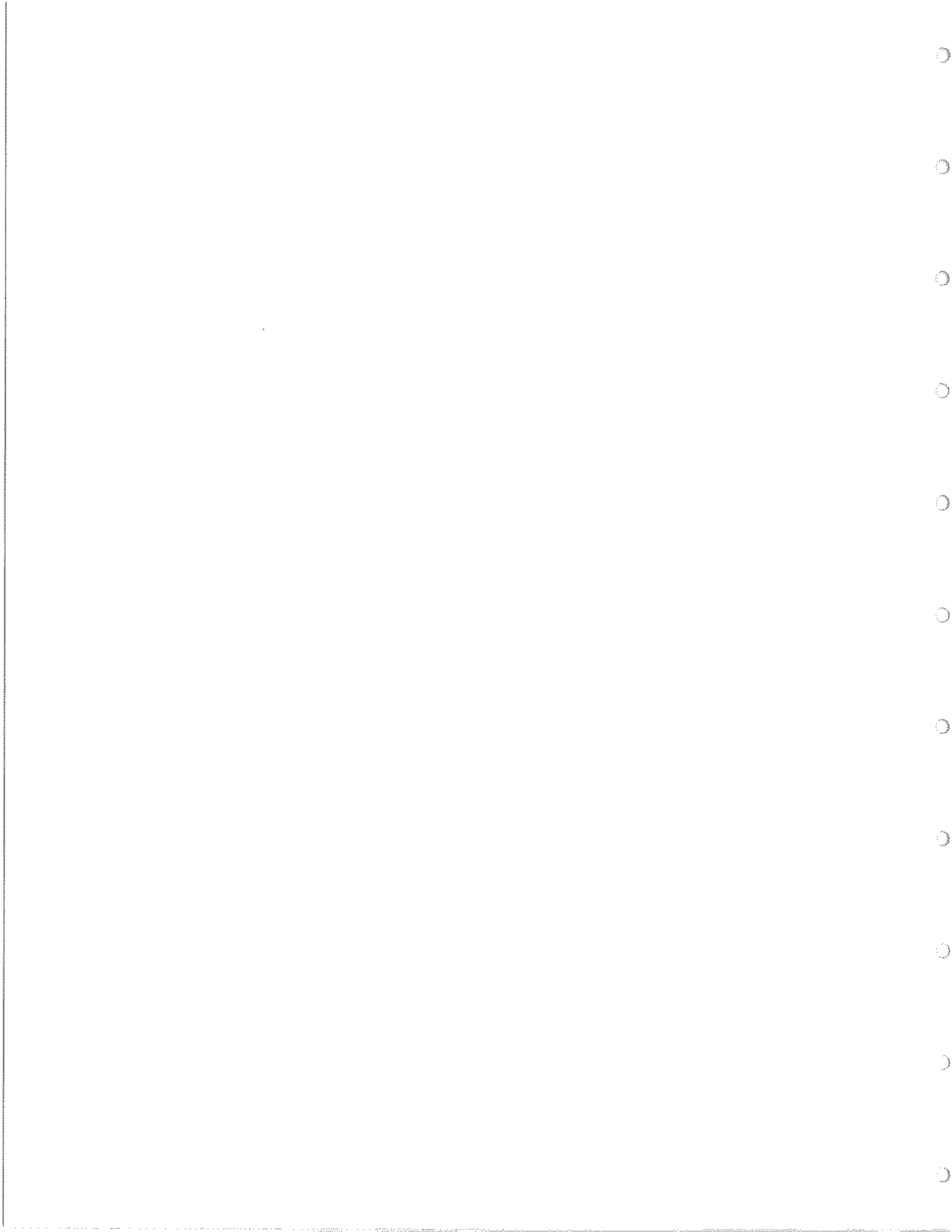
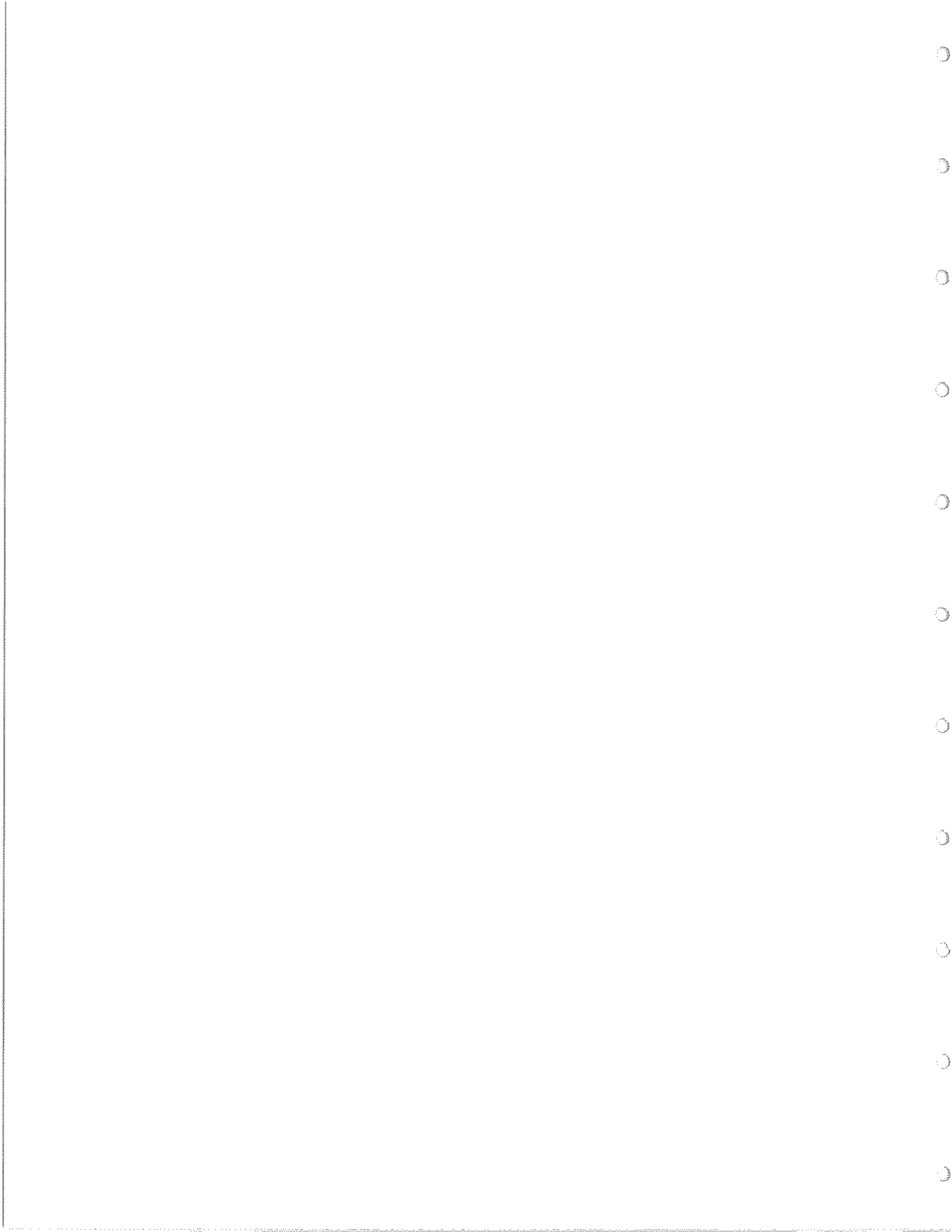


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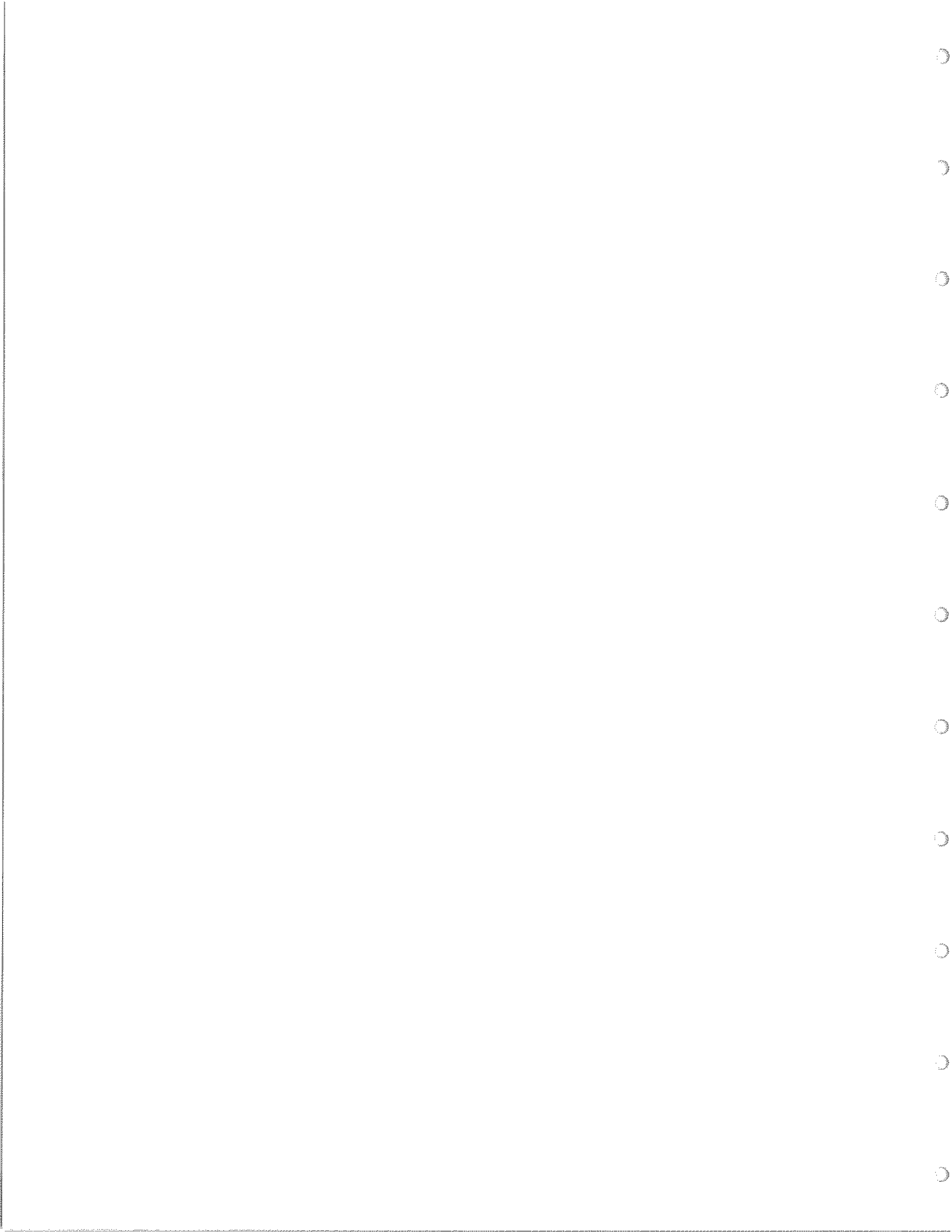
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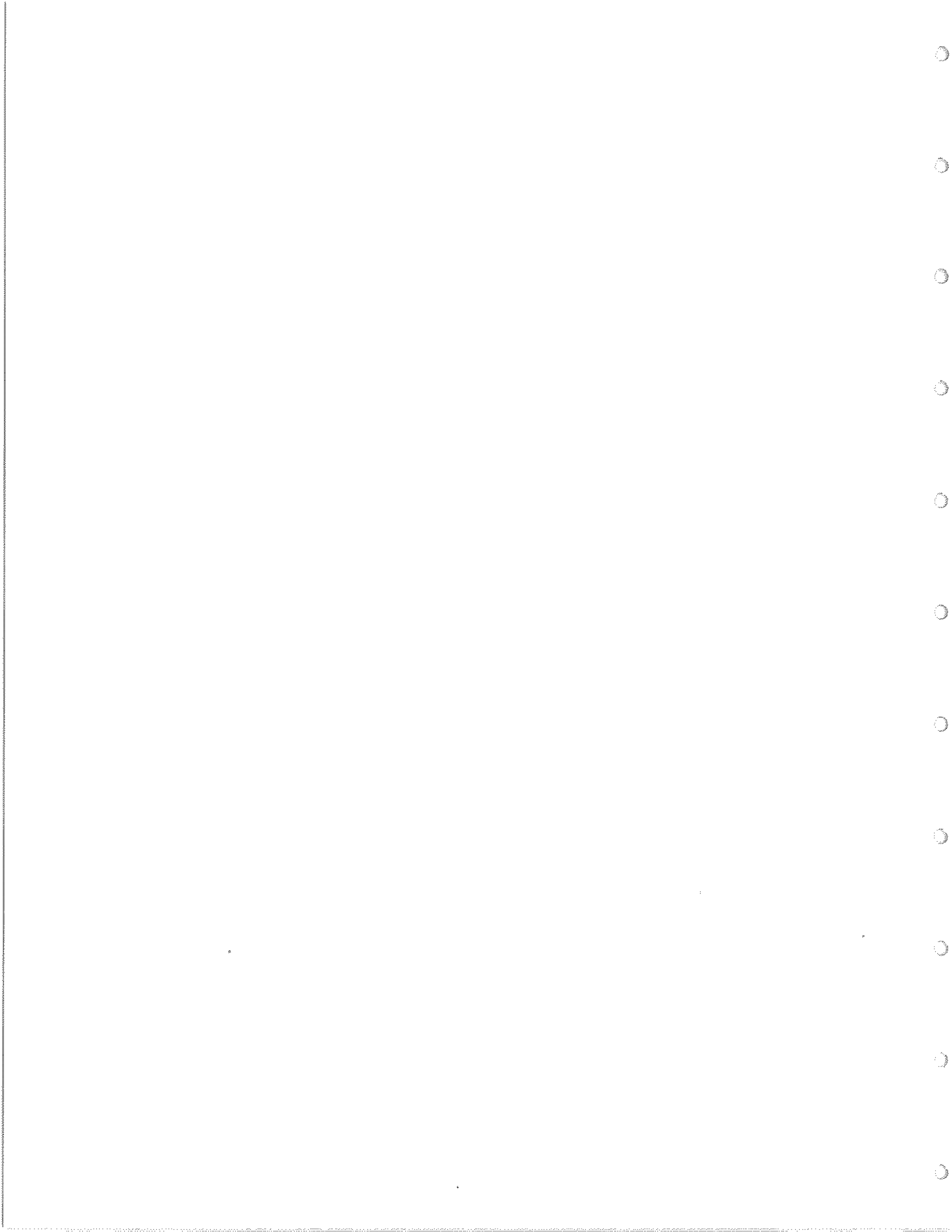
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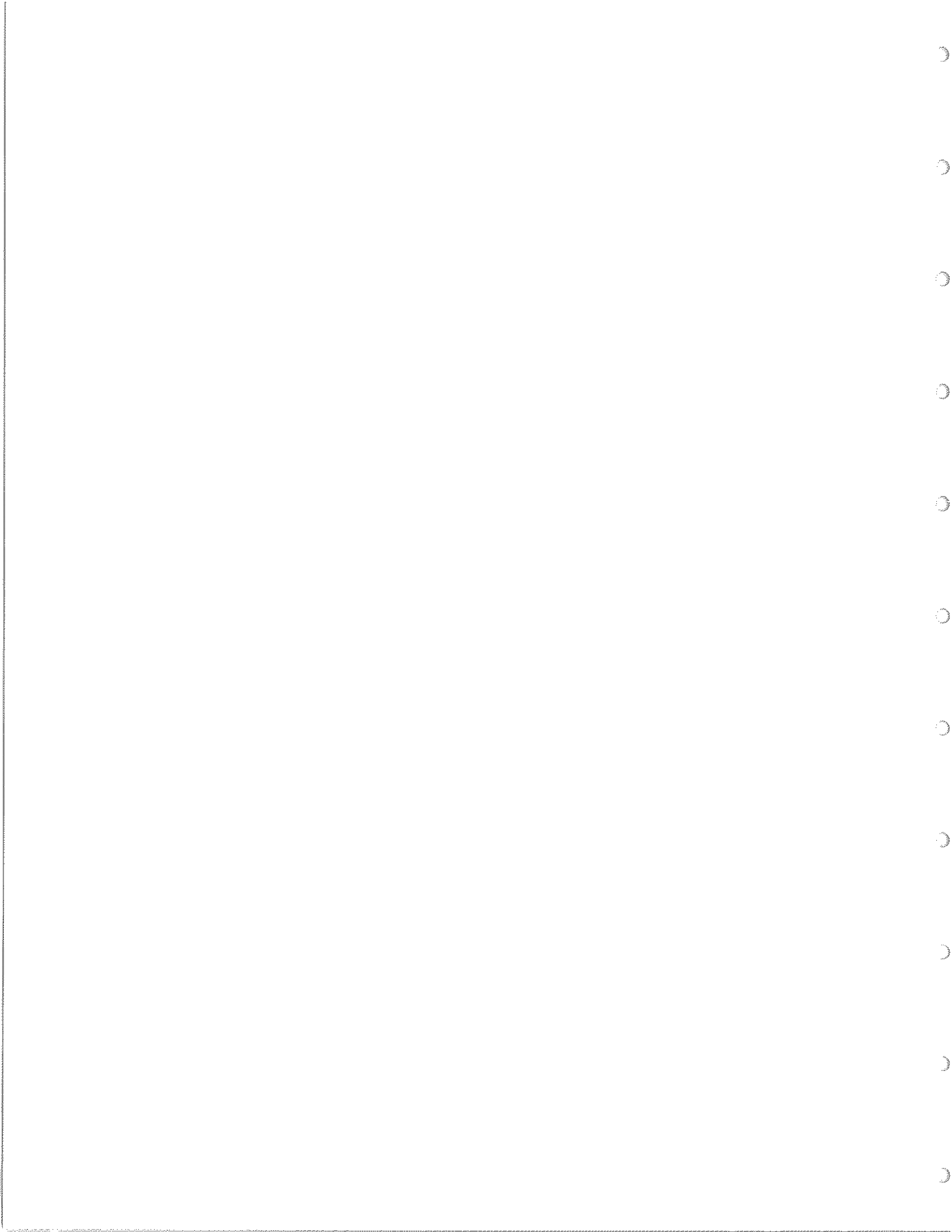


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INTRODUCTION

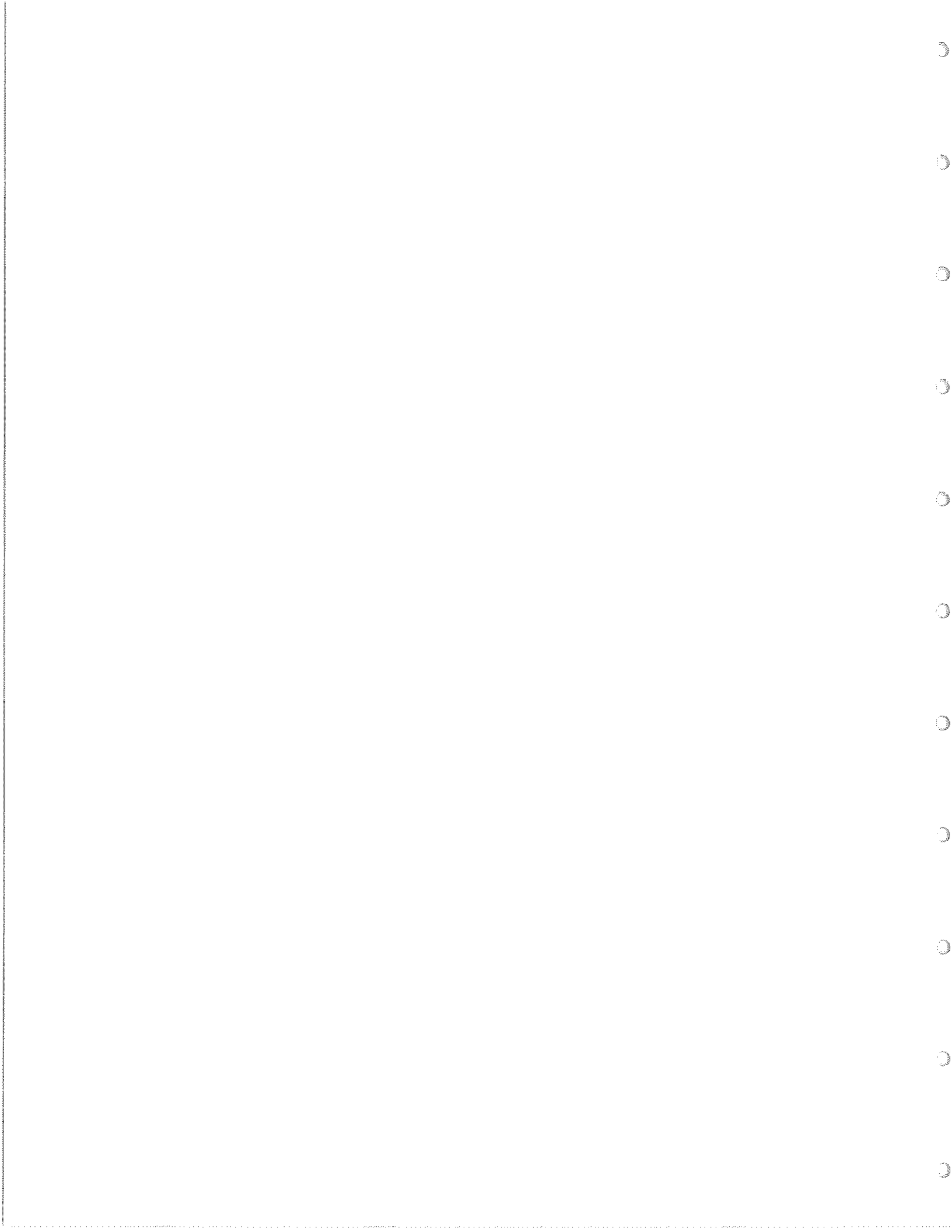
The goals of the report were to develop an historical archaeology context for the State of Colorado for making decisions about cultural resources and to incorporate historical archaeological values into the State Preservation Planning Process.

In addition to developing a research plan for historical archaeology, our response to the project has been to develop a framework by which major issues can be resolved and some consistent goals established for historical archaeology in Colorado. These ultimate goals include increasing the standards for and meaningfulness of information known about cultural resources for use in theory building and testing, and in reporting the resources to the public. The framework we have developed generates questions which can be the bases of research designs for the conduct of historical archaeology in Colorado since it defines a structure within which historical archaeology and other disciplines interact in identifying, inventorying, manipulating, and explaining historical phenomena.

The framework for the historical archaeology context is based on ten variables including temporal periods, environmental zones, site function, and type, network type, population, ethnicity, behavior indicators, settlement type, artifact types, and historic associations.

The temporal element of the framework is used as the system of historic units for the research plan for historical archaeology in Colorado. Within the research plan, the quality and quantity of past historical archaeology work in the state is considered and research recommendations are presented. These historic units are a continuum of socio-politically significant time periods spanning the history of the state. This single system is utilized for the historical archaeology research plan for the whole state. It was felt that this was more appropriate than developing separate plans for various regions of the state. In this way, the single plan, which is based on temporal units, can be used in conjunction with Colorado regional historic contexts or with the engineering and urbanization contexts.

The research plan for Colorado is presented in the first section of the report. The framework for historical archaeology identification and evaluation is presented in the second section. One additional element of the project is presented in the Appendix to the reports. Appendix A presents examples of how to use the framework for identifying sites. The project methodology included the evaluation of the significance of local informants and participation in gathering information about the history of an area. A questionnaire was developed and a series of workshops were conducted in Pueblo, Colorado. A copy of the questionnaire and an evaluation of the results of this project are included in Appendix B.



I. HISTORICAL ARCHAEOLOGY RESEARCH PLAN FOR COLORADO

CURRENT STATUS AND NEEDS OF HISTORICAL ARCHAEOLOGY IN COLORADO

Method of Analysis

The following summaries of historical archaeology investigations provide information concerning resources identified through solicitation of information and a survey of cultural resource management reports in the Office of Archaeology and Historic Preservation. The summaries identify ten temporal periods of Colorado history for sites recorded at the survey level and sites investigated through excavations. Sites are listed according to Thematic System and/or System Types and Descriptors identified in the statewide framework previously discussed. Briefly discussed for each site are dates, possible components and features, other descriptors, and the source of the information.

Thematic system data gaps are identified for each temporal period for Colorado history and information is presented relative to how data gaps and other needs can be addressed. The specific types of recommendations made for each period are:

1. How to Identify Historic Cultural Resources
2. Research Questions
3. Future Needs

The recommendations, while not comprehensive, offer broad frameworks for understanding the present status of historical archaeology and present some direction for filling data gaps and improving the types, spans, and utility of historical archaeology.

Specific statements made regarding each period of Colorado history are related to the more general problems of developing research designs, identification of historic resources, and future needs which apply to Colorado historical archaeology. These problems are addressed in the "General Research Plan for All Periods," a segment concerned with how to fill data gaps. It precedes the presentation of data and recommendations for each temporal period.

Future needs for historical archaeology are addressed through the personal perspective of the report writers and should be viewed as suitable for trimming, substituting, adding, etc. The recommendations are intended to be stimulating and not comprehensive or binding.

Data Sources

The presentation of information on the current status of historical archaeology in the state is not comprehensive. While there are many persons performing historical archaeology, there is not adequate sharing or dissemination of the information. We note here that requests for information relative to historical archaeology were mailed on two different occasions

during the progress of the project to all members of the Colorado Council of Professional Archaeologists and to selected persons and agencies that have performed work. Although the responses to the requests were mixed, we know that many persons did not contribute information.

Most of the reports on file at the Office of Archaeology and Historic Preservation known to have significant information concerning historical archaeology in Colorado were researched and the information incorporated into this report. Specific site survey forms were not researched to identify sites of the historic period or those with historic components.

Quality of Historical Archaeology Research

The quality of historical archaeological work in Colorado, as judged by this team, can be inferred from the recommendations for research questions and other statements regarding data needs. The quality is uneven. Development of standards for comparability, methods, designing research, etc., are vital to improving the quality and usefulness of information retrieved.

A major question relating to quality deals with clarity of information concerning resources. Lack of concept definition is probably the greatest problem identified in the survey of work submitted relative to historical archaeology. An immediate need is for a glossary of terms that should be consistently used for reporting resources.

Another problem concerns the organization of information in reports. Some writers use organizational styles that force the individual seeking specific information to read reports from start to finish. While there are virtues to reporting the sites in forms relevant to research questions, there is also a need to organize the most useful information efficiently and with clarity (i.e., in tabulated form, etc.).

Problems related to evaluative decisions regarding management of resources are addressed through suggestions for evaluating individual site significance. Criteria important in assessing quantity and quality of knowledge have, to date, been too poorly defined to use present practices as guidelines. The actual amount of historical archaeology performed is too small and poorly understood to use in an evaluative system. Development of evaluative standards will depend upon agreement concerning research questions, purpose of investigation, and availability of information.

An inadequate data, storage, retrieval, use, and evaluation system now exists for historical archaeological resources in Colorado. The historical archaeology research plan as developed here attempts to address the problem by developing a broad framework and analyzing information from the individually most comprehensive reports and other information about resources. Future work in analyzing known information for the state should be based on site specific information for all historic resources in the state. This will be facilitated by an up-to-date cultural resource data retrieval system. The need for a more adequate data retrieval system is great and the longer that it takes to implement it the greater will be the problems of attempting to assess the status of the data base.

GENERAL RESEARCH PLAN FOR ALL PERIODS

How to Identify Historic Cultural Resources

Although statements are made for each chronological period regarding identification of resources in the following research plan for periods of Colorado history, these general statements are primarily concerned with developing models for predicting sites and their attributes. The purpose is to identify diagnostics that allow sites and artifacts to be distinguished from sites and artifacts of other periods. Some statements are made concerning specific artifacts of later periods that can serve as "horizon" style markers. An example is the innovation of automobile oil in the familiar quart cans that were identified between the Depression and World War II. The techniques of field archaeology have evolved over the years to encompass sophisticated strategies for resource identification through pedestrian surveys, sampling strategies, remote sensing and other methods. These have been directed primarily towards identification of prehistoric resources or of historic resources of "significant past occupations" such as colonial sites, forts, etc., and not towards the identification of more mundane or recent occupations. There is a need to develop specialized methods for historic archaeology identification, knowledge, skill, theory, and design. Many of the following comments are related to these additional methods, knowledge, skills, etc.

General Historic Cultural Resource Identification

1. Identification of systemic relationships of material culture content with thematic systems. There are many levels of systemic relationships from thematic systems, specific activity sets, relationships of thematic systems, other thematic systems and other units of the statewide framework, such as social-structural and ideologically-related behaviors, ecology, and other variables. Systemic identifications can be to levels of phenomena which extend beyond the historic period and state of Colorado limitations. The systemic relationships can be cultural traditions (e.g., aboriginal Native American traditions), ideological patterns (Judaeo-Christian monotheistic pattern), symbolic systems (art styles), industries, and other relationships which allow identification in time, space, culture and other parameters.
2. Identification of material culture useful for horizon styles.
3. Identification of diagnostic material culture useful for development of local chronologies. Material culture can take many forms, from structures made of materials which may not have been present in an area of the state until some identifiable time (e.g., bricks), presence of specific types of artifacts (electric insulators related to introduction of electricity), presence of communities with known origin dates.
4. Identification of material culture patterns related to specific activity sets. Activity sets are patterns related to form, function,

meaning, use, and other criteria that are bases for classification of distinctive behavior represented by material culture remains. Activity sets can be identified through multiple sources as actual sets or can be based on predictive models. Activity sets are part of a hierarchical taxonomic order. Distinction of activity sets are patterned variations in behavior related to differences in cultural processes. Activity sets are subsets of thematic systems and types.

5. Legal systems allocate and adjudicate land, water, mineral, and other resources on the land and are useful for identification of historic resources. Investigation of such resources can involve archival investigation of land, water, real estate, mineral, and other law practices. The system which these laws and practices represent, moreover, have relevance to the amount and type of ownership and usage of an area, local terminology and other relationships. Different systems for resource ownerships have existed in Colorado because of the multinational evolution of the state and some knowledge of the ramifications of the systems should be acquired for surveying in the state. For example, in the area of the state owned by Spain and Mexico, land use and ownership practices resulted at times in the "vara strip" pattern of occupation. In areas occupied by Mormons who used traditional Mormon settlement patterns (in the San Luis Valley), there are settlements based upon allotments of 10 acres for each family which form distinctive settlement patterns. The cadastral system of settlement characterized the land occupation of much of the rest of the state, except in areas settled prior to land surveys, which were in conformity at times with metes and bounds surveys.
6. Specialists exist in Colorado and elsewhere who should be relied upon for identification of historic resources where the knowledge of the investigator is deficient. One of the problems with conducting historic archaeological research is the tremendous span of information available. There are gunsmiths, blacksmiths, railroad buffs, metallurgists, chemists, palynologists, coin collectors, antique collectors, and many more who can aid in identification.
7. An adequate library is necessary to perform historical archaeological research. It should however contain sources other than archaeological publications. Necessary for identification are industrial catalogs, publications of oral histories (e.g., Foxfire books), farmers bulletins from agricultural colleges, histories of technology, public archives on microfilm (patent records, land records, etc.), published collections of memorabilia (biographies, autobiographies, collectors catalogs, old Sears and Roebuck catalogs, etc.), historical photographs, and other sources.
8. Use of existing resources for remote sensing should be a part of any historical resource project concerned with land occupancy. Sources include U.S.G.S. aerial photographs for most areas of the state, false color infra red photographs for Bureau of Reclamation projects

and other limited areas, interpretation from aerial photographs (Soil Conservation Service maps, vegetation maps, and others). Roads, ditches, structures, fence lines, land uses and many other variables are identifiable from these perspectives which might not be discernable from the ground surfaces.

9. Maps, plats, land records, probates of wills, tax records, military records, and other archival sources are necessary to identify many historic resources. These not only can identify specific resources (e.g., homestead patents and landowners), but can reveal important information about resources on the land. Records relating to homesteads, for example, can identify improvements on the land. Plats made for ditches can identify structures that might not be noted elsewhere. The availability of records increases over time and there should be economy of effort practiced. Specific questions and designs for seeking answers should prioritize the work. A valuable aid in conducting such research is a manual for archival research.
10. Oral histories are the only source, other than archaeology, for learning about many resources, particularly the function, evolution, past form, etc., of historic occupation that were considered mundane but are no longer extant. Schedules for oral interviews can be constructed using interviewing techniques so that identification, description, associated behavior, etc., of the informants are learned without reinforcing the preconception of the informants. Additional information such as maps and photographs should be solicited. Oral interviews are valuable sources of information for identifying decision making strategies.
11. Surveying historical sites is a difference in degree from surveying prehistoric sites. Historic phenomena identification should be related to broader perceptions and different research questions. Historic sites, for example, are not just the loci of occupation but are also fields, fences, roads, ditches, land uses, and modifications. Discrete level information such as knowledge of types of fences, gates, maker's marks on bottles, nail identification, recognition of architectural style, etc., are necessary for adequately "reading" the language of historic resources from surveys.
12. Consistent terminology is necessary for reliable identification of historic sites. Systematization is necessary to assure comparability and should be used for state and larger levels. Many sites are not identified accurately due to lack of descriptive knowledge and basic identification. Projects should have a glossary of terms used for resources.
13. Identifications of resource relationships through spatial associations. Association of material culture with environment, areas utilized in specific ways during known time periods, and similar relationships allow associations to be proposed (e.g., a camp in the mountains in the 1890s adjacent to a lumbering operation of the same age has

greater possibility of being a lumber camp than it has of being a cow camp, if the activity sets cannot be identified specifically with an industrial theme).

14. Temporal distributions of similar resources can be inferred to have had systemic relationships. Cultural processes that are expressed in differing forms at the same general time in the past and in spatial relationship are presumed to have had a systemic relationship. For example, rural and urban occupations do not differ in kind but instead differ in degrees. Relationship networks bind even ethnically distinctive occupations to the greater whole, as expressed through industrially produced cultural materials, participation in a market economy, state imposed educational systems, etc. Many current historical archaeological reports focus sites as isolated entities and do not consider coeval systems.
15. Cultural processes are important in resource identification. The processes are represented by continuity and change over time and space. Even if a site represents a brief occupancy period, its patterned relationships are great and need to be identified or recognized as variables in research questions concerning the resources.
16. Symbolic inferences, social-structural relationships and other "non-material culture" should be considered in historical resource identification. Many relationships have been identified (e.g., ethnic relationships of vernacular architecture, socio-economic income and symbolic relationships of garbage or graffiti as symbolic communication). Historical resources can be the testing ground for cross-cultural comparisons. Theories derived from data bases can be tested on more comprehensive scales for resources of the nation and larger universes.
17. Detailed knowledge of cultural processes identified through historical archaeological and other sources for Colorado, the United States, western society, and Native American societies are important for identification of the significance of resources. Narrow perspectives are useful for specific research questions but they should be formed as parts of solutions to questions of greater magnitude. Many historical archaeological reports represent narrowly defined archaeological questions and lack adequate consideration of resource relationships.
18. Industrial histories and technological information are necessary for identification of resources related to industrial themes. Some histories are partially represented in previous research, though these are very sparse. In general, historical archaeologists will find themselves pursuing diverse and poorly known information. Most information is retrievable and can be synthesized into useful forms and questions for resource investigations.

19. Synthetic approaches are the most valuable and cost effective investigation methods for most historical resources. These utilize the methods and theories of archaeology, history, geography, archives, oral histories, and other diverse material sources. Archaeological investigations, in some cases, are ultimately the major method of research but in many investigations use of method and theory syntheses greatly complement archaeological research and considerably reduce labor intensive costs. If a research problem ultimately depends upon archaeological data sources, predictive model building and testing based on other data sources will greatly increase the quality of the research design.
20. Architectural analyses produce information which reflect cultural processes at discrete levels. Remodeling, recycling, additions, and other changes in architecture of homes, farm buildings, ranches, industries, etc., represent changing economies, values, strategies, and information about culture process.
21. Settlement patterns, site selection strategies and other studies are concerned with cultural-ecological, evolutionary and patterned relationships of sites and systems. Information about such patterns and relationships can be investigated through multivariate and discriminant analyses. Relevant variables are multiple and the investigator needs to exceed the limitations of the variables most commonly involved in patterns for prehistoric sites. For example, one of the important variables in site selection (placing of domiciles) in a farming and ranching area of western Colorado was the scenic view, which is a culturally biased perspective identified through oral histories, not through quantitative data analyses.
22. Land use practices have shaped our environment and established precedences to which future generations adapt. These should be investigated through realization that there are potentials for differences between real and idealized patterns. These differences in perspective are important in the occupations perceived of the land. For example, many westerners conceive of themselves as ranchers and effect values of ranchers. However, they have made adaptations which are most commonly identified with farmers. Farming and ranching can be measured quantitatively through land use and the attributes of fences, gates, fields, and other material culture. A valuable approach to identifying resources is to learn the "language" of the land and of the modifications by uses, industries, etc.
23. Industrial "languages" are significantly different and are identified through technological distinctions, land use, resource value, concepts, behavioral value differences and other variables. Learning them depends upon being taught by the land, oral informants, manuals, catalogs, recognition of symbols, and other means.

Research Questions

Present Status of Theoretical Questions for Historical Archaeology in Colorado

The questions most relevant to the study of historical archaeology in Colorado today are related to the lowest levels of abstraction about the resources. As a first step we need to define resources and concepts concerning resources and clearly identify the procedures used in research. The majority of theoretical questions presented are concerned with systematizing and classifying phenomena with the objective of seeking comparability in taxonomy and methods and producing low-order propositions related to patterns of phenomena and explanations for relationships.

The present status of historical archaeological knowledge is based largely upon poor information, small amounts of information, and poorly designed research. Historical archaeological theory suitable to address questions concerning resources in Colorado is in its beginning stages. The development of historical archaeology has been, in general, an evolution from methods and concerns of prehistoric archaeology and history. The evolution has been sporadic and related to personal approaches and interests of those involved in the investigation of historic phenomena. Most of the practitioners are not prepared by education or other background for the tasks of designing research appropriate to understanding the complexity of historic period resources.

Many of the research questions offered here are designed to stimulate model building and pattern recognition as an initial stage of research design. The questions may appear to have little relevance to major theoretical questions of anthropology or archaeology and, for that matter, to major theoretical questions of history, political science, geography, and other disciplines. Conversely, some of the questions may be viewed as having too much relevance to high order abstractions and not enough relevance to practical problems relating to specific sites. Despite appearances, however, the questions are designed to have broad relevance and importance.

The questions are related to public involvement in policies relating to their heritage. At times the public needs appear to have been disregarded by anthropology, history and other disciplines when developing research design. Historical archaeology is a public science. It depends upon the involvement of the public (oral accounts, avocationalists, public records, etc.), much of it is publicly funded, and it is designed to increase public awareness and appreciation of our heritage. Research questions involving public policy and participation are intentionally designed to increase public input in developing historical archaeology research.

Specific theoretical questions are posed for each of the ten temporal periods representing the present definition of culture history of Colorado. These questions are samples of the range of questions that can be asked, not a comprehensive list. Some questions can be asked about every period. For this reason a list of general questions that apply to more than one, and usually to all, of the periods is also included. The "general" questions, as well as the specific questions for each period, represent "data needs" to a great extent and overlap with that category. They also represent "future needs" to an extent and therefore overlap with that category.

General Theoretical Topics

1. Cultural resources of the ten periods defined for Colorado will reflect significantly different principles of organizational behavior.
2. Cultural resources of the diverse ecological zones of Colorado will reflect significantly different technological strategies and environmental adaptations.
3. Cultural resources reflect impacts of past cultural traditions in strategic decisions employed for making cultural adaptations.
4. Population densities in Colorado increased over time. These increases correlate with changing principles for organizing cultural behaviors.
5. Representations of behavior as documented in written records will be in conflict with reconstructions of behavior through the synthetic approach of historical archaeology.
6. Occupations in Colorado associated with industrial activities will reflect patterned differences in material culture distinctive for each type of industry.
7. The spatial relationships of occupations (as in distances between structures in a community) are functionally related to kinship in certain communities.
8. Socio-economic differences in neighborhoods are reflected in the contents of outhouses.
9. Patterns of conspicuous consumption are identifiable through the values of styles used in hardware of domiciles in urban areas.
10. The distribution of "modern" public utilities (electricity, telephones) correlate with differences in socio-economic conditions of communities and their sizes at specific times in the past.
11. Vernacular architecture and hardware have greater longevity in communities composed of persons of minority ethnic and racial groups than in communities in which minority group memberships are not definable.
12. Dendrochronology can be used for building a chronological sequence of historical archaeological resources and resource types.
13. Land settlement usage patterns systems can be identified through seriation (corporate farming versus individual subsistence farming and ranching).
14. Population densities of agricultural areas can be seriated so that the approximate occupation densities of various types of

land can be used as indices to economic conditions and time of occupation.

15. The quantities of timber on lands in Colorado today correlate with past land usage practices.
16. Nineteenth century solar energy efficient orientations of sites with domiciles will be found to have correlated with some ethnic group specific communities to greater extents than with other ethnic group specific communities.
17. Conservation ethics vary in importance with socio-economic conditions by populations. (These ethics can be quantitatively measured by amounts and types of recycling of materials, structures, etc.)
18. Differences in symbolic behavior related to aesthetics of differing occupational types can be measured quantitatively as correlations of socio-economic class with occupation and the number of symbols relating to aesthetics (e.g., decorated dinnerware, cut glass, etc., pieces).
19. Can patterns (identified as stages in community and other evolutionary patterns in Colorado) be used to predict direction of change in Third World countries where similar patterns may be found?
20. Directional changes of communities can be predicted by scaling additive attributes such as schools, stores, public transportation availability, artifacts diagnostic of specific activity sets of urbanism, and others.
21. Evolution of communities from camps to towns can be predicted through frequency of evidences of interstate commerce.
22. Material culture patterns can be identified by actual models that are diagnostic of social structure types but are composed of the same numbers and varieties of individuals (e.g., can patterned differences distinguish between social-structural principles of communes and those of self-employed, economically self-sufficient extended families?).
23. Relationships between satellites of a Macro-system industry lacking specific symbols of identification (e.g., emblems, colors, etc.) can be distinguished from autonomous sites of the same industry.
24. Symbols of institutionalization that indicate cultural resources constructed by counties, states, and other governmental bodies (e.g., color schemes, types of buildings, standardization of school houses, etc.) can be identified.
25. There is sufficient correlation between the socio-economic positions of persons and architectural attributes.

26. Correlation frequencies of social-structural and socio-economic variables can be determined from models that can allow degrees of probability to be established for statistical predictions of site relationships with unknown correlations. Similar correlations can be identified for other phenomena that allow degrees of probability to be established (e.g., variables relating to ethnicity, population sizes, ages, religious affiliations, etc.).
27. Diagnostics can be identified as horizon markers (technological innovations) for each period.
28. Settlement patterns can be used as "types" for describing the innovations of each of the periods for given population densities and ecological zones.
29. There are specific artifacts or styles that can be used as diagnostics for ethnic group identifications through time and space.
30. Architectural types or attributes can be identified that are diagnostic of specific ethnic groups in time and space.
31. Certain attributes should be used in identifying homesteads. This term is used for many differing types of occupations and comparability is needed for phenomena described with the term.
32. Use of the direct historical approach should be investigated to develop culture histories for such groups as the Hispanic peoples.
33. Investigations should be developed to determine if the folklore related to the presence of Spanish mines, treasure, etc., in Colorado is related to fact or fancy.
34. Pastoral societies in Colorado may have been responsible for selective breeding of animals and the evolution of subspecies. Osteological studies might reveal evidence of subspecies development.
35. Strategies for introducing local level antiquity laws and means for their enforcements should be developed.
36. Travel corridors, delineated in the records of travelers through Colorado in the pre-territorial periods should be identified by material culture funds in the areas specified.
37. Distributions of place-names and landmarks named in the pre-territorial periods should correspond with the areas where cultural resources related to the periods have been found in highest frequencies.
38. Ways should be investigated to make historical archaeological research, supported by the public in Colorado, more viable and cost-effective.
39. Comparative research in other states can test whether changes occurred in Colorado as a frontier were the consequence of unique

situations or whether similar changes occurred elsewhere where variables were different than those in Colorado.

40. Predictive pattern sequences occurred in the architectural changes in Colorado. Are the sequences the same for all areas of the state or are there differing regional sequences?
41. Victorianism is/is not a useful concept for explanation of the dynamics of American society.
42. Discriminant factor analysis can aid in identifying the variables that are of greatest importance to the evolution of our society.
43. Variables such as industrialization, Victorianism, laissez faire economics and democracy are/are not capable of being quantified in some way so that their utilities can be tested as in explanations of cultural differences over time.
44. A "safety valve" theory of settlement may be useful in understanding the selection of Colorado as a new homeland by peoples displaced from elsewhere by cultural change. Have persons displaced from elsewhere found successful adaptations in Colorado or have they become members of lower socio-economic groups?
45. There may be material culture patterns which can be identified as symbols for successful (i.e., non-destructive of individual well-being) culture changes of ethnic populations. Are there, conversely, material culture patterns which can be identified as symbols for unsuccessful culture changes (i.e., where there have been declines in the well-being of the individuals involved)?
46. Material culture attributes may have changed when collective societies, such as the Utes or Arapaho, began to adopt individualistic traits. Are such changes identifiable archaeologically?
47. Certain traits may be recognizable that distinguish industries based on joint ownership by persons working in the industry and those based on labor/management relationships. Examples might be small mining operations, ranches, and farms.
48. Quantitative formulas should be devised to predict, from material culture remains, significant changes in social structure that correlate with changes in population densities.
49. Dendrochronology or other methods could be used to identify the probabilities of adequate precipitation in the past for raising specific crops in areas where dry farming was practiced.
50. Incorporated towns may have different characteristics from unincorporated towns. What archaeological indicants might distinguish an incorporated town from an unincorporated town?
51. The categories "scroungers," "squatters" and "settlers" have been

used to define certain types of cultures. Are these terms useful concepts for identifying occupation strategies? Are the criteria for the concepts consistently identifiable with known occupations that have predictable behaviors?

52. Company towns usually have distinctive, repetitive building styles. Can company towns be distinguished materially from private developments based upon repetitive house styles?
53. Traditions based on compass bearings may be identified for specific ethnic groups in cemeteries, structures and other orientations.
54. Industry sometimes imported certain ethnic groups for various reasons. Are there industry-specific occupations that traditionally involved specific ethnic groups, not as consequences of employment practices (e.g., importation of large groups of people) or other economic variables?
55. Community growth and decay sequences can/cannot be identified archaeologically.
56. Structures made of various materials or based on differing architectural principles have predictable longevities that can be used to understand length of occupation of any given structure.
57. Experimental archaeology can be used to provide models for types of catastrophic destructions of structures of differing functional relationships related to activities in Colorado.
58. Behavioral traditions may/may not have been established for ethnic and/or racial minorities that are identifiable in material culture patterns, architectural patterns, site selection strategies, or other statistically predictable relationships for urban environments.
59. Differences in adaptive strategies over time may be used to indicate that strategic decisions are made by members of cultural systems indicating anticipation of the consequences of economically unsound cultural practices.

Future Needs

The presentation of the future needs for historical archaeology is made in a general manner with the major needs outlined and with selected examples of more specific needs. General needs reflect those shared by the ten temporal units. The specific needs to be presented are concerned with categories for each of the temporal periods. Because of the need to develop and test models there is overlap in the presentation of research questions and future needs for historical archaeology.

General Needs

1. Identification of material culture diagnostics for each period that could be used as "horizon markers." Diagnostics should reflect the dates of manufacture, not dates of usage.

2. Identification of horizon markers related to local industries. Such industrial markers include electrical systems, telephones, local brick making plants, and bottle making.
3. Establishment and maintenance of bibliographies for each period and for subjects of overall importance. They should contain information from material culture studies, archaeological investigations, archival sources, industrial histories, oral histories, biographies, diaries, etc. Consideration should be given to construction of an automated data retrieval system for the bibliography.
4. Identification of actual "working" models for comparison, testing of adequacy, etc., for domains and their variables. These can be actual sites or systems identifiable as "types" and can be investigated, described, and disseminated as information for the use of investigators (historians, archaeologists, etc.).
5. Construction of "predictive" models for designing research relative to thematic systems, domains and their variations for each period, as well as for themes and systems which might be represented by multiple domains and over time. Examples of models which have been constructed are for railroad construction-related activities (Buckles, In Press) and small farm and ranch-related sites (Buckles 1983). These need to include diverse information such as site location strategies, land utilization patterns, cultural-ecology, activity set patterns, etc.
6. Compilation of manuals for identification of material culture including artifacts and formal architecture with consideration for ethnic, industrial and other distinctions.
7. Manuals for conducting archival, oral, archaeological, historical and other searches for historical information and relevance so that comparability of methods, theories, etc., can be developed.
8. Glossaries of terms for describing historic period phenomena and operations which incorporate archaeological, architectural, historical, archival, geographical, etc., terminologies for comparability in communication and dissemination of knowledge concerning historical resources.
9. Development of models for phenomena other than thematic systems which have relevance to material culture and are complementary to thematic system differences. Such models can be related to the framework variables such as ecological and topographic zone adaptations, guidelines for estimating population, guidelines for designing research relative to social-structural and ideologically-related behavior, settlement patterns and types, activity sets, ethnic group identifications and rules for definition of important persons and/or events.
10. Native American resources need to be identified with different

historical archaeological periods than those identified by the project. The Native American resources are representative of periods and area processes of change that differ from the non-Native American populations. The Native American periods should correspond to the major processes of change which affected them, such as the acquisition of the horse, rifles, the establishment of reservations, losses of land, etc.

11. Models, both actual and predictive, should be constructed for activity sets that reflect variability in themes and other units in the statewide framework (e.g., ethnicity, ideologically-related behaviors, social structure).
12. Development of useful data banks with reproductions of federal, state, county and other archives that apply to research questions. These should be compiled and available at a central location, such as the Office of Archaeology and Historic Preservation. Other data banks presently available include the present Bureau of Land Management records relative to land ownerships and usages, and some archives at the Federal Center.
13. Definition of the distribution definable resources which are and have been available in the state and have been focal points of past activities. These distributions can be used as bases for "predictions" of distributions of past activities which might have been related to some of the resources. Many past activities have not been represented adequately in records (e.g., early timber industries, tie cutting, charcoal-making, quarrying limestone for cement, trapping, open range cattle industry, etc.) and the information can be valuable in research design building and testing.
14. Identification of place-name origins and identifications of landmarks by period.
15. Identification and distributions of government documents and information concerning government projects. These could be acquired from diverse sources on the federal, state, county, city, post office, etc., level and would be great aids in recognizing systems and the processes of change through time. Examples could be the distribution of post offices, post roads, CCC architecture, military posts, reservations, road systems, etc., that aid in assessing changes over time, comparisons of resources, locales of activities, attributes of resources, etc., which may not otherwise be known.
16. Development of models for activities which have definable systems. Examples of such models can be railroads, highways, corporations, and other Macro-system-related phenomena.
17. Identification and distribution of resource models associated with ethnic entities. These can be developed from actual and predictive models based on variables such as colonies, barrios, communes, predominance in populations, and architectural traditions.

18. Stimulation of ethnographic style descriptions of ethnic, industrial, socio-economic, etc., groups based on composite sources (archaeology, historical, ethnographic, oral, etc.) to provide the public with cultural heritage awareness results of programs and projects. Some of these can be predictive and others can be actual models for peoples of the state. They should emphasize the composite of material culture, behaviors, symbolic culture, etc., for the groups, and not just the archaeology.
19. Identification and distribution of unsung resources and activities in the state. These are resources for which archival, historical and other written records cannot be found or are inadequate to identify and describe the resources and the activities. This may provide "real" versus "ideal" concept of our heritage.
20. Development of a body of methods for historical archaeology which enhance abilities to conduct sophisticated research with cost-effectiveness. An example would be dendrochronological sequences for many areas in the state so that chronological placement can be facilitated.
21. Development of precise methods for dating sites within the historic period.
22. Prioritization of needs. For example, higher priority is given by the writers to development of syntheses of methods, theories and information from historical, archival, oral, archaeological, economic, and other sources than to the fulfillments of exclusively archaeological needs (e.g., surveys leading to excavations without relying on other data sources).
23. Involvement of the public in historic cultural awareness programs. The public should be involved in all stages from concept to conclusion. The tasks are too great for professionals alone to perform and the public should be stimulated to provide aid, contribute, and receive credit for their contributions. The accompanying model for a county heritage level questionnaire is an example of how the public can be involved at the start of a systematic program.
24. Use of synthetic methods that are cost and time effective. Historical archaeological phenomena can be understood best through synthetic approaches using archival information, archaeological methods, oral histories, historical sources, social science theories, ancillary studies of soil scientists, and other approaches. Whichever approach or approaches best fit the problems should be employed. In this synthetic approach there are times when traditional "dirt" archaeology takes a back seat to the other methods because it is the least applicable method to achieve answers. Many practitioners of historical archaeology employ the methods of archaeology almost

- exclusively and their research results reflect the narrowness of approach and contribute much less than they could if synthetic approaches had been used.
25. Standardization of terminology relating to site types and attributes. This can be included in the proposed glossaries, but should also be developed as a glossary to accompany the site survey records for the Office of Historic Preservation. Many terms are used with great latitude and inconsistency such as homestead, cabin, house, dugout, root cellar, etc., etc. The differences between these and many other terms are not defined. They appear to be applied capriciously and without consideration for the confusions they cause.
 26. Callousness toward recent phenomena needs to be overcome on the parts of some who make decisions related to historical archaeological phenomena. There is a tendency for some to disregard the relevance of recent sites with the assumption that written histories are adequate for understanding and interpreting the significance of sites.
 27. Qualifications for performance of historical archaeological projects appear to be restricted to principal investigators but should also include field personnel. The lack of qualification is recognizable in site survey reports submitted by field level personnel which reflect ignorance of historical resources. Often it appears that decisions were based on intuitive and speculative approaches. Rarely are the bases for decision making identified adequately, artifacts tabulated, features adequately identified, etc.
 28. Standards must be developed for mitigation of historical resources through results of survey level evaluation. Most historic sites are mitigated at this level, but are not adequately described. Artifacts are not identified, architecture is not identified adequately, illustrations do not accompany the reports, and oral historical, archival, and other information is not properly used or cited in the evaluations. It is our opinion that mitigation at this quality level have resulted in loss of potentially important resources. Class III surveys should demonstrate a synthetic approach to resource evaluation before recommendations are accepted.
 29. Systematic oral history programs should be established throughout the state, preferably at the county level, to collect information concerning historic resources identified in a schedule of questions (see questionnaire). The loss of information increases daily as attrition through deaths, loss of memories, etc., increases.
 30. Research emphasis at the level of pattern and system analyses. Historic sites which have been intensively investigated by archaeologists in the state tend to have been investigated at site specific levels and not components of patterns or systems of

greater magnitude. Site investigations should consider how the information can contribute to understanding ranges of behaviors, processes of culture change, and other questions of greater significance.

31. Stimulation of specific studies of material culture in Colorado to identify the range of resources of a type, their distribution, correlation of variables with themes and units of the statewide framework, etc. Examples of such studies include vernacular architecture, formal architecture, specific industries, and identifications of activity sets. Specific contracts can be sought to fill these needs, theses can be stimulated, etc., as a means to accomplish these goals.
32. Publication of studies that will stimulate public knowledge and concerns with historical archaeological sites and their significances.
33. Prioritization of resources to costs of mitigation, information yield, significance of information recovered, etc. At the present time the data base is too poorly known to prioritize on these bases, except at the site specific level, but goals for the future should include establishing systems for prioritizing resources and types of investigations.
34. Develop maps of county level historical resources stimulate public awareness of the range of resources known and to contribute knowledge to fill "gaps." Several successful maps have been produced in southern Colorado by Hirleman (1981) and Aschermann (1982) which consolidate known information and have stimulated others to contribute.
35. Identify and investigate "type" sites as a means of mitigation. The resources identified in projects should be considered in relation to the total range of historic resources and not just the range of resources found within the project.
36. Greater concern should be directed by historical archaeology to the preservation and protection of the diversity of the nation's cultural heritage and the heritages of all groups. At present the criteria for National Register quality emphasizes narrow rather than broad concerns with the diversity of resources (e.g., emphasizes the elite or "important" in history, the unique rather than the vernacular, etc.).
37. Development of specialists comparable to the research team efforts of prehistorians. Examples of specialists are persons involved in ceramic analyses, bottle identification, pollen analyses, and crop identification. There are many persons with present day hobbies, compulsions, etc., who are very useful and knowledgeable who can make contributions to artifact identifications and interpretations. These include gunsmiths, blacksmiths, farriers, potters, and many others.

38. Assembling collections of industrial information, catalogs, manuals, etc., which can be used for identification of material culture evolution. These sources have, in general, been systematically discarded by libraries, industries and other sources as they become obsolete. Obtaining such sources is difficult today because of the scarcity of the literature.
39. Possible certification of archaeologists and field personnel to perform historical archaeological studies on contractual bases.
40. Selection of terms for consistency and applicability to Colorado archaeology. For example, the definition of early and late Victorian archaeological phenomena is of debatable applicability to much of the historical archaeology of the state.
41. Develop a pool of knowledge with adjacent states so that the research in the state is not done in a vacuum.
42. Stimulation of graduate schools to contribute to the needs of historical archaeology through theses projects and other efforts.
43. Use knowledge about historical archaeology of the state as a way to aid in public relations, tourism, etc., by emphasizing the significance of Colorado's heritage. A system in use in British Columbia is a combination of roadside markers and free explanatory pamphlets which give more detailed information than do the markers. Tours can be planned relative to such a system and emphasize the importances of the resources in evolution of parts of the state, in identification of architectural styles, rehabilitation of structures, etc.
44. Adapt the framework so that it could be used at local, regional, and other levels of the state and not have to conform to the wide system of temporal placements. This is possible by cross-indexing phenomena so that variables can be selected for investigation through combinations of ecological zones, locational data, associations with significant events, and other variables.
45. Stimulation of industries to sponsor industrial histories as ancillary aids to knowledge of cultural processes for Colorado.

RESEARCH PLAN FOR PERIODS OF COLORADO HISTORY

1. EXPLORATION: 1600s to 1821

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Exploration, Expeditions and Research: Military -- possible location of Zebulon Pike Camp - 1806 (Buckles 1975a); colonial -- Dominguez - Escalante Expedition - 1776, Rivera Expedition - 1765 (Collins, Euler and Hyer 1980).

Native American: Wickiup village, isolated wickiup, two camps and four stone scatters which were placed in Escalante Period (1500-1880) (Hibbets, et. al. 1979).

Thematic Systems -- Represented by Excavated Sites

Native American: Possible Plains Apache -- 2 levels. Level 1 -- possible camp site function. Level 1 -- possible hunting camp. Two radiocarbon dates: 250 ± 85 B.P. (1644 to 1814) and 210 ± 95 B.P. (1674 to 1864) (Ohr, Kvamme and Morris 1979). Ute burial possibly related to Los Pinos Agency - pre-1875 (Douglas Scott, letter of November 24, 1982). Wickiups, probably Ute - mid-1700s (Buckles 1971). Possible structure, probably Ute - 1600 to 1774 (Dean 1969).

Thematic Systems -- Data Gaps

Business/Commerce

Communication

Communities

Construction

Government

Maladaptations

Military

Mining

Religion

Services

Sites of Unknown Affiliation

Transportation Networks (however, the trails of the expeditions listed above would constitute transportation networks but nothing has been done on them).

HOW TO FILL FUTURE NEEDS

How to Identify Resources

1. Presence of European goods (Spanish mail, beads, flintlocks, etc.).
2. Radiocarbon, dendrochronology and archaeomagnetic.
3. Association of ceramics that include Dismal River, Uncompahgre Brown Ware, Ocate, Intermountain, Biscuit Wares, and others of aboriginal manufacture. Time and spatial distributions of these ceramics need to be tested as opportunities develop.
4. The presence of horses and other domestic animals with aboriginal occupations distinguish the remains of this period from earlier periods.
5. Rock art depictions of historic phenomena may include diagnostic styles of the period. These may be related to evolutionary directions and be datable by seriation.
6. Many sites in southern Colorado (caves, mines, etc.) are identified through folklore with the exploration period (though not recorded or evaluated).
7. Place-names and landmarks are identified in records of exploration (e.g., Purgatoire River, Chimney Rock, etc.).
8. Diaries and supplemental information are widely used for identification of phenomena and sites of the period.

Research Questions

1. What were the material culture effects of the exploration period contacts on diverse cultural systems?
2. Did the tipi go through measurable evolutionary changes identifiable in sizes of rings?
3. Does the spread of the use of the horse represent an "age area" style change?
4. Did changes to equestrian life styles correlate with social-structural, ideological, environmental and other changes recognizable in material culture?
5. Did Native American populations change styles of artifacts made of aboriginally derived materials (lithics) as consequences of innovations of styles of traded materials (metal tools)?
6. Can the directions of culture changes of Native American groups be recognized in seriation representing the impacts over time?
7. What effects did the contacts of the explorers with Native Americans have on the societies of the explorers in New Mexico?

Research Questions, continued

8. Can a sequence of rock art depictions of the period be established and does it reflect acculturation which is directional?
9. Can societal differences be recognized as distinctive styles of historic art?
10. Are social-structural changes (status and role differentiations) recognizable in material remains of Native American sites over time (differential structures, differences in material remains in structures and other distinctions)?
11. What was the magnitude of contact between Native Americans, explorers, etc.? Was there greater contact and influence than historic records indicate (i.e., trade, settlement, domesticated animal presences in sites, etc., indicative of unsanctioned contacts)?
12. Do the distributions of material culture "finds" correlate with the known routes of explorers or do they indicate much wider distributions of explorers and probably unauthorized presences of explorers?
13. Do the distributions of material culture represent the spread of people or the diffusion of goods?
14. Can predictive or actual models diagnostic of different groups of Native Americans during the period be identified?

Future Needs

1. Adequate recording of available information which might apply to this period. The records could classify data by validity levels (e.g., "known," "probably route," etc.). Scott (1972, 1975) has made beginnings for some areas. The records can stimulate overlays of state maps showing routes, landmarks, sites, artifacts, etc., relating to the period.
2. Recording of phenomena possibly related to the period. Collections of materials in southeastern Colorado are reputed to exist which might be related to the period but no one has systematically followed up on the leads (including myself). These swords, armor, etc., need to be identified, recorded, evaluated and sites related to them recorded.
3. Designs for identifications of resources of the period. How do you tell a Spanish sword from a French sword? Who and where are experts in the state for such identifications? How do you tell Damascus, Toledo, etc., steel?
4. Identifications of Native American sites of the state which possibly date from the period and therefore may be indicative of contact. These include the Dismal River sites of Gunnerson (1960), sites with historic period artifacts and ceramics, wickiups, rock art, etc.
5. Model building based on syntheses of information relative to the period with identification of behaviors and attributes useful to predict material culture. These can be based on written descriptions of items, sizes of parties, makeup of parties (Indians, Spaniards, etc., etc.).

Future Needs, cont.

6. Searches for "new" source materials on the period. There may be records not yet investigated or translated which may yield more information about French, Spanish, English and American activities in Colorado.
7. Oral history verification projects to investigate folklore concerning Spanish mines, forts, settlements and other activities which are common in tales of southern Colorado.
8. Comprehensive collection of maps from various sources which represent the state during the period (and succeeding periods). This could be a result of stimulating historians, cartographers and others to make significant contributions to a synthetic approach.
9. Comparative collections based upon information from adjacent states, excavated sites, etc., for building predictive models and establishing data bases.

2. TRADING FRONTIER TO CONQUEST OF MEXICO: 1803 to 1848

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Agriculture: Ranch - 1840s (Buckles, current research).

Business/Commerce: Trading (Fort Robidoux) - 1830s (Collins, Euler and Hyer 1980; Scott 1982).

Communities: Agricultural hamlets - 1845 to 1848 (Buckles, current research).

Transportation Networks: Trappers trail (James Pattie) - 1826 (Viola and Firebaugh 1983); private (Marcus Whitman route) - 1842 (Viola and Firebaugh 1983).

Thematic Systems -- Represented by Excavated Sites

Business/Commerce: Ft. Davy Crockett (fur trade, trapping) - 1832(37) to 1844 (Eddy 1982); Ft. Vasquez (fur trade, trapping) - 1835 to 1842 (Stanford 1966; Baker 1964; Judge 1971); Bent's Old Fort (fur trade, trapping) - 1833 to 1849 (Moore 1973; Dick 1956; Comer 1983).

Thematic Systems -- Data Gaps

Communication
Construction
Exploration, Expeditions and Research
Government
Maladaptations
Military
Mining
Native American
Religion
Services
Sites of Unknown Affiliation

Those sites listed under Business/Commerce can have a secondary Thematic System of Services.

HOW TO FILL FUTURE NEEDS

How to Identify Historic Cultural Resources

1. Material culture of the period is distinctive and can be identified from technological, ethnic, and other origins.
 - a) Most iron and steel artifacts can be presumed to be almost entirely handmade (with the exception of cast artifacts).
 - b) Nails -- handcut or machine cut (after 1830s).
 - c) Horse, oxen and other shoes should be blacksmith-made and not mass produced.
 - d) Bottles similarly should be distinctive and representative of hand blown manufacture and lack "maker's marks" and lettered panels.
 - e) Cans, excepting handmade cannisters perhaps, should not be present at the sites.
 - f) Caplock rifles should be common.
 - g) Disposable clay pipes should be present.
2. Architecture should represent hand shaping of materials (e.g., hand split and sawn lumber) and not milled materials (unless imported which might be represented by wood not native to the area). Architecture known at the present time is representative of influences from the southwest and on the Anglo-American frontier, which reflects usage of local materials in "adobe" styles, dugouts, groupings of structures in combinations for "defense" (e.g., squares, rectangles, "L's," "fenced," "stockaded," etc.). Other architecture includes dispersed settlements (Hardscrabble, according to Barclay's diary, had a settlement which included dispersed as well as a compound). There were also "horse camps," isolated groups, and families.
3. Personal written records describe the locations and attributes of many sites and have been the major sources of information to date.
4. Land utilization and settlement patterns appear to have focused on strategic locations for permanency. The "forts" and "posts" were selected for the advantages of their positions relative to water, to junctions of routes of travel, streams, etc., and for growing seasons (Hardscrabble abandoned in part because of frosts, drouths, etc.).
5. The locations of the Indians may have been predictable. Traders sought out their villages. We can use the knowledge of "schedules" in the journals of traders to reconstruct aboriginal activities and locations.
6. Landmark identifications and place-name locations identify areas of utilization and knowledge to occupants.
7. "Company sites" with contents related to inventories of goods used in trade with Indians and Mexico and may be recognizable by distinctive contents (i.e., coming from north [Hudson's Bay posts], east, etc.).

How To Identify Historic Cultural Resources, cont.

8. Archives of New Mexico are used in land rights data searches for support claims of residents of the area that was Mexico during the period. These should include information relevant to sites of Anglo-American residences which could complement the information known from records written in English.
9. Military records related to the protection of the Santa Fe Trail, the Mexican campaign, and other phenomena may include information not previously considered for archaeological purposes.
10. The Mormon archives may include information on the Mormon settlement at Pueblo, the Mormon Battalion, and genealogies related to settlement in Colorado which have not previously been identified for historical or archaeological use.

Research Questions

1. Did adaptations made during the period limit future change in environmental and decision-making strategies, etc., such that later occupants used the environment, settled, and made other adaptations in patterns established during this period?
2. Was use of the area conditioned more by traditional cultures or by the cultures of the area's occupants (i.e., did the French, Americans, English, etc., rely on their own culture for solutions to problems, or did they make adaptations based upon the cultural solutions of the peoples of New Mexico, the Indians, etc.)?
3. What occupations occurred at sites during the period?
4. Do sites of the period conform to behaviors which are idealized representations, or do they vary considerably from historic descriptions of sites?
5. Can subsistence and value strategies be made into predictive models useful for determining locations of sites which correlate with differences of values of the site occupants? For example, early ranchers may have selected a house location in terms of its availability to water. Later ranchers or those who ranched as a "hobby" may have selected a site for its view.
6. What were the effects of the trading frontier on the Native American population? Can impacts be inferred from material culture patterns?
7. What were the environmental impacts of trading activity on natural resources in the vicinity of trading posts?
8. Did the impacts of population centers advance the spread of the frontier by forcing wider ranging foraging for wood, game, furs, and other resources?
9. Did fur trade schedules disrupt the resource use schedules of Native Americans?

Research Questions, cont.

10. Did sites conform to scroungers, squatters or settler models? (These are models relating to "levels" of commitments.)
11. Can the presences of illegal trade in alcohol, weapons, and other activities be recognized in sites of the period?
12. Can the national allegiances of areas (Spain, U.S.) and the nations of origin of the traders (Great Britain, France, etc.) be recognized in material distinctions in sites of the fur trade?
13. Do material remains reflect social-structural principles and ideological behaviors of the occupants as known through historic records?
14. Do material remains of ecofacts reflect changing distribution and use of resources (e.g., from natural resources and traded materials to self-sufficiency)?
15. Can changing social-structural relationships of occupations be identified (e.g., from early groups of all males to later family groups)?
16. Can Hispanic settlements be identifiable as Patron types of social stratification through differential patterns of structures and activity sets?

Future Needs

1. A complete inventory of site locations that are known to have existed. Current searches are being conducted to find the colonies of Hardscrabble, Greenhorn, and those on the Huerfano River (Buckles, current research) and Fort Uncompahgre (Scott 1982).
2. Predictive model building for specific occupations of the period based upon written descriptions of sites. An excellent example of the ability to build a "componential" model is represented by the diary of Alexander Barclay (see Hammond 1976) which reveals much about the community of Hardscrabble, its population, environment, plants and animals, relationships of members, relationships with Indians, etc.
3. Predictive model building for the diversity of resources anticipated in the period. There are many alternative occupation strategies represented in the literature: Native Americans, "vara strip" systems of Hispanics, Hispanic rancherias, Anglo ranches (Kinhead's ranch), trading posts, "camps" such as horse camps, trade routes, roads, etc. (see Buckles 1983 for ranch and farm models, some of which are useful for the period).

Future Needs, cont.

4. Research designs for building and testing models and theories. Many research questions are related to systems and cultural-ecological relationships (e.g., effects of increasing populations, amounts of livestock, developments of settlements based on irrigation agriculture, domestic animals replacing wild animals as subsistence base, overuses of transportation routes, etc.).
5. Identification of the span of material culture anticipated for the period. There is little information other than trade materials of American origin. Information needs to be accumulated relative to ethnic, industrial, stylistic, technical and other relationships which might be significant.
6. Compilation of known information which can be identified in records and in visual manners such as maps and overlays showing known sites, distributions of individuals and firms, ethnic relationships, network relationships, etc.
7. Searches for unknown or unsung sites of the period. Unsung sites of the period are reputed to be cited in folk traditions related by Hispanic settlers. An example is from the Cuchara River Valley where I have collected oral accounts from residents who think that Hispanics occupied the area before the Plaza de los Leones.
8. Information relating to cultural processes of Native Americans as reflected in archaeology. Did they, for example, develop dependencies on powder, liquor, food, etc., from the traders and "schedule" their activities, their social structures, etc., to "fit" the changed cultural environment, or did the traders, etc., adapt to the cultural-ecology, schedules, etc., of the Native Americans?
9. Information and testing of Native American sites (i.e., wickiups, stone circles, etc.) to build up a good comparative data base on activity sets, temporal styles, etc.
10. Investigation of systems which might have had their origins in this period (or earlier) and may have been recorded in later periods in archival records. These include irrigation ditches, roads, land and property lines, and others. They may have "set the patterns" for later developments in some areas.
11. Attempts to assess cultural dynamics and personal dynamics within the framework of the peoples, environments, etc. A "vigor" may be definable which may have had roots in acculturation, hybrid vigor of the population and other origins with which dynamic persons were associated (Joseph Doyle, the Bent's, Wooton, etc.).

3. CONQUEST OF MEXICO TO GOLD RUSH: 1849 to 1859

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Business/Commerce: Trading, trapping - 1850s (Buckles, current research).

Communities: Hamlets and cemeteries - 1850s to 1860s (Buckles current research).

Exploration, Expeditions and Research: Military -- Gunnison Expedition - 1856, Loring Expedition Trail - 1858 (Collins, Euler and Hyer 1980); Gunnison Expeditions of 1853 and 1854, Fremont Expedition - 1854 (Viola and Firebaugh 1983).

Thematic Systems -- Represented by Excavated Sites

Military: Fort Massachusetts - 1853 to 1858 (Baker 1965, 1968).

Services: Four Mile House - 1859? (Nelson n.d.).

Thematic Systems -- Data Gaps

Agriculture
Communication
Construction
Government
Health/Medicine
Industries, Small Scale
Maladaptations
Mining
Native American
Religion
Sites of Unknown Affiliation
Transportation Networks

HOW TO FILL FUTURE NEEDS

How to Identify Historic Cultural Resources

1. Sites described in histories represent a "settling down" and self-sufficiency to greater degrees than earlier. There are a number of "settlements" located approximately in literature, such as El Pueblo, Fort Vasquez, Greenhorn, Huerfano, etc., which produced animal and plant cash crops and crops for self-sufficiency, sale or barter.
2. Site locations along major drainages, related to irrigation agriculture with optimum abilities to select best lands and water. Site locations should correspond with some of the earliest ditch rights. Water adjudication records may be clues to where some of these sites are located.
3. Many sites were along the major transportation routes of the time and had functions of road ranches or the equivalent, catering to the travelers as protection, to fleece them, etc. Wagon travel was widespread and optimum routes were apparently used between main points.
4. Records for some sites in the area of Spanish land grants may be found in the Archives of New Mexico and in the records of land grant adjudications.
5. Military activities in southern Colorado may have resulted in previously little used records which identify cultural resources, landmarks, place-names and other information.
6. Written records identifying population profiles indicate that many persons of New Mexico origins lived in the area but were largely unsung. Persons noted most prominently in the records were of Anglo-American origin but were apparently a minority.
7. Native American occupation became part of ascribed territories administered by Indian Agents (e.g., Utes) and predictions can be made that sites in those areas represented occupations by these peoples.
8. Military records relative to Indian campaigns identify some specific routes and general site locations of Native Americans and the military.
9. The permanent settlement of communities in the San Luis Valley (San Luis, San Acacio, Etc.) has been a focal point of oral historical, archival, and other information retrieval systems which can identify specific sites and their locations.
10. Some material culture of the period is distinctive. There should be more mold-made bottles that lack maker's marks or lettered panels. More machine cut nails and disposable clay pipes should also occur.

How to Identify Historic Cultural Resources, cont.

11. Pre-emption claims identify some sites in records of later adjudications of water, land and mineral rights.

Research Questions

1. Can change in the ownership of trading companies be detected in the archaeological record?
2. Did cultivated plants of this period continue to be cultivated in later periods?
3. Were the principles of cultivation related to cultural traditions of the workers or those of the "important" personages, who were predominantly Anglo-American?
4. What were the impacts of occupation on the environment and how did they condition future use (i.e., did the earliest ditches, roads, etc., become models for later uses and functions or were they superceded by new orientations)?
5. What variables can be identified and measured archaeologically as important in decision-making strategies (site selections, resource utilizations, etc.)?
6. Why were there property sales if land was open to all comers?
7. Timber resources were impacted on a large scale in some areas (Hardscrabble, Pueblo, etc.) and may have affected future availability. Can these impacts be identified and can dendrochronology, plant identification, pollen analysis, etc., be valuable in environmental reconstruction?
8. Did U.S. efforts in the Mexican War contribute to the technological content of sites? Many came to the area for the war effort and conceivably there was surplus, personal uses of military materials, etc.
9. Were Native American inhabitants of the state a factor in the selection of "western" sites? (Hispanic sites in the northern frontier of New Mexico not designed to be fortress-type sites but represented integration with the Native Americans through kinship, commerce, etc.).
10. Was there evolution or diffusion of ranching, farming, blacksmithing, and other industries which were present prior to the territorial period?
11. The "lawless frontier" is a stereotype for occupation of the time. Is there tangible evidence to support this stereotype?
12. Can differences in symbolism be identified which aid in identifying ethnic affiliations of site occupants?
13. Do material remains indicate changes from fur trade economy to the development of local level commerce?

Future Needs

1. Identification and location of known resources. Significant beginnings have been made by maps locating trails, routes, etc. compiled by Glenn Scott (1972, 1975), but these need verification through ground testing. The majority of information available is from fort investigations. These are only concerned with the forts proper and not their cultural-ecological relationships, settlements, etc.
2. Model building and testing. Considerable literature has been written about the period which can be used for predictive models for sites, settlement patterns and material culture studies, particularly relevant to the technology of settlements, farming, ranching, attributes of architecture, availabilities of manufactured goods, etc. Studies to date have focused upon "mountain men" and the military.
3. Folklore collections to seek locations of Native American sites, battlegrounds, place-names, etc., some of which may be known and have been passed along in oral accounts (see Floyd n.d.).
4. Searches for records which expand our knowledge and greater availability of existing records. The "Cragin" papers, for example, are not available to the public.
5. Better information should exist concerning Indian lands. The Department of Army, agents' reports, etc., need to be compiled and searched for identified sites, improvements, construction, activities (farms, etc.) which may have been related to the area.
6. Almost unknown for the period is information about road ranches and their development. These sprang up along travel routes to the north and south of Colorado, and some of the occupants of Colorado probably built up similar businesses.
7. Searches of archival and other records to identify farms, ranches, and other settlements which persisted through the majority of the period and should have been identified in claims for water rights, pre-emptions, probates of wills and other records.
8. Model building of systems representative of the beginnings of industries through farming, milling, and range cattle in the Arkansas, San Luis and South Platte River Valleys. The models should attempt to answer questions regarding where produce was sold, who were customers, etc., to stimulate more adequate models of the state's pre-gold rush commerce than now exist.
9. Develop comparative collections from investigated sites (forts) and from material culture collections from adjacent states for identifications and interpretations.

4. GOLD RUSH TO STATEHOOD: 1860 to 1876

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Agricultural: Ranches -- one - 1871 to 1884 and one - 1870s to 1880s (Buckles 1978a); one - 1875 (Buckles 1975a); one - 1860s to present (Buckles 1975b). Cow camp (Ute Agency Cow Camp) - 1875 to 1881 (Baker 1978; Sullenberger and Baker 1981). Homesteads -- one - poss. 1870s (Sullenberger 1981); one - 1873 to 1929 (Alexander, Hartley and Babcock 1982). Farmstead - 1870 (Horvath 1981).

Communities: Town - 1869 to 1880 (Eddy, et. al. 1982). Mining camps and towns -- one - 1860s to 1885 (Buckles n.d. and Baker 1978); one - 1875 to present (Sullenberger 1981); one - 1869 to 1900 (Wedel 1964).

Government: Ute Indian Agency - 1875 to 1881 (Baker 1978).

Military: Old Fort Morgan - 1865 to 1867(?) and fort cemetery - 1866 (Morris, et. al. 1975).

Mining: Precious minerals -- ditch - 1870s to 1900s, ditch and placer - 1866 to 1893, two placers - 1870s to 1900s, lode mine - 1860s to 1870s, two lode mines - 1860s to 1900s, lode mine - 1860s to 1880s, placer - 1860s to 1900s, placer mining ditch - 1860s to 1880s, lode mine - 1870s to 1920s, placer mining and ditch - 1860s to 1970s, placer mining ditch - 1860s to 1910s, lode mine - 1870s to 1880s (Buckles 1978a).

Native American: Ute homestead and village - 1875 to 1881 (Baker 1978).

Recreational/Cultural: Hotel - 1860 to 1970s (Buckles 1978a); 1 camp - 1870s to 1900s; 3 camps - 1870s to 1970s; summer cottage - 1874 (Buckles 1978a).

Services: Assaying - dump of crucibles, scorifiers and a cupel - 1860s to 1870s (Patterson, Shanks and Curry 1980).

Sites of Unknown Affiliation: Dump - 1870 to pre-1934 (Halasi 1978); cemeteries - 1860 to 1885 (Stevenson and Sheets 1978).

Transportation Networks: Stage route - 1872 to 1884 (Collins, Euler and Hyer 1980); county road - 1876? (Buckles n.d.); road - 1876 to 1877? (Buckles n.d.).

Thematic Systems -- Represented by Excavated Sites

Agriculture: 5LK130 - ranch - 1875 to 1885 (Adams 1978).

Thematic Systems -- Represented by Excavated Sites, cont.

Communities: Mining (Georgetown) - residence, privy - 1860s (Slay 1976);
50R418 - placer mining camp - 1860 (Rossillon n.d.b.).

Government: Local - Ft. Vasquez (rebuilt due to Indian scares) - 1860s
and 1870s (Stanford 1966).

Mining: 50R418 - placer mine - 1860 (Rossillon n.d.b.).

Services: Twelve Mile House, along Smoky Hill Trail - 1860 to 1900 (Tate,
Glasier, Ryan, Stuart 1979); Bent's Old Fort - stagecoach era - 1861
to 1881 (Moore 1973). 50R30 - Vanoli Site - outhouses and trash de-
posits - 1876 to 1916 (Baker 1972).

Thematic Systems -- Data Gaps

Alternative Life Styles
Business/Commerce
Communication
Construction
Education
Environmental/Conservation/Aesthetic Resources
Exploration, Expeditions and Research
Finance, Insurance and Real Estate
Forestry/Lumber
Health/Medicine
Industries, Small Scale
Maladaptations
Manufacturing
Public Utilities
Religion
Resource Processing

HOW TO FILL FUTURE NEEDS

How to Identify Historic Cultural Resources

1. U.S.G.S. mapping of Colorado began in this period and maps can lead to locations of many resources.
2. Technological remains related to gold placer mining and other mining and milling.
3. Material culture characterized by:
 - a) Early hole-in-top cans, condensed milk cans, round-cornered tapered meat can (1872 on).
 - b) Mold-made bottles with applied finishes. May be some maker's marks and lettered panels but next period would produce more of these. Mason wide-mouthed bottles.
 - c) Cut nails.
 - d) Disposable clay pipes.
 - e) Telegraph lines.
 - f) Rifles replace caplocks.
 - g) Introduction of celluloid (first used in billiard balls).
4. Sites not associated with electricity, bale ties, telephones and other later industrial innovations.
5. Site location strategies related to highest priority water rights and optimum strategic locations for agriculture.
6. Locations of platted sites in the mining areas and the support areas for mining on the eastern slope with the exception of a few settlements west of the Continental Divide where lands belonged to the Indians and settlement was by squatters only.
7. The occupations in mining areas of the period are those stratigraphically older than other occupations.
8. Widespread ability to use archival and historic sources for locations of known settlements, routes, etc. Land records were related to mining district and similar records. However, in many cases, they were inadequately maintained and do not allow identifications of all of claimed resources.
9. Standard mill cuts of lumber are close approximations of the full sizes (i.e., 2 x 4's are 2" x 4" rather than 1-5/8" x 3-1/2").
10. Whip-sawed lumber more common than milled lumber with circular saws or band saw cuts. Milled lumber is of diverse sizes and lengths reflecting difficulties of consistency. Floors are puncheon-type more commonly than later.

How to Identify Historic Cultural Resources, cont.

11. Uses of earthen roofs, cheesecloth and other materials nailed to walls to keep out mud chinking and plaster.
12. Stock promotion corporations more common than capital investment corporations.
13. Initial railroad-related artifacts but area of distribution restricted to eastern Colorado.
14. Earliest occurrences of brick making, sewers, water systems, plumbing, etc., as "horizon styles," based on City Directories.

Research Questions

1. Did settlement patterns of agricultural lands indicate selection based upon experimentation or knowledge of the environmental limitations?
2. Can a "stratum" of Hispanic influences on gold mining practices be recognized in the Colorado Gold Rush, or had the evolution of the industry resultant from the California Gold Rush of 1849, obscured evidence of these practices?
3. Can miners' camps (not the mines) be distinguished by patterns from camps related to other contemporaneous industries (e.g., lumber, railroad construction, etc.)?
4. The frontier has been stereotyped as materialistic and anti-intellectual. Can this be tested from material culture evidence at sites with known materialistic differences?
5. Can social-structural distinctions of differing ethnic communities affiliations of the period be distinguished archaeologically?
6. Can evolution of ore processing be reconstructed archaeologically? (This is stimulated by the significances of the processes developed by N. P. Hill for smelting ores.)
7. What industrial histories will have to rely heavily upon archaeological investigations because they are not adequately represented in archival, historical, or other written sources?
8. Did the "march of the frontier" precede the distribution of services or did the distributions of services follow the frontier (i.e., did populations move to areas where services were available or did services follow population movements)?
9. Were directional movements of the frontier related to established transportation routes or did routes follow the frontier?
10. Did Native American transportation routes influence routes selected by mining and other frontiers?

Research Questions, cont.

11. Can the quantitative results of archaeological surveys be evaluated to predict activity concentrations of gold rush period?
12. Did the use of forest resources affect the distribution of forests in Colorado at later periods?
13. Can selection of prospecting locations be inferred to indicate that many early miners in Colorado were largely ignorant of principles of geology and distributions of precious minerals? (This is based upon a survey in the Twin Lakes area.)

Future Needs

1. Identification of Native American sites, reserves, agencies and related resources. These can be found in some archives and maps of the period. The information can be the bases for Native American "Direct Historical Studies" in the eastern part of the state and relate to public relations concerning heritage awareness for Native Americans.
2. Identification of the "earliest" structures now remaining in Colorado, which should be from this period. An example is the Doyle School in Pueblo County. A concerted effort should be made to identify the earliest structures associated with each of the thematic systems and to publicize the knowledge to stimulate concern for preservation and protection of the resources.
3. Collection of information which can identify industrially-related material culture (e.g., Colorado bottles, bricks, etc.), for artifact identifications, diagnostics, horizon markers, etc.
4. Systematic collection of archives relative to the period in one place (State Historical Society or State Archives) which could be used as a systematic cross-indexed data retrieval system for archival research. The collection would be of the earliest records up to statehood. A plan for developing the collection should be established which could be similar to the RP3 plan and concerned with the present state of knowledge, data gaps, how to organize information, classifications, etc.
5. Systematic collection of published literature on the period according to a plan similar to the RP3 plan to determine the present status of knowledge, known data gaps (missing literature), indexing of information, etc.
6. Searches for information in archives, elsewhere, particularly those of Kansas, New Mexico and Washington, D.C., and incorporation of information, copies, etc., into Colorado collections.
7. Inventories showing effects of decisions by the territorial government which resulted in sites. This inventory could provide

Future Needs, cont.

7., cont.

identification of resources so that plans could be made for their management and data for studies of cultural processes.

8. Inventories of pre-state county level governments which could provide data bases similar to the territorial level inventories.
9. Identification and investigation of actual models of the diverse occupations of the period. As time passes the attrition of resources increases and this should have high priority.
10. Construction of demographic, economic and other models related to populations, populations in diverse industries, unsung populations (from whatever source), etc.
11. Model building relating to location and use of strategic resources of the state which were sought during this period. For example, on the eastern slope there were needs for lime and clay for cement and brick plants, sand for bottle making, etc. As the mining frontier expanded, similar needs developed further to the west.
12. Adequate models for agricultural activities, architecture construction principles, and all other thematic systems.
13. Statewide level of information concerning routes of travel, trails, roads, settlements, etc. This would particularly be appropriate for the western slope which was the equivalent of the earlier period frontier on the eastern slope.
14. Studies of industry evolution in Colorado, with special concern for those of the earliest periods (i.e., trading, trapping, etc.) and how they affected industrial developments of later periods.

5. STATEHOOD TO SILVER CRASH: 1877 to 1893

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Agriculture: Homesteads - habitation - 1880 to 1920, habitation - 1880 to 1917, habitation - 1880 to 1917, habitation complex - 1880 to 1930, habitation - 1880 to 1917, habitation - 1880 to 1930 (Halasi 1978); habitation and poss. corral - 1880s to 1920s (Hibbets, et. al. 1979); homestead - 1890s to 1900s (Collins, Euler and Hyer 1980); homesteads of 1890, 1882, 1887, 1885 and 1882 (Sullenberger and Baker 1981).

Ranches - ranches of 1880s to 1970s, 1878 to 1910s, 1877 to 1900, 1885 to 1920, 1884, 1890s to 1900s, and 1892 (Buckles 1978a); ranches of 1882 to present, 1890 to 1930s, 1884 (Haecker, Rossillon, Buckles and Anderson n.d.); ranching - 1881+ (Collins, Euler and Hyer 1980); ranch - mid-1880s (Kendrick n.d.); ranch - 1882 and one from 1885 (Sullenberger and Baker 1981); ranch with blacksmith shop - 1879 (Morris, et. al. 1975); ranch - 1880s and later a sportsman's resort (Stiger 1980).

Farmsteads - farms and ranches with evidence of habitation (18 of them) - 1880 to 1930 (Eddy, et. al. 1982); 38 farmsteads - 1880s (Horvath 1981).

Three corrals - post-1880s (Hibbets, et. al. 1979); water control/transport (irrigation ditch?) - post-1880s (Hibbets, et. al. 1979); irrigation ditch - 1880, irrigation ditch - 1888 (Rossillon, Buckles and Haecker n.d.); irrigation tunnel - 1885 (Kendrick n.d.).

Business/Commerce: Carriage shop (second use as Jack Dempsey's training camp) - 1886 to twentieth century (Collins, Euler and Hyer 1980); feed and grain operation (part of an agricultural site) - 1880s (Horvath 1981); mercantile store - 1879 (Windmiller 1974).

Communication: Graffiti - '1880' (Alexander, Hartley and Babcock 1982).

Communities: Two townsites and one cemetery - early 1880s (Baker 1980); townsite - 1883, town - 1890 to present (Sullenberger 1981); coal company town - 1890 to 1927, remains of a coal company town - 1880s to depression, coal town - 1880s to present for part of town (Riches 1978); coal company town - 1880 to 1950, coal townsite - 1881 to 1903 (Horvath 1981); coal and gold townsite - 1877(78) to present (Baker, Smith and Sullenberger 1981); town and cemetery - 1879 (Sullenberger and Baker 1981); town - 1890 (Viola and Firebaugh 1983); railroad construction camp - 1881 to 1889 (Jones 1983).

Thematic Systems -- Represented by Surveyed Sites, cont.

Education: School - 1887 to 1939 (Buckles n.d.); school - 1890 (Viola and Firebaugh 1983).

Military: Fort Crawford - 1880 to 1890 (Collins, Euler and Hyer 1980; Baker 1978).

Mining: Coal - Emerald mine - 1890 to 1927; Bear Gulch - 1880s to depression; Ocean Wave Mine - 1880s to 1914; trash and evidence of brick furnaces (probable coal mine) - 1890 to 1920? (Riches 1978). Coal mine - ca. 1886 (Horvath 1981).

Peat - 1892 (Buckles 1978a).

Precious Mineral - Placer mining - 1878 to 1893, placer mining ditch - 1880s to 1970s, placer mine and ditch - 1880s to 1910s, placer mine - 1880s to 1950s, placer mine and ditch - 1880s to 1890s (Buckles 1978a); placer mine - mid-1880s, placer mine ditch and flume - mid-1880s, placer ditch - 1884, 3 placers - 1881 to 1887 (Rossillon n.d.b.); Mining and/or prospecting - 1887 to early World War I (Brechtel 1979); adit and small structure possibly associated with Golden Crystal Lode - 1884 (Hammer 1981); lode mining - 1883 (Buckles 1978a); mining district - 1881 to 1893 (second boom from 1906 to 1915 and then sporadic up to 1960s) (Sullenberger 1981).

Recreational/Cultural: Summer house and then a hotel - 1878 to 1960s; lodge - 1880s to 1900s; summer cottage - 1880s; camps - 1880s to 1900s; summer home - 1880 (Buckles 1978a); race track - 1870s to 1890s (Buckles n.d.).

Religion: Monastery - 1890s (Collins, Euler and Hyer 1980).

Resource Processing: National Gold Extraction Co. - 1885 to ? (Riches 1978); smelter - 1883 (Sullenberger and Baker 1981); charcoal kilns, pits and habitations - ca. 1877 to ca. 1900; charcoal pits - 1878 to 1880s (Buckles 1978a).

Services: Tavern - 1880s (Buckles 1978a); road ranch (part of an agricultural site) - 1880s (Horvath 1981).

Sites of Unknown Affiliation: Historic house - 1890s (Riches 1978); trash dump - 1880 to 1930, trash scatter, hearth and old road cut - 1880 to 1917, habitation or tent camp - 1880 to 1917 (Halasi 1978); habitation - 1880s to 1930s, storage structure (possible root cellar or dugout?) - post-1880s, water control/check dam - post-1880s (Hibbets, et. al. 1979); residence - 1887 to 1910s, residence - 1880s, residence - ca. 1888 (Collins, Euler and Hyer 1980); dugout - late 1880s to approx. 1893 (Rossillon, Buckles and Haecker n.d.); stone foundation, privy pit, trash scatter - post-1880, log cabin, poss. assoc. w/coal mining - post-1880, log cabin, poss. assoc. w/logging - post-1880, frame house, log shed - 1892 to 1950s, trash dump, old roadway - 1890 to 1917 (Horvath 1981); root cellar - 1893, dump - 1890s (Ingmanson 1981).

Thematic Systems -- Represented by Surveyed Sites, cont.

Transportation Networks: Ute Removal Route - 1881, railroad grade - 1890 to present, roads - 1888 to present, government road - 1884 (Viola and Firebaugh 1983); railroad grade - 1880s (Collins, Euler and Hyer 1980); railroad alignment, 'Y,' bridge, culverts and trestle - 1887 to 1976 (Buckles n.d.; Baker 1978); toll road - 1879 to 1889, road - 1887?, road - 1883, highway - 1877 to present, railroad water tank - 1887, access road - 1883 (Buckles n.d.); railroad water stop and rock wall embankment - 1882 to 1929, coal loading ramps - 1880s to 1930s (Horvath 1981); railroad grade and stone embankment - 1882, railroad grade - 1890s (Baker 1980); wooden railroad bridge - 1882 to 1953 (Ingmanson 1981).

Thematic Systems -- Represented by Excavated Sites

Agriculture: 5MN40 - ranch (possibly oldest ranch house in Shavano Valley, Montrose County) - 1880s to present (Buckles 1971). 5LK130 - ranch - 1875 to 1885 (Adams 1978). 50R126 - hay ranch - 1881 to 1977 (Haecker, Rossillon, Buckles and Anderson n.d.). 50R129 - ranch - 1888 to 1977 (Haecker, Rossillon, Buckles and Anderson n.d.). 50R211 - general farm - 1890s to 1960s (Haecker, Rossillon, Buckles and Anderson n.d.). 50R128 - general farm - 1891 to 1935 (after 1935 used as fields for 50R127) (Haecker, Rossillon, Buckles and Anderson n.d.). 50R127 - ranch - late 1880s to 1977 (Haecker, Rossillon, Buckles and Anderson n.d.).

Communities: 5PE390 - neighborhood dump (Italian) - late 1880s to 1950s (heaviest use from 1910s to 1930s) (Guthrie and Curry 1980). 5LK129 - mining camp - 1887 to 1903 (Miller 1978). 50R239 - residence (part of town of Dallas) - 1886 (assimilated into 50R211) (Rossillon, Buckles and Haecker n.d.). 50R546 - Dallas dump - approximately 1890 (Buckles n.d.). 5ST1, 5ST2 and 5ST5 - railroad construction camps and service communities -- 5ST1 and 5ST5 - 1879 to 1904 approximately, 5ST2 - 1881 to 1900 (Buckles 1976).

Health/Medicine: 5LK130 - possible pest house - 1883 (Adams 1978).

Mining: 5LK121 - placer - 1878 to 1880s (Buckles 1978a). 50R135 - placer - early to mid-1880s (Rossillon n.d.b.). 50R418 - placer - 1883 to 1900 (Rossillon n.d.b.). 50R127 - placer - 1882 to 1883 (Rossillon n.d.b.).

Recreational/Cultural: 5LK135 - resort - 1879(80) to 1920s (Kenyon 1982; Buckles 1978a; Withers 1965). 50R546 - race track - early 1880s (Buckles n.d.).

Resource Processing: 5LK129 - charcoal kilns - 1878 to 1887 (Miller 1978). 5LK121 - charcoal kilns - 1878 to 1880s (Buckles 1978a).

Thematic Systems -- Represented by Excavated Sites, cont.

Services: 5LK35 - road ranch and ranch -- 1878 to 1881 (Buckles and Buckles 1978). Saloon - ca. 1880 to 1916 (saloon at time of destruction by fire in 1916 - had previous multiple unknown uses) (Baker n.d.).

Sites of Unknown Affiliation: Dugout - 1890 to 1900 (Rossillon, Buckles and Haecker n.d.)

Thematic Systems -- Data Gaps

Alternative Life Styles
Construction
Environmental/Conservation/Aesthetic Resources
Exploration, Expeditions and Research
Finance, Insurance and Real Estate
Forestry/Lumber
Government
Industries, Small Scale
Maladaptations
Manufacturing
Native American
Public Utilities

HOW TO FILL FUTURE NEEDS

How to Identify Historic Cultural Resources

1. Widespread land and resource ownership goals as the state was formalized and surveyed allowing patents on lands and rights to resources.
2. Development of "cadastral" landscapes as the land occupations conformed to the allocations of land by surveyed areas and not pre-emption claims.
3. Diagnostic artifacts related to stages in the technological evolution of industrialization:
 - a) Bottle glass blown in molds with maker's marks and applied finishes, lacking Owen's rings and later attributes.
 - b) Evolution of can technology with lapped and soldered closures, greater uniformity of cans and their attributes.
 - c) Nails predominantly machine cut, except most recent of the period.
 - d) Lumber uniformly milled for urban areas and in a range of seriation of sizes from "real" to "idealized" sizes.
 - e) Greater reliance on manufactured fittings for architecture than at earlier dates, as a statistical distinction. Lanterns replace candles.
 - f) Wire bale ties introduced.
 - g) Presences of "horizon styles" of electricity, bricks, railroad-related artifacts, etc., as these increased in their distributions, in part by the expansions of "new towns" in areas not previously settled (i.e., western Colorado).

How to Identify Historic Cultural Resources, cont.

- 3., cont.
 - h) "Disposable" clay pipes common in early part of period.
 - i) Barbed wire.
 - j) More "stylistic" differences in furniture, hardware, etc. from latter part of this period on.
4. Initial major impacts of catalog sales and distribution of related material culture.
5. Settlements throughout all areas of Colorado as the Utes were moved to Utah and limited reservation areas.
6. Large scale land modifications to increase production -- irrigated agriculture.
7. End of the "open range" use concept and initial distribution of "homesteaders" across the land.
8. Emergence of the industrialization of the state as a pattern which established land and resource utilizations and ownerships for future generations.
9. Reduction in mining and milling activities in the lead-silver belt.
10. Amalgamation of many populations into the industrial developments of the state, particularly in urban areas.
11. Ability to use archival information to determine greater proportion of identities of sites and resources than previously as the land was surveyed and land offices, county court houses, etc. and other governmental entities became permanent and records became permanent.
12. Record keeping relative to identities of specific persons in census' possible.
13. Photographic records of activities available as aids in model building (e.g., William Jackson).
14. Widely published local level newspapers available.

Research Questions

1. Can "fossil" stages in a presumed evolution of camps to towns be identified as actual models and used to assess sites of unknown natures?
2. What variables were most important for site selection strategies for ranches, farms, towns and other western slope settlements and did these differ from variables related to eastern slope settlements?

Research Questions, cont.

3. Were there adaptive strategies that led to establishment of the national forests which might indicate that cultural systems anticipate the sequences of ecologically unsound cultural practices?
4. Do different patterns of refuse disposal correlate with different strategies for settlement?
5. Has there been continuity in site selection strategies of Native Americans on reservations with earlier non-reservation site selection strategies, or have the strategies become indistinguishable from non-Native American site selection strategies?
6. Do site selection strategies for Indian Agencies of the period represent selections based upon variables indicative of defensive site location?
7. Was there correlation between the distribution of natural resources related to resource specific industries in the state during the period, or was there ignorance of geology and other sources of information indicated by lack of industrial developments of important resources?
8. Corporate industries had knowledge of important natural resource distribution. This can be demonstrated by their land holdings and investigating control of transportation routes.
9. What contributions did small industries of Colorado make to state and national interests? Are some of the magnitude to warrant archaeological searches for the remains and identification of the processes?
10. Are records of railroad construction-related communities sufficiently adequate to enable identification of actual models for type sites such as "end of track towns," "hell on wheels" communities, track layers' camps, and others?
11. Can archaeological research contribute significantly to knowledge of the evolution of mining practices in the state or are there adequate records concerning the evolutionary sequence?
12. Can sites associated with the evolution of the smelting industry during this period be identified and investigated archaeologically and compared against models from other areas to assess the origins of the industry?
13. Are there major Colorado industries of the period which are shadow industries because they were involved in activities on the public domain but are not represented significantly in archival records such as those of land holdings?

Research Questions, cont.

14. Can cultural remains be used to test the proposition that the nature of business and commerce in frontier areas was dependent with cultural-ecological variables to greater degrees than to diffusions of practices from elsewhere?

Future Needs

1. Determination of local sequences of railroads, electricity, gas, telephones, brick making, and other industries that can be used as dating and attribute analyses for local levels as the "frontier" spread.
2. Histories of local developments to assess the processes of culture change to take "camp to town" changes from speculation to facts.
3. Acts of Incorporation (from Secretary of State's Office) and other archival information organized in order to synthesize archaeological, archival and other sources of information.
4. Need clarity in terminology for recordation of sites or features (i.e., when is a trash scatter considered a site and when is it considered an isolated find, clarify differences between root cellars and dugouts, clarify differences between a cabin and a house).
5. Stimulation of developments of county level archival, literature, and other collection systems based upon systematic plans to assess present status of information, data gaps, etc., similar to a state-wide plan. The county level systems would reduce both the volume and the complexity involved in maintaining comparable collections at the state level. Most county level data begins with this period.
6. Stimulation of county level photographic, oral historical and other collections relating to unpublished and non-archival types of information.
7. Stimulation for county court houses and other keepers of archives to preserve and protect their archives. Some of the older archives are in sad shape and some have been lost. Many counties are out of room. They reproduce archives on microfilm and destroy the originals. The microfilm, however, cannot be read as easily as the originals. A statewide plan should be instituted to protect records.
8. Development of a state level inventory of the effects of decisions made by state government relative to state funded construction, road networks, etc., beginning with the creation of the state. This should be maintained over time so that the evolution of changes can be identified for management of the resources related to these actions. Also, the inventory provides a means of constructing and testing theories of culture change.

Future Needs, cont.

9. Development of county level inventories showing the effects of county governments, for the same purposes as in number 8, but at a less extensive level.
10. Investigation of sites with specific thematic systems, activity sets, etc., to be selected from ongoing cultural resource management projects. This period is the one with the greatest number of surveyed and excavated sites and the plan can be implemented for the period because of the broad data base of known site types.
11. Development of models for the diversity of network relationships inside and outside the state of resources and systems of the period. This is a large task compounded by the rapidity and size of network development.

6. POST-SILVER CRASH TO WORLD WAR I: 1894 to 1916

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Agriculture: Homestead - 1900 to 1930? (Hunt 1981); corral - ca. 1900 (Hibbets, et. al. 1979); office of irrigation users assoc. - 1904 to present, irrigation tunnel - 1909, potato sheds - 1900s, two homesteads - 1890s (Collins, Euler and Hyer 1980); homestead - 1915, homestead - 1910 to 1921, hay ranch - 1909 (Haecker, Rossillon, Buckles and Anderson n.d.); four farm houses - between 1900 and 1924, dam - 1904 (Viola and Firebaugh 1983).

Business/Commerce: Possible hotel (part of an agricultural site) - 1904 (Horvath 1981); store and railroad spur - 1898, two mercantile stores - 1902 and shortly after (Viola and Firebaugh 1983).

Communities: Mining camp - 1890s to 1910s, three reservoir construction habitations - 1900 to 1915 (Buckles 1978a); mining company camp - 1900 to 1930[±] (Baker 1982); coal camp - 1900 to 1945, coal company townsite - 1897 to 1946 (Horvath 1981).

Construction: Overflow valve, reservoir (Buckles 1978a).

Education: Country school and teacherage - 1914 (Horvath 1981).

Health/Medicine: Hospital - 1907 (Viola and Firebaugh 1983).

Mining: Precious mineral - mining/prospecting - approximately 1900 thru depression (Brechtel 1979); placer mine - 1895, mining ditch tender's cabin - 1896 to 1910, placer mining ditches - 1890s to 1910s, placer mining tailings - 1910s to 1950s, lode mine, mining ditch - 1890s to 1900s (Buckles 1978a); mining district - silver 1876 to 1893, gold and silver 1895 to 1918 (Sullenberger 1981); mine with mill - 1900 to 1930[±] (Baker 1982).

Recreational/Cultural: Guest cottages (part of an agricultural site) - 1911? (Horvath 1981); theater - 1913 (Viola and Firebaugh 1983); summer home - 1902 (Windmiller 1974).

Religion: Three churches, two built in 1906 and one built in 1912 (Viola and Firebaugh 1983).

Resource Processing: Rocky Mountain Smelting and Refining Co. - pre-1899 to ?, El Paso Reduction Plant - pre-1899 to ? (Riches 1978); Montrose Radium Mill - 1900 (Collins, Euler and Hyer 1980); sugar beet factory - 1899 to 1929, turned into a uranium mill - 1950 to 1970 (Viola and Firebaugh 1983); oil refinery - 1891 to 1904 (Anderson and Hall 1977); limestone kilns - 1908 to 1917 (Alexander, Hartley and Babcock 1982).

Thematic Systems -- Represented by Surveyed Sites, cont.

Sites of Unknown Affiliation: Rock foundation and debris - 1900 to 1927 (Riches 1978); two log cabin remains - 1890s (Brechtel 1979); dump - early 1900s (Rossillon, Buckles and Haecker n.d.); log cabin - post 1900, two log cabins and one cabin built of railroad ties, possibly associated with coal mining - post-1900, cemetery (30 marked graves) - 1897 to 1963 (Horvath 1981); boarding house - ca. 1900 (Baker 1980); three concrete foundations and a trash scatter - 1914 to 1917, trash scatter - 1890 to 1902 or possibly 1917, three structures (or foundations) and trash scatter - 1905 to 1917, habitation and trash scatter - 1915 to 1925 (Alexander, Hartley and Babcock 1982); residence - 1907 (Viola and Firebaugh 1983); house and outbuildings - 1906 to 1940s (Piontkowski 1983).

Transportation Networks: Probable railroad shanty - 1914 to 1917 (Halasi 1978; access road - 1916? (Buckles n.d.); railroad construction powder magazine - ca. 1900 (Horvath 1981); road (part cut thru sandstone bedrock, rest dirt) - early 1900s (Alexander, Hartley and Babcock 1982); train wreck - 1904 (Anderson and Hall 1977); railroad grade - 1911 to 1964 (Piontkowski 1983).

Thematic Systems -- Represented by Excavated Sites

Agriculture: 5GN347 - ranch - early twentieth century (Black, Horvath and Baker 1981). 50R125 - hay ranch - 1895 to 1977 (Haecker, Rossillon, Buckles and Anderson n.d.). 50R209 - homestead - 1907 to 1930 (Haecker, Rossillon, Buckles and Anderson n.d.).

Communities: 5LK136 - reservoir construction camp - 1900 to 1915 (Rossillon 1978).

Construction: 5LK6 - dam-related - 1890s to 1910s (Buckles 1978a).

Education: 50R173 - country school - late 1890s to late 1930s (Rossillon, Buckles and Haecker n.d.).

Mining: 5LK129 - placer (squatters) - 1903 to 1918 (Miller 1978). 50R201 - placer - 1895 (Rossillon n.d.b.).

Services: Four Mile House Report - Working House - 1897 (brick addition - 1901) (Nelson n.d.).

Sites of Unknown Affiliation: 5GN348 - possible dugout? [guess by Nancy Buckles] - early twentieth century (Black, Horvath and Baker 1981).

Thematic Systems -- Data Gaps

Alternative Life Style
Communication
Environmental/Conservation/Aesthetic Resources
Exploration, Expeditions and Research
Finance, Insurance and Real Estate
Forestry/Lumber
Government
Industries, Small Scale
Maladaptations
Manufacturing
Military
Native American
Public Utilities

HOW TO FILL FUTURE NEEDS

How to Identify Historic Cultural Resources

1. Technological evolution reflected in artifactual materials.
 - a) Wire nails almost exclusively.
 - b) Sanitary can developed, but not widely used, paint can closures perfected.
 - c) Crown caps on bottles, presence of Owen's Ring, diversity of colors of glass, screw caps in wider use, post-1912 sees particle cork liners in crown caps.
 - d) Widespread use of manufactured, milled, and uniform materials in construction in most areas.
 - e) Widespread use of electricity, Colorado-made bricks, recycling of railroad-related artifacts as the distributions approximated those of today's towns and settlements.
 - f) Pure Food and Drug Act reduced patent medicines drastically.
 - g) Introduction of plastics (Bakelite) primarily in industrial usages.
2. Development in Colorado of diverse industries in agriculture, manufacturing, etc., and less reliance on mining-related economies, following the silver crash.
3. Development of land management policies for forest lands on the public domain, which allows identification of many cultural resources on the public domain through archival sources.
4. No Native American sites occupied except on reservations.
5. Almost all of communities are platted and archival sources can be used as primary source to identify urban occupations.
6. Period is within the range of knowledge of oral informants who experienced the occupations of part of the period or have knowledge imparted by an older generation.

How to Identify Historic Cultural Resources, cont.

7. Changes in land ownership in many areas of the state such as amalgamation of properties and other changes related to inadequate land base to support rural population and insecure economic conditions.
8. Reclamation and conservation emphasis initiated towards land and resources.
9. Gold Boom of Cripple Creek and other areas not in the Silver Belt.
10. Conflicts between capital and labor (Cripple Creek Strike, Coal War, etc.).
11. Initial appearance of the automobile and related mechanization of many rural industries.
12. Reduction in narrow gauge rail lines.
13. Corporate ownerships of resources and lands and developments of company towns.
14. World War I-related economic boom for agriculture.
15. Photographic records of many areas and newspapers widely published and representative of many activities.
16. Increases in catalog sales and related consumer consumption patterns.

Research Questions

1. Can social-structural distinctions of colonies related to differing economic practices be distinguished archaeologically?
2. What stylistic distinctions occur in headstones which can be used as horizon markers for this period?
3. Do site selections, architecture and other variables related to country schools represent a national cultural tradition or are there distinctive patterns which have developed for the state?
4. Can the persons who actually built the enormous construction projects of the period (reclamation, road building, etc.) be accounted for in archival records or archaeology?
5. Can analyses of material culture remains and relationships lead to recognition of the strategies which were most important for success in selected industries of the period?
6. Can public utility distributions be made into a model for an age-area hypothesis?
7. Has there been a "tradition" of speculative types of communities which have selected site locations related to variables which differ from variables related to ecologically compatible settlements?

Research Questions, cont.

8. Can relative death rates be adequately identified through archaeological investigations of cemeteries, if records of deaths in areas are lacking?
9. Did sites of Native Americans on reservations become indistinguishable in material culture remains from sites of non-Native Americans who lived adjacent to the reservations?
10. Can types of labor-management relationships be recognized archaeologically by material culture patterns which co-vary with different types of relationships?
11. Did the architecture of Colorado, up to this time, represent distinctive patterns adapted to the establishment of the mining, homestead and other frontiers in the state?
12. Were environmental variables significant in the principles used in construction of vernacular architecture in Colorado?

Future Needs

1. Identification of technological and stylistic changes of the period which can be used as diagnostics for material culture studies and identifications.
2. Comparisons of architectural, structural and other changes which can be used to contrast and identify industrial changes from the preceding period.
3. Identification and investigations of the resources and industries in the state specifically associated with mobilization leading to World War I.
4. Investigations of company towns and their remains to test theories of relationships between material conditions and management and labor relations. These could be tests of the "real" conditions at sites such as Ludlow, and comparisons with "idealized" descriptions.
5. Identification of sites related to innovations of the period which are of value in defining "firsts" for the state and local areas. Examples can be the "first" airport or landing field, automobile agency, Sears and Roebuck houses, etc.
6. Identification of sites related to social, political and other events important in the period for the history of the state. Examples are landmark designations in Cripple Creek related to the mining war, the Eden Train Wreck, etc.
7. Stimulation of studies of lifeways of the times which can include synthetic investigations of ranching, farming, hobo jungles, ethnic neighborhoods, etc., which can be archaeological, oral history, archival, etc.

Future Needs, cont.

8. Identify sites from this period which have integrity and study them as actual models for culture history and lifeways. The most common may be the farms, ranches, lumber mills, etc., of rural areas. The most uncommon may be in the urban areas.
9. Investigate systems which declined during the period and for which evidence will be lost through attrition. Examples are narrow gauge railroads, livery stables, company towns and services (hospitals, dormitories, commissaries, stores, etc.).
10. Selection of "ghost towns" for systematic, long-term investigations concerning questions relative to the period. This involves active protection of the sites until investigation is possible. A variety of resources should be considered for protection and "data banks" established by agreements with private landowners to protect them, park designations, etc.

7. WORLD WAR I TO DEPRESSION: 1917 to 1929

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Agriculture: Homesteads - habitation - 1920 (Halasi 1978); corral - post-1920 (Hibbets, et. al. 1979); homestead - 1919 to World War II, bee-keeper - World War I (Haecker, Rossillon, Buckles and Anderson n.d.); windmill and water tank - 1917 to 1925 (Alexander, Hartley and Babcock 1982).

Farms - 1919 (Ingmanson 1981).

Farmsteads - 11 that fall within this period (Horvath 1981); one - ca. 1910 to 1925 and one - ca. 1920 (Alexander, Hartley and Babcock 1982); one - 1920s to 1930s (Hand 1980).

Ditch rider's house and outbuildings, canal - late 1920s or early 1930s (Ingmanson 1981).

Business/Commerce: Clothing store - 1920s (Collins, Euler and Hyer 1980).

Communities: Coal town - 1924 to 1949 (Kranzush 1977); coal townsite - ca. 1917 (Horvath 1981); lumber company town (w/sawmill) - 1924 to 1948 (Kendrick n.d. and McCarthy 1980b).

Education: Wilmont School - 1921 to ? (Riches 1978).

Mining: Coal - remains of mine - 1924 to 1949 (Kranzush 1977); mine - ca. 1917 (Horvath 1981).

Precious Minerals - hardrock mine shaft - 1920s (Rossillon n.d.b.).

Public Utilities: Oliver Power Plant - 1924 to 1949 (Kranzush 1977); 42" redwood water main - 1929 (Curry 1980).

Recreational/Cultural: Resort ranch - ca. 1917 (Horvath 1981).

Sites of Unknown Affiliation: Adobe house - pre-1927 to 1960s, debris, collapsed building remains - pre-1927? (Riches 1978); dump - 1917 to 1935 (Hibbets, et. al. 1979); camp dump - post-1922 (Rossillon, Buckles and Haecker n.d.); log cabin possibly associated with logging industry - post-World War I, log cabin - 1920, two log cabins - 1921, frame house - 1920s (Horvath 1981); sandstone block house ruin - 1920s, trash scatter - 1915 to 1925, trash scatter and rock alignment - pre-1920, trash scatter - 1917 to 1925 (Alexander, Hartley and Babcock 1982).

Thematic Systems -- Represented by Excavated Sites

NONE - other than those components of earlier dated sites which extended into this period.

Thematic Systems -- Data Gaps

Alternative Life Style
Communication
Construction
Environmental/Conservation/Aesthetic Resources
Exploration, Expeditions and Research
Finance, Insurance and Real Estate
Forestry/Lumber
Government
Health/Medicine
Industries, Small Scale
Maladaptations
Manufacturing
Military
Native American
Religion
Resource Processing
Services
Transportation Networks

HOW TO FILL FUTURE NEEDS

How to Identify Historic Cultural Resources

1. Related to post-World War I agricultural decline preceding the national depression.
2. Expansion of lands available for homesteading under the Stock-Raising Homestead Act of 1916 and earlier Enlarged Homestead Act, which allowed claims to be made for lands not previously claimed, and which were the last major expansion of agricultural property.
3. Artifacts of diagnostic types and attributes:
 - a) Sanitary can widely used and replaces earlier types of can manufacture.
 - b) Clear glass most common for bottle manufacture, automated bottle-making, non-applied finishes.
 - c) Dinnerware related to choices available in mail order catalogs for much of the population.
 - d) Expansion of mechanized farm and ranch equipment, particularly for larger operations resultant from consolidation of lands and expansion of reclamation and other projects.

How to Identify Historic Cultural Resources, cont.

3., cont.

- e) Increase in importance of automobiles, trucks and expansion of road systems while railroad mileage decreased.
 - f) Majority of diagnostic artifacts are of manufactured origins and can be identified from archival information, catalogs, etc.
 - g) Coca-Cola produced in small version of hobble skirt bottle.
 - h) Electricity, radios, etc., are dominant over gas and other forms of illumination.
 - i) Wire nails almost exclusively (might be reuse of cut nails but by this time production was almost exclusively of wire nails).
 - j) Plastics (casein) used for simple household articles.
4. Conformity increases, particularly in urban area constructions, through construction codes and related ordinances, standards, practices, etc.
 5. Prohibition and possible related material culture of moonshining, bootlegging, etc.
 6. Influx of population from Mexico related to the Mexican Revolution.
 7. As a general rule, sites of period should be initially investigated through archival, oral and other non-excavation methods. Excavations should be restricted to specific research problems.

Research Questions

1. Do architectural patterns of structures constructed during this period indicate that conformity with national patterns was more important than conformity with patterns which existed at earlier dates in Colorado?
2. Did lack of formerly imported raw materials result in the resurgence of prospecting for needed raw materials in mining areas of Colorado?
3. Were pest houses used as part of the flu epidemics and if they were can they be used as models for pest houses of earlier dates?
4. What variables were important in selection of cemetery locations up to this date? (This is stimulated by information collected in Pueblo County on over 100 cemeteries and recognition that most locations had been selected by approximately this time.)
5. Was ethnicity exhibited in the vernacular construction practices of the period? Where, when, how, what, why?
6. Can "company towns" of the period be identified archaeologically and distinguished from "open" communities?
7. Do orientations of burials in cemeteries reflect status, religious, or ethnic differences in the cemeteries?

Research Questions, cont.

8. Can competitions for land by agriculture and other industries be recognized in patterns of availabilities of utilities and other human resources which were provided through bureaucracies during the period?
9. Does the religious architecture of Colorado up to this period reflect cultural-environmental differences from religious architecture elsewhere?
10. Did presences and types of schools in communities correlate with successes of the communities?

Future Needs

1. Identification and investigation of resources unique to the period because of land settlement laws. Examples are ranches and farms homesteaded under the Stock Raising and Enlarged Homestead Acts. These acts ended open range practices. The sites related to open range practices need to be identified as do the sites which were innovations.
2. Lifeways studies of peoples of the time related to different occupations, ethnic groups, socio-economic groups, etc. These include industries which underwent changes, groups which lost integrities in later generations, etc. These should be synthetic studies.
3. Selection of resources to be included in data banks as resources with integrity. These are sites that can be protected through agreements with private landowners, are on state lands, etc.
4. Studies of "types" of resources distinctive of the period and of the styles and types of technologies. Very few examples of resources related to the rapid development of highways and associated services remain. Motels (motor hotels), service stations, lunchwagons, etc., of the period are difficult to identify and may occur only in almost-ghost town situations.
5. Technological and other material culture innovations of the period need to be compiled into data banks for identification, interpretation, and use in material culture studies.
6. Collections of equipment from farms, construction activities, etc., should be made and preserved comparable to collections made of earlier equipment. Uses can be made of some of the equipment in parks, museums, etc., which enhance the importance of resources of the twentieth century (being as important as earlier material culture).
7. Identification of significant events, places, persons, etc. Events as important as the 1921 Pueblo flood, for example, are not identified. Such events, places, etc., can be focal points for enriching the lives of persons still living by elevating them to positions of authorities because they lived through the events, saw the persons, etc. Cultural heritage awareness tends to be remote under present practices and

Future Needs, cont.

- 7., cont.
emphasizing "recent things makes persons still living the equivalent of pioneers.
8. Ethnic studies to enrich the lives of the descendents of the last large groups of immigrants to Colorado from other societies (until World War II, Vietnam, etc.). These include many persons from Mexico who fled Revolutionary conditions and eastern Europeans who joined the industrial armies.
9. Industrial archaeology projects concerned with preserving information about the industrial evolutionary stages in Colorado.
10. Selections of alternative life styles for study which enhance the conceptions of evolution from the frontier since some of these alternative life styles were anachronistic (e.g., last of the open range ranchers, veterans of the Civil War, former mining tycoons, bootleggers, etc.)

8. DEPRESSION TO WORLD WAR II: 1930 to 1941

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Agriculture: Homesteads - one w/hunting camp - 1930 to present (Baker 1980).

Farmsteads - 4 (Horvath 1981); 1 - 1930s (Alexander, Hartley and Babcock 1981).

Ranch - windmill, stock tanks - ca. 1930s (Guthrie 1982); sheep camp - 1934 to 1962 (Hibbets, et. al. 1979); ranch - 1934 (Kendrick n.d.).

Communities: Placer mining camp - 1930s to 1940s (Buckles 1978a); mining town - 1930 to 1950s (Collins, Euler and Hyer 1980).

Education: Country school - 1939 to 1945 (Rossillon, Buckles and Haecker n.d.).

Mining: Cabin related to mining - 1930s (Collins, Euler and Hyer 1980).

Public Utilities: Habitation and water transport and water control/transport (connected with Palisade Water Works) - 1932 to mid-1950s (Hibbets, et. al. 1979).

Recreational/Cultural: American Nauheim Baths - 1930s (Riches 1978).

Religion: Church - 1938 (Viola and Firebaugh 1983).

Sites of Unknown Affiliation: Foundation and refuse - pre-1934, refuse - 1934 (Grant 1980); wooden building, two concrete foundations and a trash scatter - 1930s to 1950s (Piontkowski 1983).

Transportation Networks: Two pony truss road bridges - 1940 to 1960 (Horvath 1981).

Thematic Systems -- Represented by Excavated Sites

Communities: Old City Dump - Fort Collins - ca. 1930s to 1960 (Morris, McComb and Marcotte 1977).

Mining: 50R547 - placer - 1932 (Rossillon n.d.b.).

Recreational/Cultural: Ft. Vasquez - 1936 - WPA reconstruction (Stanford 1966).

Sites of Unknown Affiliation: 50R188 - privy - 1930s to 1940s (Rossillon, Buckles and Haecker n.d.).

Thematic Systems -- Data Gaps

Alternative Life Styles
Business/Commerce
Communication
Construction
Environmental/Conservation/Aesthetic Resources
Exploration, Expeditions and Research
Finance, Insurance and Real Estate
Forestry/Lumber
Government
Health/Medicine
Industries, Small Scale
Maladaptations
Manufacturing
Military
Native Americans
Resource Processing
Services

HOW TO FILL FUTURE NEEDS

How to Identify Historic Cultural Resources

1. Dust Bowl period and losses of many agricultural lands by their owners.
2. Changing technology:
 - a) Automobile and mechanically-related transportation, machinery.
 - b) Initial use of oil cans.
 - c) Depression period dinnerware.
 - d) Canned beer.
 - e) All bottles produced by automatic bottle making machinery.
 - f) Seven-Up soft drinks introduced.
 - g) Stubby-type of beer bottles compete with canned beer.
 - h) Plastic (cellulose acetate) household items begin to appear.
 - i) Synthetic rubber (styrene) appeared just prior to World War II.
3. Ability to define most of artifacts because they are industrially produced except for socio-economically most depressed farms, ranches, etc.
4. Government-related programs to counteract the effects of the depression (i.e., CCC, WPA, NRA, Soil Conservation Service).
5. Period is well within the range of many oral history sources and there is ability to make refined research designs to integrate diverse sources of information and produce valuable models.

How to Identify Historic Cultural Resources, cont.

6. Increase in standardizations relative to local, state, government codes, standards, etc.

Research Questions

1. Can symbols of government involvement in farming and ranching activities be recognized in changing patterns of land modification and use?
2. Do the refuse deposits of farms and ranches of the period represent greater amounts of subsistence level agriculture than existed prior to or after the period?
3. Can communities characterized as religiously conservative be distinguished by patterns of material culture (other than explicitly religious symbolism) from communities that were not religiously conservative?
4. Do patterns of diagnostic artifacts and architecture represent a "return to the hills" by persons seeking alternative sources of income through prospecting in areas of mining districts?
5. Can maladaptations such as alcoholism, criminality and other discrete behaviors be identified through archaeological investigations or predictive modeling?
6. Can folk medicine practices used in areas of Colorado be identified through archaeological investigations?
7. Did consolidation of schools correlate with decline in rural populations and loss of rural community oriented behavior?
8. Did depersonalization of individuals increase with the evolution of industrialization, the depression, and other variables, and can symbols of depersonalization be recognized in sites?
9. Can variables of cemeteries be identified as indicants of depersonalized social relationships?
10. How has archaeology been affected by insurance? Are there optimum archaeological sites which can be located by researching insurance claims (i.e., locations of catastrophies which have preserved materials)?

Future Needs

1. Identification and description of sites that resulted from federal assistance during the period and which form styles of architecture, land use planning, etc. (e.g., CCC built structures, parks, bridges, etc.).
2. Selection for studies of sites and systems unique to the period. These can include some of the federal assistance sites, squatters communities,

Future Needs, cont.

- 2., cont.
innovations in architecture, dust bowl farms abandoned during the period, etc.
3. Lifeways studies of groups which can be identified from the period and are not distinguishable at later dates (relief families, gypsies, tinkers, CCC camps, etc.).
4. Selection of sites and systems to be considered for data banks that include changing architectural styles of offices, glass brick houses, barrios, country schools (many were abandoned during the period), barns converted to garages, road houses, rural post offices, etc.
5. Synthetic studies to learn about the effects of the depression, dust bowl, etc., on human behavior as studies through material culture, archival, oral sources, histories, etc. For example, vernacular architecture, recycling behavior, consumption patterns, etc., can all be archaeological parts of synthetic studies of how our society and groups coped with the problems of the depression.
6. Comparative studies of adaptations to the problems of the depression to assess life in the country, in towns, etc.
7. Data bases of technological information, attributes of artifacts, style changes, etc., which can be used in building and testing theories relating to model building.

9. WORLD WAR II: 1942 to 1945

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Military: World War II Prisoner of War Camp (Gallacher 1981).

Mining: Open-pit, uranium and radium - 1940s (Collins, Euler and Hyer 1980).

Thematic Systems -- Represented by Excavated Sites

NONE - other than those components of earlier dated sites which extended into this period.

Thematic Systems -- Data Gaps

Agriculture
Alternative Life Styles
Business/Commerce
Communication
Communities
Construction
Education
Environmental/Conservation/Aesthetic Resources
Exploration, Expeditions and Research
Finance, Insurance and Real Estate
Forestry/Lumber
Government
Health/Medicine
Industries, Small Scale
Maladaptations
Manufacturing
Native American
Public Utilities
Recreational/Cultural
Religion
Resource Processing
Services
Sites of Unknown Affiliation
Transportation Networks

HOW TO FILL FUTURE NEEDS

How to Identify Historical Cultural Resources

1. Wartime economy, uses of synthetics and other alternatives for strategic materials.
2. Origins of great amount of surplus materials which became part of recycled materials and structures: quonset huts, jeeps, army drab colors, etc.
3. Disturbance to many archaeological sites by bone collecting for sources of strategic minerals for war efforts.
4. Changing social structure as males are mobilized in large numbers for the war effort.
5. Population movements to locales in Colorado where wartime activities were conducted, e.g., Pueblo Air Base, Lowry Field, Fitzsimons Hospital, etc.
6. Internment camps for prisoners and Japanese-Americans.
7. Ample archival, oral history, newspaper and other sources.
8. Trends over time are towards renting and leasing which affect identification through archival sources of occupants of many sites.

Research Questions

1. Can distinctive social structures of communities or occupations exclusively of this period be recognized in material culture patterns (e.g., families without males)?
2. Do sites associated with military installations in Colorado have significant enough construction, integration and other qualities to be considered as memorials?
3. Is concern for spiritual and nationalistic values related to the war reflected in symbolism of architecture constructed during the period of the conflict?
4. Do refuse disposal patterns of the war period reflect the presences of rationing and other shortages which affected consumers?
5. Can archival and other information concerning rates of religious building construction and costs of such construction during the period or the succeeding period be used to test correlations between concerns with religion and times of crises?
6. Can changes in agriculture related to the wartime economy be recognized in inventories of material culture dating from the period?
7. Can the effects of the war be recognized through changing styles of headstones in cemeteries?

Research Questions, cont.

8. Can the dynamics of culture change related to war mobilization (identifiable in material culture related to the war effort) also be recognized in "neutral" material culture changes? This proposition attempts to test whether prioritized changes also have functional relationships to changes in other spheres of culture.

Future Needs

1. Lists of technological changes which can be used in material culture studies. Many of them are related to wartime-related technological changes, developments of synthetics, etc.
2. Preservation of data bases related to technology of the time, such as war surplus equipment which has been disseminated widely and forms a material culture horizon.
3. Development of a data bank of sites and systems related to the period. An example is Camp Hale on Tennessee Pass which can be a focal point for interpretations of land form changes, foundations, remote outhouses, etc. Other examples are of internment camps.
4. Lifeways studies of the effects of the war on families, on servicemen in Colorado bases, farmers and ranchers, "Rosie the Riveter," etc.
5. Model building and testing of the effects of the war on activities in Colorado particularly related to lack of availability of resources such as gasoline, barbed wire, rubber, butter, cigarettes, etc., which might have effects in disposal patterns, behaviors, etc.
6. Changing place-names, towns, etc., which may reflect changes in occupations, demography, etc., related to the war.

10: POST-WORLD WAR II: 1946 to PRESENT

CURRENT KNOWLEDGE

Thematic Systems -- Represented by Surveyed Sites

Agriculture: Shepherd stone windbreaks - ca. 1955 (Buckles 1975a); sheep camp - post-1940s (Hibbets, et. al. 1979).

Recreational/Cultural: Hunting camp - 1960s to 1978 (Black, Horvath and Baker 1981); hunting camp - 1960s (Baker 1980).

Sites of Unknown Affiliation: Dump - 1960s, 1970s (Collins, Euler, Hyer 1980); dump - post-World War II, trash scatter - post-World War II, dump - post-World War II (Rossillon, Buckles and Haecker n.d.); camp site - 1960s (Baker 1980); three trash middens - post-World War II (Black, Horvath and Baker 1981).

Thematic Systems -- Represented by Excavated Sites

Communities: Both of these have a secondary function of Exploration, Expeditions and Research -- 50R125 - archaeological field camp - 1979 and 1980 (Buckles n.d.). 50R126 - archaeological field camp - 1979 (Buckles n.d.).

Mining: 50R547 - placer - 1960s (Rossillon n.d.b.).

Recreational/Cultural: 50R125 - movie set (ranch received modifications to become a movie set) - 1979 (Buckles n.d.).

Thematic Systems -- Data Gaps

Alternative Life Styles
Business/Commerce
Communication
Construction
Education
Environmental/Conservation/Aesthetic Resources
Exploration, Expedition and Research
Finance, Insurance and Real Estate
Forestry/Lumber
Government
Health/Medicine
Industries, Small Scale
Maladaptations
Manufacturing
Military
Native American
Public Utilities
Religion
Resource Processing
Services

HOW TO FILL FUTURE NEEDS

How to Identify Historical Cultural Resources

1. Technological evolution has been great and is marked by innovations in materials, processing, disposable artifacts (cans, bottles, components of automobiles, etc.). Changes in orientation of commerce reflected in patterns such as multiviscosity oils, radial and other new designations for tire sizes, etc. Importation of cars, appliances, textiles, etc., as the world increasingly becomes arena of commerce and U.S. and Colorado citizens are involved to greater degrees in the large network.
2. Great expansion of population with subdivisions, suburbs, etc., burgeoning and displacing many earlier sites in metropolitan areas.
3. Great amount of record keeping but decline in easy availability of records since abstracts of title have been replaced, in the main, by title insurance, archaeological site locations are privileged information, etc.
4. Oral histories available to aid in identifications of activities, persons, etc. One problem is that the society is more mobile than before and many earlier rural inhabitants have moved to urban areas. Land has become further concentrated in hands of a few.
5. Further decline in vernacular constructions, technology, etc., as codes and other forms of standardization have almost replaced individual choices.
6. Codes govern most of the material culture evidences of the period from three-wire electrical systems, foundations of structures, functions, etc.

Research Questions

1. Can material culture studies significantly contribute to public knowledge and awareness of directions of contemporary change in Colorado?
2. Can the effects of the great depression be recognized in contemporary land ownership patterns?
3. Are the major sources of changes in agriculture representative of increases in adaptations compatible with environments or of adaptations which restructure environments? Can material culture studies contribute to answering this question?
4. What have been the major causes of place-name changes over time in rural areas?
5. Can laissez-faire economic policies be recognized in scalograms based on attributes of wage labor workers residences and attributes of small business owner's homes?

Research Questions, cont.

6. Were selections of transportation routes related to superiorities of environment or were other variables important? Why have some "poor" routes continued in use into the present despite their inadequacies? (These questions are stimulated by impressions of the inadequacies of some routes which have been investigated archaeologically.)
7. Can adaptive strategies of dust bowl area farmers be identified through symbolic behaviors manifest in patterns of use and disposal of equipment which contrast with farmers of other areas?
8. Can corporately-owned farms and ranches be distinguished by colors and other symbols which do not distinguish family-owned farms and ranches?
9. What have been the effects upon household refuse disposal patterns of antipollution legislation?
10. There is a direct correlation between the population of persons who are squatters on others lands and the monetary values of the lands. When the lands are high in value, the population of squatters is low.
11. Is the evolution of vernacular solar heated homes in the San Luis Valley part of a tradition of environmentally conscious adaptations made over time?

Future Needs

1. Identifications of technological and stylistic innovations as horizon markers.
2. Studies of architecture, settlement patterns, etc., to compare the period with the post-World War I period and seek causes of similarities and differences.
3. Identification of resources which may become significant in Colorado heritage and initiation of plans to preserve and protect the resources. Examples of such resources are missile silos, first McDonald's, innovations in Colorado industries, distinctive activity sets, etc.
4. Lifeways studies of persons and groups to have knowledge of the period and variables which affected our society. Profiles for differing socio-economic groups need to be identified for consumption patterns, disposal patterns, architectural patterns, etc. (correlations of types of families with types of buying patterns, etc.).
5. Selections of building types and model identification for comparative analyses of populations and explanations for their similarities and differences.
6. Preservation of material culture and architecture by building data banks. Many mundane things and behaviors may be lost because they are not considered to be important at the present time.

SITES OF UNKNOWN PERIODS

The following listing of surveyed sites are arranged by Thematic System.

Agriculture: Homesteads (Grant 1980; Haecker, Rossillon, Buckles and Anderson n.d.; Sullenberger 1981; Baker 1978a, 1980; Black, Horvath and Baker 1981; Alexander, Hartley and Babcock 1982; Cassells 1978; McCarthy 1980a; Buckles 1974a; Nowak and Kingsbury 1981; Polly Hammer, personal communication; Colorado College, personal communication; Scott 1982 and Piontkowski 1983).

Ranches, including grazing lands (Halasi 1978; Kendrick n.d.; Morris, et. al. 1975; Baker 1978a; Buckles 1975a, 1975b, 1978a; Haecker, Rossillon, Buckles and Anderson n.d.; Gallacher 1981; Buckles and Buckles n.d.; Black, Horvath and Baker 1981).

Farms (Buckles, current research; Haecker, Rossillon, Buckles and Anderson n.d.; Gallacher 1981; Baker 1977).

Farms or Ranches (Jennings and Sullivan 1977; Kranzush, Viola and Firebaugh 1982; Buckles, In Press; Withers and Huffman 1966).

Farmsteads (Alexander, Hartley and Babcock 1982; Viola and Firebaugh 1983).

Farmstead w/grave (Alexander, Hartley and Babcock 1982).

Homestead w/secondary usage as stage or way station (Morris, et. al. 1975).

Sheep or cow camps, walls, etc. (Lennon, et. al. 1980; Sullenberger 1981; Rossillon, Buckles and Haecker n.d.; Viola and Firebaugh 1983; Nowak and Berger 1982; Polly Hammer, personal communication; Dobra 1979).

Corrals, irrigation ditches, check dams, water troughs, fences, canals, irrigation flumes, diversion dam, headgates, wooden siphons, gauging stations, stock pens (sheds), windmills, stock tanks, reservoirs, pieces of agricultural equipment, hayloader, line sheds (camps), tunnels, potato sheds, ditch rider's section house, spring enclosures (Gillio, Scott and Adams 1973; Collings, Euler and Hyler 1980; Buckles 1975c, 1978a; Rossillon, Buckles and Haecker n.d.; Stiger 1980; Ingmanson 1981; Polly Hammer, personal communication; Alexander, Hartley and Babcock 1982; Gallacher 1981; Viola and Firebaugh 1983; Gooding and Kreuser 1980; Johnson 1978; Eddy, et. al. 1982; Kendrick n.d.; Baker 1980; Black, Horvath and Baker 1981; Horvath 1981).

SITES OF UNKNOWN PERIODS, cont.

Alternative Life Styles: Gypsy camp (Rossillon, Buckles and Haecker n.d.); hobo camps (Rossillon, Buckles and Haecker n.d.; Sullenberger and Baker 1981 -- this hobo camp already destroyed).

Business/Commercial: Log general store w/falsefront (part of a recreational site) (Horvath 1981); shoe store (Viola and Firebaugh 1983); grocery (Viola and Firebaugh 1983).

Communication: Graffiti -- historic petroglyph (Alexander, Hartley and Babcock 1982); aspen carvings (Polly Hammer, personal communication; Shirley Sanburg, personal communication).

Communities: Towns, communities, neighborhoods, camps, etc. (Kranzush and Gordon 1977; Horvath 1981 [sawmill town]; Buckles 1978a [charcoal camp and unknown camps]; Scott 1978; Windmiller 1974; Patterson 1977; Baker 1980; Rossillon, Buckles and Haecker n.d. [unknown camp]; Piontkowski 1983 [coal mining town]); campsite on Overland Trail (Morris, et. al. 1975); mining camp boardinghouse midden (Baker 1981).

Construction: Heavy -- railroad (Buckles n.d.; Baker 1978a; John Beardsley, personal communication; Kranzush, Viola and Firebaugh 1982).

Education: Country schools (Buckles 1975a; Rossillon, Buckles and Haecker n.d.; Withers and Huffman 1966; Horvath 1981; Martin 1974; Piontkowski 1983); church school (Viola and Firebaugh 1982); urban school (Viola and Firebaugh 1982); sodhouse country school w/secondary usage as stage station (Morris, et. al. 1975).

Finance, Insurance, Real Estate: Bank (Viola and Firebaugh 1983).

Forestry/Lumber: Sawmills (Johnson 1978; Horvath 1981; Gallacher 1981; Polly Hammer, personal communication); logging flumes, camps, stations, roll-way, etc. (Buckles 1978a; Cassells 1978; Black, Horvath and Baker 1981; Horvath 1981; Rossillon, Buckles and Haecker n.d.; Kendrick n.d.).

Government: U.S. and county -- post office and county courthouse (Viola and Firebaugh 1983); U.S. office building (Viola and Firebaugh 1983); CCC camp (Gallacher 1981); U.S. Forest Service fire cache (Baker 1980).

Maladaptations: Outlaw hideout (?) (Buckles 1971).

Military: Installation -- camp (Morris, et. al. 1975).

Mining: Precious mineral -- Placers, ditches, dams, flumes, hydraulic systems, etc. (Rossillon n.d.b.; Buckles 1978a; Scott 1981; Baker 1978a, 1980).

Lode Mining -- shafts, tests, adits, habitations (Brechtel 1979; Buckles 1975c, 1978a; Baker 1980; Cassells 1978; Scott 1978).

SITES OF UNKNOWN PERIODS, cont.

Mining, cont.: Prospecting (Brechtel 1979; Windmiller and Eddy 1975).

Oil wells and tests (Riches 1978).

Open pit coal mine (Riches 1978); coal mines (Piontkowski 1983; Kranzush 1977; Baker 1977); concrete bunker for storing blasting powder for coal mines (Horvath 1981).

Mines (unknown as to whether placer or lode) (Collins, Euler and Hyer 1980; Baker 1982), or type (Scott 1978; Cassells 1978; Gallacher 1981; Markoff 1981; Polly Hammer, personal communication).

Quarries: Sandstone (Buckles n.d.); gravel (Buckles n.d.); clay (Alexander, Hartley and Babcock 1982).

Uranium, radium, vanadium mines (Rossillon n.d.b.).

Native American: Wickiups and wickiup villages (Reed and Scott 1979; Black, Horvath and Baker 1981; Viola and Firebaugh 1983; Polly Hammer, personal communication; Johnson 1972).

Camps, tree platforms, game traps, hunting blinds, etc. (Huscher and Huscher 1939; Windmiller 1974; Baker 1980).

Ute -- wickiups and camps (Buckles 1971; Weber, Jones, Rodriguez, Jennings, Daugherty 1977; Windmiller and Eddy 1975; Martin 1977; Breternitz, Nordby and Nickens 1974; Baker 1980; Huscher and Huscher 1939; Sullenberger and Baker 1981); lithic scatter attributed to historic Ute (Viola and Firebaugh 1983).

Rock Art (Buckles 1971, 1974b, 1975d; Huscher and Huscher 1939; Wenger 1956; Watson 1960; Lotrich 1938; Gebhard 1966; Wormington 1957; Creasman 1982; Hamilton 1974; Stiger 1980).

Apache (Gunnerson 1960).

Public Utilities: Hydroelectric dams (Scott 1978).

Recreational/Cultural: Play area (Halasi 1978); summer cabin (Hammer 1981); hunter's camps (Johnson 1978; Buckles 1975c, 1978a; Calvin Jennings, personal communication); campgrounds (Buckles 1978a; Gallacher 1981); hunting blind, platform and possible snare or trap (Buckles 1978a); guest cottages (part of agricultural site) (Horvath 1981); resorts (part of agricultural sites) (Horvath 1981); resort (Windmiller 1974); monument (Viola and Firebaugh 1983); city parks (Viola and Firebaugh 1983); brothels (Baker 1976, 1983); ski areas, lodge, aerial tramways, chairlifts, etc. (Gallacher 1981).

Religion: Churches (Viola and Firebaugh 1983).

SITES OF UNKNOWN PERIODS, cont.

Resource Processing: Smelters and furnaces (Buckles 1975a; Horvath 1981; Sullenberger and Baker 1981); mills (Buckles 1976; Sullenberger 1981; Baker 1982; Viola and Firebaugh 1983; Patterson 1978); lime kilns (Buckles, current research); charcoal pits (Buckles 1978a, n.d.; Calvin Jennings, personal communication); charcoal kilns (Buckles 1978a).

Services: Fraternal organizations -- halls (Viola and Firebaugh 1983); hotel and hotel/boarding house (Viola and Firebaugh 1983); railroad depots and stations (Viola and Firebaugh 1983; Collins, Euler and Hyer 1980; Gillio, Scott and Adams 1973); stage and way stations (Morris, et. al. 1975; Withers 1964; Martin 1974).

Sites of Unknown Affiliation: Historic trash scatters, dumps, middens, etc. (Riches 1978; Halasi 1978; Lennon, et. al. 1980; Eddy, et. al. 1982; Buckles 1976; 1978a, current research; Rossillon, Buckles and Haecker n.d.; Baker 1980, 1981; Alexander, Hartley and Babcock 1982; Martin 1977; Dobra 1979; Windmiller and Eddy 1975; Polly Hammer, personal communication; Kranzush, Viola and Firebaugh 1982; Horvath 1981; Piontkowski 1983).

Graves and cemeteries (Buckles 1978a; Alexander, Hartley and Babcock 1982; Viola and Firebaugh 1983; Martin 1974; Kranzush, Viola and Firebaugh 1982; Withers and Huffman 1966).

Historic hearth with bones (Halasi 1978).

Dugouts or root cellars (Rossillon, Buckles and Haecker n.d.; Baker 1980; Black, Horvath and Baker 1981; Viola and Firebaugh 1983; Alexander, Hartley and Babcock 1982; Buckles 1975c, 1978a; Piontkowski 1983).

Residences or habitations (Rossillon, Buckles and Haecker n.d.; Horvath 1981; Baker 1980; Black, Horvath and Baker 1981; Viola and Firebaugh 1983; Buckles 1978a; Alexander, Hartley and Babcock 1982; Morris, et. al 1975; Stiger 1980; Gallacher 1981).

Privies, or depressions thought to be privies (Baker 1980; Black, Horvath and Baker 1981; Scott and Adams 1973; Alexander, Hartley and Babcock 1982).

Diverse structures, retaining walls, fences, and foundations of sod, adobe, log, frame, sandstone, concrete, etc. (and one rock shelter) (Baker 1980; Alexander, Hartley and Babcock 1982; Viola and Firebaugh 1983; Martin 1977; Breternitz, Nordby and Nickens 1974; Polly Hammer, personal communication; Windmiller and Eddy 1975; Buckles 1975c, 1978a; Kranzush, Viola and Firebaugh 1982; Anderson 1978; Stiger 1980; Weber, Jones, Rodriquez, Jennings and Daugherty 1977; Horvath 1981; Collins, Euler and Hyer 1980; Rossillon, Buckles and Haecker n.d.; Johnson 1978).

SITES OF UNKNOWN PERIODS, cont.

Sites of Unknown Affiliations, cont.: Springs and enclosures (Rossillon, Buckles and Haecker n.d.; Baker 1980; Black, Horvath and Baker 1981; Piontkowski 1983).

Transportation Networks: Road and trail systems (Hammer 1981; Buckles 1978a, n.d., 1976; Kranzush, Viola and Firebaugh 1982; Viola and Firebaugh 1983; Martin 1974).

Post Roads (Buckles 1976).

Railroad-related -- railroad grade section -- logging line (Hibbets 1980); large frame hay barn with siding for storage for shipping, cattle loading pens and loading chutes, road bridge abutments, locomotive steam boiler, road bridge abutments and pier, coal loading ramp at water tank (Horvath 1981); whistle stop, grades, trestles, signal house, spurs, sidings, bridges (Sullenberger and Baker 1981; Alexander, Hartley and Babcock 1982; Viola and Firebaugh 1983; Gillio, Scott and Adams 1973; Cassells 1978; Stiger 1980; Kendrick n.d.; Baker 1982; Windmiller 1974).

Stock trail (Viola and Firebaugh 1983).

Recommendations: Develop pattern recognition for various Thematic Systems under which sites may be placed that will result in consistency throughout the state (i.e., land utilizations, site location strategies, cultural-ecological relations, industrial relations, patterning of artifacts, ethnic patterns, architecture, etc.). These can be dynamic and evolve but this evolution should be towards the development of a framework based on processes reflected by models. Those who have recommended or investigated patterns to varying degrees within the discipline are: Buckles (1976, 1978a, 1978b, 1980, 1981a, 1981b, 1983, n.d., and In Press); Buckles and Buckles (n.d.); Buckles and Rossillon (n.d.); Scott (1978, 1982); Baker (1972, 1976, 1978b, 1983); Kutsche, Van Ness and Smith (1976); Riches (1978); Comer (1983); Rossillon (n.d.a, n.d.b); Haecker (n.d.); Horvath 1981); Sullenberger (1981); Stevenson and Sheets (1978); Ireland and Henritze (1973), and Markoff (1981). Geographers, economists and others have been involved in patterned analyses for different purposes but are very useful sources of information (Crowley 1975; Carlson 1967; Beyer 1957, and others).

II. FRAMEWORK FOR HISTORICAL ARCHAEOLOGY RESEARCH

SYSTEMATICS OF DEVELOPMENT OF A REGIONAL FRAMEWORK

Purposes of the Framework

The framework is proposed as a system for recording, classifying, and evaluating the nature and diversity of historic resources on the landscape. The development of the framework for historical archaeology in Colorado is related to the purposes for which historic archaeological phenomena are identified, recorded, and inventoried. These multiple purposes (cultural resource management, academically oriented research, public archaeology, evaluations, etc.) have been considered and incorporated into the framework. Latitude is provided for differences in method and theory related to these purposes. While striving for consistency, we seek to allow divergences if they are explicitly stated in research designs. We do not want to inhibit research by developing a complex framework geared to cultural resource management (CRM) that would be mandatory for archaeologists working in the state. At the same time, we believe that standards should be implicit in the framework so that CRM and other efforts could have comparability for evaluative purposes. The framework reflects ideals that should be used for CRM work yet may realistically fit other research designs and objectives. The framework should particularly stimulate systematization of research questions.

Multidisciplinary Resource Base

Implicit within the framework is that data from material culture and other "archaeological" sources will not, alone, solicit answers or questions concerning historical resources. Historical, oral, archival, photographic, and other sources have equal weight in identification, classification, evaluation, and investigation of resources.

Most historical archaeology done to date in Colorado is ill-described as being part of a framework since the approaches have lacked coherence and common purpose (Buckles 1978a). A major fault of most work has been the single track approach of the researchers involved. For example, the regional historic contexts produced by historians fail almost entirely to note archaeological involvement with historic resources. The disciplines of history and historical archaeology are separated, with each discipline disregarding efforts of the other and both fields disregarding the broad spectrum of information from other sources. Examples of biases that effect historical archaeology are almost exclusively are concerned with material culture remains (sometimes of very esoteric nature), measuring significance of remains by association with elites or specific events, application of archaeology as the primary means to verify historic records, and disregard for oral, archival, geographical, and other information and approaches.

Systems Approach

The framework within which historical research should be conducted is a systems approach that combines information, methods, and theories related

to various subsystems of culture, integrated by the comparative and holistic approaches of anthropology. This framework promotes syntheses of information and approaches from history, geography, ethnology, ethnography, ecology, ethnohistory, sociology, industries, economics, public input, and as many other approaches as possible.

Utility of Framework

The framework must be useful and at the same time usable. That is, it must be something understood and contributed to by a large variety of researchers and the products must be qualitatively and quantitatively useful for fulfilling the needs of the statewide preservation plan. Although the "openness" of our framework makes it large and cumbersome, it has, in our opinion, the potential to more adequately discover and lead to an understanding of the breadth and dynamics of historical phenomena than do other models we have investigated or attempted to derive.

The framework is flexible, yet forces conformity to standard taxonomy while allowing for the production of models and research questions. The test of the framework will be in its use. We anticipate that problems will develop, but these will lead to refinements and realization of the framework's potential.

Multivariate Approach

Because of the diversity of historic activity in Colorado, we feel that a systems approach should be implicit in the construction of a historical archaeology framework. The systems approach forces consideration of resources as consequences of the interrelationship of variables and diminishes the significance of regions or singular themes.

Systems considered for the framework include environment, society, technology, bureaucracy, industry, and others. Some of the systems are concrete (i.e., mining and agriculture), others are behavioral or inferential (kinship, values, beliefs). Behavioral systems are difficult to identify, yet were important in shaping behaviors and resources (e.g., farm architecture, artifact sets, ethnic relations, and inferences concerning values and social stratifications).

Inherent in a systems approach is the need to develop a multivariate system for identifying attributes of resources. The framework allows for identification of cultural phenomena according to multiple variables and has the capability for use in classifying phenomena according to combinations of variables.

We conceive of a system for identifying resources with a multidimensional system similar to the convergences of multiple axes. A resource can be "located" in this system in a unique position as a "constellation" where axes converge. This allows a concept of the resource's quantitative and qualitative position relative to other resources.

Classificatory Potentials

Resources can be classified according to a code formed by the combination

of attributes descriptive of the resource. To aid in classification we have supplied lists of "descriptors" by thematic system that allow finer distinctions to be made.

The framework is based upon systemic relationships of variables, not hierarchical relationships, so that no variables are more important than others, except where the variables might be used for selective data retrieval and manipulation. This allows the resources to be organized by location (part of the environment), material culture (activity sets), social and political relationships (part of the codes for ideological and behavioral inferences), thematic systems or their types (e.g., as farms, subsistence farms, goat farms, etc.), populations or their attributes, descriptors (such as occurrences of specific types of architecture, presences of specific features, activities, etc.), and other variables. This sort of multidimensional system for classifying resources can be organized into taxonomic units according to combinations of variables.

Production of Research Questions and Models

Research designs can be generated using the framework because the variables can be both diachronic and synchronic. The open-endedness of the framework allows for identification of new resource classes and definition of new taxa as appropriate.

Theoretical systemic relationships can be defined by identifying variables specific to research designs or predictive models. Models, for example, can be constructed by selection of variables within resource systems. Models for types of farms can be proposed by selecting discrete features, resource size, land use, settlement pattern variation, and other variables within the thematic system of agriculture. Models for systems of social organization can also be defined by relating variation in population size, density, dichotomous division of labor by sex, settlement pattern attributes (company town as compared with urban farm patterns), time, and other variables.

TAXONOMY FOR HISTORICAL CULTURAL RESOURCES AND BEHAVIORS

The framework for the historical archaeological concept is based on ten major variables. The variables are complex open-ended multidimensional systems for classifying and generating questions and statements about cultural resources. Each taxonomic unit is identified and defined in the following sections:

1. Temporal (Chronological Estimates (Socio-political Periods)
2. Ecological and Topographic Zones
3. Thematic Systems, System Types, and Descriptors (Physical Remains, and Feature and Site Activities
4. Formal Network Relations
5. Population Estimates
6. Ethnicity
7. Social-Structural and Ideologically-Related Behaviors and Inferences
8. Settlement Patterns and Types
9. Activity Sets
10. Association of Important People and/or Events

Temporal (Chronological) Estimates

Two alternative methods of recording time placement of a cultural resource are offered. One or both methods can be employed depending on research need. One method allows identification of the exact date, or dates, of past phenomena. The other method allows phenomena to be placed within bracketed time periods representing socio-politically significant periods of the past.

The first method of recording phenomena is within the significant socio-political time periods for the state. The ten categories represent sequentially ordered temporal periods which correspond with major identifiable social or political events in the history of Colorado. For example, the period from 1860 to 1876 was the territorial period during which the Gold Rush brought large populations to Colorado and which led to statehood, achieved in 1876. These periods are similar to themes utilized in the Colorado Regional Historical Context. However, these periods vary from the regional themes in that a single temporal scheme is proposed for the whole state. The socio-political periods are used as the classificatory scheme for the historical archaeology research design for the state. The socio-political periods are identified in the following table:

TABLE 1

Socio-Political Periods

Exploration:	1600s to 1821
Trading Frontier to Conquest of Mexico:	1803 to 1848
Conquest of Mexico to Gold Rush:	1849 to 1859
Gold Rush of Statehood:	1860 to 1876
Statehood to Silver Crash:	1877 to 1893
Post-Silver Crash to World War I:	1894 to 1916
World War I to Depression:	1917 to 1929
Depression to World War II:	1930 to 1941
World War II:	1942 to 1945
Post-World War II:	1946 to Present

The alternative method of recording the exact date, or dates, of a phenomena is by recording the initial and terminal years that the phenomena occurred. This method allows for recording time spans of phenomena that do not correspond with the socio-politically significant periods. For example, a structure might have been built in 1873 and burned in 1910, a period of time which overlaps several socio-political periods. Something that had a duration of less than one year can be recorded by noting that the beginning date and the ending date were in the same year.

Ecological and Topographic Zones

Several systems for identifying the relationship of the resources to the environment are proposed. One system consists of vegetation and precipitation zones. Another lists topographic zones with which the first system can be correlated. This scheme is complemented by systems based upon precipitation and temperature patterns identified in Kelley (1964) as clines. The

latter two systems are based on long-term records of average precipitation and temperatures which are expressed in average numbers of frost free days (growing season).

TABLE 2

Ecological, Topographical, and Climatic Zone Descriptors

<u>Ecological</u>	<u>Topographical</u>	<u>Climatic</u>
Scrubland	Mountains	Precipitation
Grassland	Mountain Valleys	(annual ave.)
Desert Shrub	Parks	Average Length
Pinon/Juniper/Oak Shrub	Mesas/Plateaus	of Growing Sea-
Marshland	Canyons	son
Forest (Pines, Aspen, Fir, etc.)	Foothills	
Parkland	Plains	
Alpine	Foothill Valleys	
Other	Plains Valleys	

Other descriptors of ecological and topographical zones can be recommended when appropriate. The environmental descriptors currently included on the archaeological component of the Colorado Historical Society Inventory Forms are recommended as important data for historical archaeological sites.

Thematic Systems, System Types, and Descriptors

Thematic systems examine the relationships of resources and behaviors to contextual systems in our society that have cognitive importance to the population, longevity, material cultural distinction (in artifacts, architecture, and environmental adaptations or modifications), and are of central importance in societal structure. Systems include such themes as industry and services. The thematic systems equate, for the most part, with the major economic systems of society.

There are operational difficulties in defining themes and identifying their dimensions and attributes. For example, it is difficult to identify themes with exclusive attributes. Most themes share some of their attributes with other themes. We adopted the convention that although themes may share attributes with other themes, the attributes used to define the themes are those which have coherence in understanding the themes and the types as functional systems. Themes are, in this sense, considered analogous to stems or roots of plants and while they may resemble other themes, as plants resemble other plants, the overall configurations of each theme is distinctive. Following is a list of Thematic Systems (Table 3) that have been identified as relevant to Colorado. Additions can be made to the list as other systems are identified or become significant.

TABLE 3

Thematic Systems

Agriculture	Industries, Small Scale
Alternative Life Styles	Maladaptations
Business/Commerce	Manufacturing
Communication	Military
Communities	Mining
Construction	Native American
Education	Public Utilities
Environmental/Conservation/Aesthetic Resources	Recreational/Cultural
Exploration, Expeditions, and Research	Religion
Finance, Insurance, and Real Estate	Resource Processing
Forestry/Lumber	Services
Government	Sites of Unknown Affiliation
Health/Medicine	Transportation Networks

The thematic systems can be identified as autonomous or can be used in concert with other systems. Hierarchical positions can be indicated when two or more thematic systems occur together and are combined for the identification of resources and behaviors. The most important of the thematic systems should be identified first.

Thematic systems can be used in concert with other systems. For example, a grain farm, a type of agricultural thematic system, may have a grain elevator as part of a combined farming and commercial activity. In this case the thematic system of the resource (the farm) would be both Agriculture and Business/Commerce and be represented by the farm and the elevator.

Most of the thematic systems are defined by one or more variations of a system. Agriculture, for example, is divided into agricultural system types (e.g., fruit, poultry, cattle, etc.). The diversity of types of agricultural systems is great and this is also true of most other thematic systems. A list of the thematic system types is presented in Table 4.

Identification of thematic systems aids in comprehension of the variety of activities that occurred in Colorado. The diversity of system types identified in Table 4, however, is inadequate to identify the range of variation that might have existed. To aid in expanding the potential for identifying or discovering other types of systems or variations within systems, a list of "descriptors" has been provided in Table 5.

Descriptors are advocated as a means of distinguishing types of a theme. Descriptors are physical remains representative of feature and site activities, not including artifacts. Proposed descriptors are identified in Table 5 in alphabetical order. Habitation type structures and their attributes are separated from other descriptor terms for convenience. These descriptors can be used with any of the types or combinations of thematic system types. A gulch placer mining site, for example, can be identified by such descriptors as a Long Tom, ditch, and cabin. These three descriptors identify the mining site as part of a system where miners lived at the site and used a type of placering usually identified as a team effort in contrast to individual panning activity or a larger operation.

TABLE 4
THEMATIC SYSTEM TYPES

Agriculture

<u>Dryland Cash Crop Farming</u> <u>Forage Production Ranching</u> <u>Horticulture Farming</u>	<u>Irrigated Cash Crop Farming</u> <u>Seasonal Grazing and Sea-</u> <u>sonal Feeding Ranching</u>	<u>Subsistence Farming</u> <u>Year Long Grazing</u> <u>Ranching</u>
All-age ranches	General ranch (varied livestock)	Poultry farm
Cattle feeding farm	Goat farm	Rabbit farm
Cattle ranch	Grain farm	Seed production farm
Chinchilla farm	Hay ranch	Sheep camp
Cow/calf ranches	Horse farm	Sheep ranch
Cow camp	Horse ranch	Sod farm
Dairy farm	Line camp	Steer ranches
Dog farm	Mink farm	Sugar beet farm
Field crop farms	Orchard	Truck farm
Fox farm	Ornamental shrub farm	Urban farm
Fruit farm	Pig farm	Other
General farm		

Alternative Life Styles

Alternative Energy Source	Hoboes
Communes	Idiosyncratic (one-of-a-kind)
Drop Cities	Return to Nature
Hermits	

Business/Commerce
(Including Special Trade Contractors)

<u>Retail</u>		
Antique stores	Cigar stores & stands	Drapery, curtain, and upholstery stores
Artists' supplies	Clockmaker	Drug stores
Auction rooms, houses, etc.	Clothing stores (family)	Dry goods
Bait shops	Clothing stores (specialty)	Electrical contractors
Bakeries	Coin shops	Elevator contractors
Baling (hay) contractors	Combine contractors	Elevator contractors
Bicycle shops	Commissaries (company stores)	Excavating & foundation contractors
Blacksmith	Concrete contractors	Farm equipment dealers
Book & stationery stores	Co-op's (selective but cooperative buying)	Fireplaces & chimney contractors
Bricklaying contractors	Cooper	Floor covering stores
Cabinetmakers	Coppersmithing	Floorlaying contractors
Camera & photographic supply stores	Country store (primarily necessities)	Florists
Candy, nut, & confectionery stores	Custom tailors	Foundation contractors
Car dealers (new & used)	Dairy product stores	Freighting/packing contractors
Carpenter contractors	Demolition contractors	Fruit stores & vegetable markets
Chimney cleaners	Department stores	
China, glassware, & metal-ware stores	Dismantling (of steel constructions)	

Thematic System Types

Business/Commerce-continued

Fuel and ice dealers	Meat & fish markets	Sheep shearing contractors
Furniture makers	Mercantiles (complete line of goods)	Sheetmetal work (contractors)
Furniture stores	Millinery stores	Shoe stores
Furrier & fur shops	Mirror & picture framing shops	Sidewalk, curb, & gutter contractors
Garden supply stores	Music stores	Souvenir shops
Gas fitters (contractors)	News dealers & news stands	Specialized food stores (dietetic, health foods, spice & herb shops, etc.)
Gemstones (rough)	Notion stores	Sporting goods stores
General store (diverse line of goods)	Novelty shops	Sports apparel
Gift shop	Optical goods	Stamps
Glass & glazing contractors	Ornamental metal work contracting	Structural steel contractors
Grain elevators	Orthopedic & artificial limb stores	Surplus stores
Grocery stores	Paint, glass, & wallpaper stores	Telephone contracting
Gunsmith	Painting contractors (& paper hangers)	Treshing contractors
Hardware stores	Peddlers	Tile, marble, mosaic contractors
Hay, grain, & feed stores	Pet shops	Tinsmithing
Hobby, toy, & game stores	Piece goods	Tombstone & monument retailers
Household appliance stores	Plumbing, heating, & air conditioning equip.	Trade
Hunting	Plumbing & heating contractors	Trapping
Insulator contractors	Radio & television stores	Trophy shops
Jewelry stores	Religious goods stores	Variety stores
Junk yard	Roofers & steeplejacks (contractors)	Vending machine operators
Lamp and shade stores	Roofing contractors	Wheelwright (wagon makers & carriage makers)
Lathing, plastering contractors	Saddle & harness makers	Wig shops
Linen shops	Sales barns	Windmill contractors
Liquor stores	Salvaging contractors	Window shade shops
Lumber & other building materials stores	Secondhand stores	Yard goods (fabrics)
Mail order houses		Yarn shops
Masonry, stone setting (stonemason)		

Wholesale

Drugs, chemicals, & allied products	Hardware & plumbing & heating equipment & supplies	Motor vehicles/automotive equipment
Electrical goods	Machinery, equipment & supplies	Piece goods, notions, apparel
Farm products	Miscellaneous wholesalers	Raw materials
Groceries & related products		

Communication

Commercial Advertising	Signal Systems	Other (Native American rock art, graffiti, tree art, etc.)
Missile Tracking	Telegraph (wire or radio)	
Radar	Telephone	
Radio	Television	

Thematic System Types

Communities

Barrio
Camp
City (more than 10,000 population)
Company
Hamlet (less than 250 population)

Incorporated
Resource specific
Small city (5,000 to 10,000 population)
Small village (250 to 1,000 population)
Specialized Function

Town (2,500 to 5,000 population)
Unincorporated
Village (1,000 to 2,500 population)

Construction

Building
Building maintenance
Custom builders (architecturally designed)
Electrical
Farm building (barns, silos, graneries, etc.)
Grain elevator
House (habitation)
Industrial
Institutional constructions
Light and power plant
Mausoleum, cemetery
Mill construction
Oil refinery
Prefabrication
Waste disposals

Heavy Construction
Bridge
Dams and Reservoirs
Drilling (wells)
Dredging
Drainage projects
Flood control
Gas systems
Industrial machinery installations
Irrigation
Hydroelectric plants
Mining
Ovens, furnaces, kilns
Pipelines
Powerlines
Railroads
Reclamation
Sewers
Tunnels
Water systems

Highway, Street, & Roads
Concrete
Culverts
Grading
Paving
Road construction
Trail building

Education

Elementary, Secondary, & High Schools
Academies
Boarding schools
Country (one-room) schools
Day nurseries
Day schools
Elementary school
Finishing schools
High school
Kindergartens
Middle or Junior High
Military academies
Nursery schools
Preparatory schools
Religious schools

Colleges, Universities, Professional Schools, & Junior Colleges
Colleges
Community colleges
Correspondence schools
Junior colleges
Professional (dental, engineering, law, medical, etc.)
Technical institutes
Theological seminaries
Universities
Vocational schools

Others
Art schools
Barber colleges
Charm schools
Dance schools
Dramatic schools
Language schools
Modeling schools
Music schools
Personal development schools
Reading schools
Tutoring schools
Vocational counseling
Cosmetology

Thematic System Types

Education-continued

<u>Elementary, Secondary, & High Schools</u>	<u>Colleges, Universities, Professional Schools, & Junior Colleges</u>	<u>Others</u>
Seminaries (below university level)		
Special education		
Vocational high schools		
School Districts	School Sections	Private School
Land Grant School	Public School	

Environmental/Conservation/Aesthetic Resources

Arboretum	Highways/Roadways/Park- ways	Placenames
Botanical garden	Landmarks	Research facility
Fishery	Parks	Wildlife sanctuary/ refuge
Gardens		Zoological garden

Exploration, Expeditions, and Research

Colonial	Mineral	Scientific (archaeologi- cal, paleontological, geological, etc.)
Landmarks	Place names	Treasure seekers
Military	Private profit making (i.e., hunting, etc.)	
Officially sanctioned	Unsanctioned	

Finance, Insurance, Real Estate

Agents, brokers, & managers	Federal home loan banks	Mutual savings banks
Check cashing agencies & currency exchanges	Federal reserve banks	Real estate operators
Clearing house assoc.	Foreign exchange estab- lishments	Safe deposit companies
Commercial & stock savings banks	Holding companies	Security brokers, dealers, & flotation companies
Commodity contracts brokers & dealers	Insurance agents, brokers, and service	Security & commodity exchanges
Credit institutions	Insurance carriers	Subdividers & developers
Federal farm mortgage corporations	Investment companies	Title abstract companies
	Misc. investment institu- tions	Trusts
	Mortgage associations	

Forestry/Lumber

Logging	Sawmills/planing mills (both independently & in combination)	Timber
Pulpwood		Tree farms
		Tree nurseries

Thematic System Types

Forestry/Lumber-continued

Charcoal	Peeler logs	Siding
Christmas tree cutting	Pickets	Softwood
Cordwood	Planed lumber	Staves
Fence rails	Poles	Stumps
Fuelwood	Posts	Timber
Gum & bark gathering	Rough sawed	Tree seed gathering
Hardwood	Sawdust & shavings	Veneer logs
Lathe	Saw logs	Wood chips
Logs	Shingles	

Government

County	Local	Territorial
Land & town companies (self-governing)	State	U.S. (Federal)
Cultural	Law enforcement	Regulatory
Governing	Legislative	Service
Judicial	Record keeping	
Agriculture, Dept. of	Fire department	Poor farms
Bureau of Land Management	Forest Service	Post office
Bureau of Reclamation	Governmental complex	Prison, penitentiary
Capitol (or office of governor)	Indian agencies	Prisoner labor crews
City hall	Jail	Public Works, Dept. of
Civic center	Labor department	Reservations
Civilian Conservation Corps	Land offices	Road department
Claim clubs	Legislative buildings	Sanitation districts
Correctional institution	Mining districts	School districts
County seats	National Park Service	Sheriff's, marshall's office
Court house	Office building	Town companies
Courts	Parking authority	Traffic control
District courts	Parks department	Water districts
	Police station/department	Zoning
	Pony express station	

Health/Medicine

Birth control clinics	Institutions for insane	Pest houses
Chiropractors	Medical & dental labs	Pharmacists
Convalescent homes	Medicine men	Physicians & surgeons
Dentists & dental surgeons	Mid-wives	Podiatrists
Dieticians	Mineral springs	Psychiatric clinics
Folk medicine	Native American (i.e., sweat lodge, menstrual huts)	Rest homes
Health camps	Nursing homes	Sanatoriums
Health resorts	Osteopathic physicians	Spas
Herbalists	Out-patient treatment centers	Veterinary complex
Hospitals		
Hot Springs		

Thematic System Types

Industries, Small Scale

Folk culture	Cottage industries	Supplementary income (cross index w/appro- priate SERVICES)
Basketmaker	Corner store	School bus drivers
Blacksmith	Curandero	Seamstress
Bootleggers	Farrier	Taverns
Cabinetmaker	Fortune tellers	Threshers
Candlemaker	Palmistry	Water witchers
Carpenter	Potter	Weaver
Chairmaker		

Maladeptations

Alcoholic consumption	Illicit drug use	Poachers
Bootlegging	Klu Klux Klan	Prostitution
Cannibalism	Labor wars (other diffi- culties)	Robber's roosts
Cattle-sheep (or nester) wars	Landmarks (hanging tree(s), trails, etc.)	Robbery
Claim jumpers	Massacres	Rustling
Gambling	Moonshining	Slavery
Gun Battles	Murders	Smuggling
Hideouts	Organized crime	Vigilantes
High graders	Outlaws	
Hijacking		

Manufacturing

Apparel & Other Textile Products
Children's outerwear
Fur goods
Hats, caps, & millinery
Men's and boys' furnishings
Men's and boys' suits and coats
Misc. apparel and accessories
Misc. fabricated textile products
Women's and children's undergarments
Women's and misses' outerwear

Chemicals and Allied Products
Agricultural chemicals
Drugs
Gum and wood chemicals
Industrial chemicals
Misc. chemical products
Paints and allied products
Plastics materials and synthetics
Soap, cleaners, and toilet goods

Fabricated Metal Products
Cutlery, hand tools, and hardware
Fabricated structural metal products
Metal cans
Metal stampings
Misc. fabricated metal products
Misc. fabricated wire products
Plumbing and heating, except electric
Screw machine products, bolts, etc.

Food and Kindred Products
Bakery products
Beverages (brewery, canned and bottled
soft drinks, still beverages)
Canned, cured, and frozen goods
Confectionery and related products
Dairy products
Grain mill products
Meat products
Misc. foods and kindred products
Slaughterhouse
Sugar

Thematic System Types

Manufacturing--continued

Furniture and Fixtures

Mattresses and bedsprings
Metal household furniture
Metal office furniture
Metal partitions, shelving, lockers,
and office and store fixtures
Misc. furniture and fixtures (ve-
netian blinds, shades, etc.)
Other household furniture
Public building and related
furniture
Wood household furniture
Wood office furniture
Wood partitions, shelving, lockers,
and office and store fixtures

Instruments and Related Products

Engineering and scientific instru-
ments
Mechanical measuring and control
devices
Medical instruments and supplies
Ophthalmic goods
Optical instruments and lenses
Photographic equipment and supplies
Watches, clocks and watchcases

Leather and Leather Products

Footwear, cut stock
Footwear, except rubber
Handbags and personal leather goods
Industrial leather belting
Leather gloves and mittens
Luggage
Misc. leather goods

Machinery (including electrical equipment and supplies)

Construction--mining, oil field,
elevators & moving stairways,
conveyors & conveying equipment,
hoists, cranes & monorails,
industrial trucks & tractors
Electric test & distributing equip-
ment--electrical industrial appara-
tus, household appliances, electric
lighting & wiring equipment, radio
& television receiving equipment,
communication equipment, electronic
components & accessories, misc.
electrical equipment & supplies
Engines and turbines

Machinery--continued

Farm machinery--to include both horse-
drawn and mechanical
General industrial machinery--pumps
& compressor, ball & roller bearings,
blowers & fans, industrial patterns,
power transmission equipment, indus-
trial furnaces & ovens, etc.
Metal working machinery
Office & computing machines--type-
writers, electronic computing
equipment, calculating & accounting
machines, scales & balances, etc.
Service industry machines--automatic
merchandising machines, commercial
laundry equipment, refrigeration
machinery, measuring & dispensing
pumps, etc.
Special industry machinery--food pro-
ducts, textile, woodworking, paper
industries, printing trades, etc.

Miscellaneous Manufacturing Industries

Costume jewelry and notions (buttons,
artificial flowers, pins, needles,
buckles, zippers, etc.)
Jewelry, silverware, and plated ware
Misc.--brooms & brushes, signs & advertis-
ing displays, morticians' goods, hard
surface floor coverings, etc.)
Music instruments and parts
Pens, pencils, office & art supplies

Ordnance and Accessories

Ammunition, except for small arms
Guns, howitzers, and mortars
Sighting and fire control equipment
Small arms
Small arms ammunition
Tanks and tank components

Paper and Allied Products

Building paper and board mills
Paperboard containers and boxes
Paperboard mills
Paper mills, except building paper
Misc. converted paper products

Thematic System Types

Manufacturing-continued

Petroleum and Coal Products

Paving and roofing materials
Misc. petroleum and coal products

Primary Metal Industries

Blast furnace and basic steel products
Iron and steel foundries
Misc. primary metal products
Nonferrous foundries
Nonferrous rolling and drawing
Primary nonferrous metals
Secondary nonferrous metals

Printing and Publishing

Blankbooks and bookbinding
Books
Commercial printing
Electrotyping and stereotyping
Greeting card publishing
Manifold business forms
Misc. publishing
Newspapers
Periodicals
Photoengraving
Typesetting

Rubber and Plastics Products

Misc. plastics products
Misc. rubber products
Reclaimed rubber
Rubber footwear
Tires and inner tubes

Stone, Clay, and Glass Products

Cement, hydraulic
Concrete, gypsum, and plaster products
Cut stone and stone products
Flat glass
Glass and glassware, pressed or blown
Misc. nonmetallic mineral products
Pottery and related products
Products of purchased glass
Structural clay products

Tobacco Manufacturing

Chewing and smoking tobacco
Cigarettes
Cigars
Tobacco stemming and redrying

Transportation Equipment

Aircraft and parts
Misc. transportation equipment--
 wagons, buggies, carriages,
 sleighs, etc.
Motorcycles, bicycles and parts
Motor vehicles and equipment
Railroad equipment
Ship and boat building and repairing

Military

Battles

Base, Air Force
Base, Army
Camp
Depot

Armory
Arsenal, ammunition dump
Bivouac

Installations

Fort
Internment/POW camp
National Guard camp, base,
 facility

Bunker
Cantonment
Isolated weapons
Outpost

Skirmishes

Post
Quartermaster
Stockade, fortification
Stores

Rifle pits
Signal corps
Silo (weapon system)
Weapon system

Thematic System Types

Mining

Drilling
Hardrock (lode)
Placer, gulch

Placer, hydraulic
Prospecting

Quarrying, open pit
Stripping, open pit

Alabaster
Barite
Bentonite
Brick clay
Coal
Cobalt
Copper
Dolomite
Feldspar
Fire clay
Flagstone
Fluorspar
Fuller's Earth (clay)
Gilsonite & graphamite
Gold
Granite
Graphite
Gypsum
Kyanite, sillimanite,
and andalusite

Lead
Limestone
Limonite
Manganese
Marble
Mercury
Microlite
Molybdenum
Nickel
Oil and natural gas
Oil shale
Optical calcite
Other stones
Pegmatite minerals (beryl,
lithium, mica, tantalum)
Potash
Pottery clay
Precious stones
Pumice & volcanic ash
Radium

Riprap
Salt
Sand & gravel
Sandstone
Silica sand
Silver
Slate
Sodium sulfate &
carbonate
Sulphur
Tungsten
Uranium
Vanadium
Vermiculite
Zinc

Native American

Battle sites
Camps
Game traps
Hunting blinds
Lithic scatters

Refuge sites
Reservation-period sites
(i.e., agencies, head-
quarters, farms, cow
camps, etc.)

Rock art
Skirmishes
Tree platforms
Wickiups

Public Utilities

Electric
Gas

Telephone

Water

Electric
Electric generating station, fossil fuel
Electric generating station, nuclear
Electric substation
Electric generating station, water/pumped storage
Filtration plant
Natural gas storage/distribution facility
Power plants

Pumping station (water)
Sanitation
Sewage treatment plant
Siphons
Telephone substation
Transmission line
Water complex/system

Thematic System Types

Recreation/Cultural

Clubhouses
Galleries
Museums

Parks
Resorts
Seasonal
Stadiums, arenas, amphitheaters

Studios
Theaters
Others

Amphitheater
Amusement park
Art gallery
Athletic fields
Ball park/field
Band shells
Basketball courts (outdoor)
Billiard & pool halls
Boating facility
Bowling alley
Brothel/crib
Camping centers
Carousel
City parks

Community hall
Concert hall/opera house
Country club
County parks
Dance hall (hurdy-gurdy)
Dance studio
Dude ranch
Exposition building
Fairground
Gold course
Gymnasium/indoor sports area
Health club/spa
Hunting, fishing lodge
Mineral springs resort/pool

Monuments
Movie sets
Museums (natural history, wax, etc.)
National/state parks
Paths (bicycle, bridle, walking)
Playgrounds
Race tracks
Roadside parks
Roller/ice skating rinks
Ski area/resort
Swimming pool/baths
Tennis courts
Theater

Religion

Bapistry
Cathedral
Chaplains office
Chapel
Church
Church buses
Church camps
Church schools
Convent

Crosses
Knights of Columbus
Mission
Monastery
Morada
Placenames
Religious properties
Salvation Army
Settlement houses

Shrine
Store front churches
St. Vincent de Paul societies
Synagogue
Temple
Other (i.e., Native American, tree art, graffiti, rock art)

Resource Processing

Ball mill
Bloomery
Charcoal pits
Coal breaker operations
Coal tipple operations
Coke oven
Floor covering mills
Flour mill
Grist mill
Kilns
Knitting mills

Leather tanning & finishing
Meat plants (horses, etc., for animal food)
Meat plants (port, cattle, sheep, etc.)
Misc. textile goods
Petroleum refinery
Pulp mills
Rendering plant
Smelters
Stamp mill

Sugar refinery
Textile finishing mills, except wool
Weaving & finishing mills, wool
Weaving mills, cotton
Weaving mills, synthetics
Yarn & thread mills

Thematic System Types

Services

Accounting, auditing, and bookkeeping services	Diners
Adjustment and collection agencies	Disinfecting and exterminating establishments
Advertising firms	Ditch rider
Airline terminal	Drive-in restaurants
Airline office	Duplicating, addressing, blueprinting, photocopying, mailing, mailing list, and stenographic services
Alcoholic Anonymous	Electrical repair shops
Animal boarding (kennels)	Employment agencies
Apartments	Engineering and architectural services
Apartment houses	Equipment rental and leasing agencies
Artists (restorers, etc.)	Escort service
Assay office	Family counseling
Boarding house	Farm bureaus
Babysitting services	Farm granges
Barber shops	Fashion designing
Bars	Funeral service and crematories
Beaneries	Garment pressing, alteration, and repair
Beauty shops	General repair work (welding, etc.)
Beer gardens	Hat cleaning shops (& blocking)
Blacksmiths	Historical clubs, associations, etc.
Bottle clubs	Hotels
Brand inspector	Humane societies
Brothel/crib	Interior decorators
Business associations	Labor unions and similar labor organizations
Bus station	Laundries, cleaners, and dyeing plants
Cafe	Law offices
Cafeteria	Legal services
Car rental	Livery
Car wash	Lodging
Caterers	Lounges
Charitable organizations (Red Cross, orphanages, Good-will industries, settlement houses, indigent homes, etc.)	Lunch stands, bars, rooms
Christian Science reading rooms	Management consultants
Civic, social, and fraternal associations (YWCA, YMCA, Boy Scouts, Girl Scouts, etc.)	Massage parlors
Cleaning and janitorial services	Mercantile reporting agencies
Clothing rental	Motels
Commercial artists offices	News syndicates
Consumer credit report agencies	Night clubs
Costume rental	
Clubs	
Delivery services	
Detective agencies	

Thematic System Types

Services-continued

Organization hotels & lodging houses on membership basis	Saloons (and eating saloons)
Patent solicitors' offices	Shoe repair shops
Photofinishing laboratories	Shoe shine parlors
Photographic studios (including com- mercial)	Sign painters
Poetry associations	Soda fountains
Political organizations	Stage stations
Professional associations	Stockgrower's Associations
Protective services	Tap rooms
Railroad depot	Tattoo parlors
Reducing salons	Taverns
Refreshment stands	Tax consultants
Research and development laboratories	Taxidermists
Restaurants	Temporary help services
Reupholstery and furniture repair shops	Testing laboratories
Road ranch (way station)	Tire repair and retreading
Roofing	Trading stamp stores
Rooming house	Trailer parks and camps
Rooming and boarding houses	Washing
	Watch, clock, and jewelry repair shops

Sites of Unknown Affiliation

This thematic system is for use in the event that the resource cannot, at this time, be placed in one of the other themes either because it is not apparent at this time, or there is not an appropriate theme.

Transportation Networks

Air (non-military)

City airport
County airport
International airport
Private airport

Highways

County
State
U.S. (Federal)

Pipeline (except natural gas)

Coal pipe line
Crude petroleum
Refined petroleum
Slurry pipe line

Rail Lines

Branch line
Main line
Narrow gauge, in use

Rail Lines, cont.

Narrow gauge, not in use
Standard gauge, in use
Standard gauge, not in use

Roads

Bus
Corduoy
County
Freight
Immigrant
Jeep
Post
Private
Service
Stage
Toll
Wagon

Trails

Colonial
Hiking (foot)
Military
Post
Stock

Urban Networks

Alley
Freeway
Streetcar line
Street, paved
Street, unpaved
Trolley line

Water

Boats
Ferries
Log transportation (log
drives)

TABLE 5

THEMATIC SYSTEM DESCRIPTORS AND ATTRIBUTES
(Does not include artifacts)

Physical Remains and Feature and Site Activities
(habitation listed separately)

Aditing	Chute	Farrowing sheds
Administration building	Cistern	Feed bunks
Aerial tramway	Claiming	Feeding
Amalgamating	Classroom building	Feed lot
Ampitheater	Clinic	Fence
Animal shelters (lg. animals)	Club houses	Fertilizing
Aqueduct	Coal shed	Fieldhouse
Assaying	Coal washer	Fields
Assessing	Combining	Field stations
Athletic field	Commemorative markers and routes	Fire fighting
Auditorium	Commercial buildings	Fire prevention
Banks	Compound	Fish hatchery
Barn	Compressor house, compressor	Flume
Barricade	Concentrating	Fort/fortification
Bee hives	Construction	Foundation
Blacksmithing	Cook house	Fountain/pool
Blacksmith shops	Corrals	Freighting
Blasting	Coyoting	Gallery
Boat house	Cribbing	Game fences/gates
Bone yard	Crosses (isolated, i.e., by roads, highways, etc.)	Garages
Bomb, fallout shelter	Cruising	Gardens (vegetable or flower)
Booming	Cultivating	Gate
Branding	Culvert	Gazebo
Bridge	Dam	Grain elevator
Bull whackers	Damming	Granary
Butchering	Defensive position	Grave markers
Cables	Derricks	Grazing lands
Caches	Ditch	Greenhouse
Calf creeps	Draining	Gymnasium
Calving	Dredge	Hangers
Canal	Drifting	Harrowing
Car barn	Drilling	Headframe (for hoisting)
Carriage house	Drinking fountain	Headgates
Cerquita (fence around graves)	Drywashing	Hewing
Changing house	Dump	Historic markers
Chapel	Dumping	Historic rock art
Chicken house	Entrance station	Hog pen/or pig
"Christmas tree" well	Fairgrounds	Hog shed/or pig
head valves		Hoist house
Church		Hoisting
		Holding pens

Thematic System Descriptors and Attributes

Horno and other out- door domestic ovens	Ore house	Shafts
Hospitals	Ore loader	Share cropping
Hot house	Outbuildings	Shearing
Hydraulicking	Outhouse (privy)	Shearing pens
Ice house	Panning	Shed
Inductment center	Parade ground	Shelter
Insulators	Parking lot(s)	Shops
Interpretive signs	Pastures	Silo/storage bin
Isolated grave	Path	Simulated sites
Irrigating	Pest control	Skating rinks
Irrigation ditches	Pier	Skidding/floating
Irrigation structure/ system	Pigeon coops	Slaughterhouse
Kennels (household pets)	Placering	Sluice
Kiln	Planing	Sluicing
Laboratory	Plant/factory	Slush cellars
Lamb creeps	Planting	Smokehouse
Lambing	Playground	Soil conservation prac- tices
Lambing pens	Plowing	Spa
Landmark designations	Pond	Spring
Library	Post (trading, etc.)	Stable
Livery	Potato shed/cellar	Stacking
Livestock feeding operation	Powder house	Stations (radio, radar, etc.)
Loading ramps	Pump house/station	Statuary/sculpture
Locating	Pumping	Stills
Lofts	Rabbit hutches	Stack yard
Long Tom	Race track	Stock ponds
Machine shops	Raking (hay)	Stockyards
Maintenance	Range control	Stoping
Maneuvers	Refinery	Storage tank
Markers	Reforestation	Studio
Meeting halls	Relays	Swimming pool
Mess hall	Rendezvous	Switchyard
Mill	Reservoir	Tailings/spoil bank
Monuments	Restricted travel system	Tennis courts
Mowing	Restrooms	Terminal
Mucking	Rest stop	Testing
Muleskinners	Retorting	Theater
Museum	Riffling	Threshing
Nursery	Riving	Timbering
Obelisk	Rock shelter	Tipple
Observatory	Root cellar	Toll booth
Office	Round house	Towers
Office building	Runway/airstrip	Track
Opera house	Scales (lg. industrial)	Training center
Orchards	Schoolhouse	Tramming
Ore cars	Schools used as commu- nity centers	Tramway
	Shaft house	Transmission line

Thematic System Descriptors and Attributes

Trapping	Walkway	Well house
Tree art	Wall	Wind breaks
Trench	Warehouse	Windlass (for hoisting)
Trestle	Wash house	Windmill
Tunnel	Water diversions	Wood piles
Tunneling	Water tanks	Other (please specify)
Viaduct	Water wheel	Unknown
Visitor center/station	Well/artesian well	

Habitation Types

Apartment complex	Garages (apt. over)	Row house, townhouse
Apartment house	Hotel, inn, guest house, lodge	Seasonal residence
Barracks	House	Section house
Boarding house	Lean-to	Shanty
Boarding house/rooming house	Line shack/camp	Sheepwagon
Bunk house	Lofts	Stage station
Cabin	Mansions	Studio
Carriage house	Motel	Tent (or base)
Condominium	Occupied business	Terraced apartment
Dormitory	Resort cabins	Trailer
Dugout	Rock shelter	Villa
Duplex/triplex	Rooming house	Wickiups
Foundation		Other (please specify)
		Unknown

Attributes Related to Social Structural Inferences

Brand names (commercial)	Land barons	Production line
Chain-operated (i.e., K-Mart, Target, etc.)	Leased lands	Public land leasing
Contour plowing	Local	Ranch barons
Contract	Lower class values	Regional
Corporation	Middle class values	Summer range
Craftsman-oriented	Monumental architecture	Sustained yield cropping
Erosion controls	National	Winter range
Family-operated	Non-owner-operated	Year round range
Fulltime occupation or use	Owner-operated	Other (please specify)
High class values	Part-time occupation or use	Unknown
International	Placenames	

Architectural Attributes

Adobe, brick	Frame	Stone
Adobe, puddled	Fuerte (horizontal log w/adobe covering)	Stucco
Arch	Jacal (vertical log/wood w/adobe covering)	Suspension
Asphalt	Log	Tar paper
Attic		Teacherage
Basement		Telephone

Thematic System Descriptors and Attributes

Bathing facilities	Metal	Toilet facilities
Brick	Mobile	Truss
Cantilever	Multiple-story	Two-story
Canvas or other animal or man-made material	One-story	Wire
Cement	Plumbing	Wood (including brush, etc.)
Electricity	Recycled materials	Other (please specify)
Floating	Recycled structure	Unknown
Foot	Sod	
	Soil	

Formal Network Relationships

Formal network relationships exist for some historical cultural resources which affect the type of material culture remains. We propose a hierarchical system for resources that are part of demonstrated formal networks. Formal network relations can be based on individual or corporate ownership, government, administration, and similar relationships. The relations link resources into hierarchical associations that are historic equivalents of such things as the Midwest Taxonomic System for Prehistoric Archaeology. In the case of historical resources, many hierarchical relations are known and do not have to be inferred or predicted. One other term is recommended for synthesizing relationships that are not as formal but are related to historical integrity. That term is district.

The taxonomic units for network relationships are:

- Isolated Find
- Autonomous Site
- Satellite Site
- Macro-site
- Macro-system

Isolated Finds are the smallest units. These are resources that are on a property and owe their existence to the property, such as fences, gates and dumps.

Autonomous Sites are those which are single occupations (i.e., camps, ranches, farms, dumps, mines, single domiciles, and others) for which there is no evidence of formal connection to any larger integrated unit.

Satellite Sites are sites where a unit of occupation can be identified as a segment of a larger integrated unit defined as a Macro-site. Satellite sites contrast with autonomous sites for which there is no evidence of formal relationships with larger cultural units.

An example of a satellite site system is a series of individual ranches that are part of a ranch complex composed of more than one ranch in corporate or private ownership. The ranches may each have different functions complementary to the whole operation (i.e., hay production, a "horse ranch," etc.). The relation of the ranches to one another make them satellites to the complete entity. Satellite ranches typically have managers who are employees of the complete entity and structure the ranches in conformity to an overall plan. Material similarities may derive from the relationship because of practices of buying in volume for the entire complex. These similarities can be reflected in such items as construction materials, fencing, vehicles, and livestock. Even if the relationships are less specific, common ownership and direction can affect satellite sites in ways that autonomous sites are not effected. Satellite sites occur in many industries and governments. Chain stores often have satellites (within a macro-system) with sites similar in architecture and goods. School districts are usually represented by satellite sites (within a macro-system) having standardized building types, furniture, playground equipment, and supplies.

Macro-sites are a taxonomic unit in a formal hierarchical network that tie satellite sites to a larger unit. Macro-sites are conceived of as having some locational integrity so that the relationships are not widely spread (as in the next category--macro-systems). Examples of what we conceive as a macro-site would be a local complex of satellite ranches that are part of a ranch complex as previously described. A macro-site might be a town and the satellite sites individual lots and their house complexes.

A macro-site can contain within its boundaries autonomous sites and sites that are satellites of other macro-sites or macro-systems. This is possible because macro-sites are defined on the basis of known relationships that are assumed to have had some relevance to material culture, behaviors, architecture, and other attributes of the satellites and the macro-site. On the property of a ranch, for example, there can be historic resources with no actual relationship to the ranch. Such sites can be resources of other times (stage stations, battlegrounds, squatters shacks, etc.) and other macro-site or macro-system relationships (coal mines, coal camps, logging camps, logging roads, sawmills, etc.).

Macro-systems are hierarchical taxonomic units of larger relationships than are macro-site and satellite site relationships. Units of macro-systems usually do not have physical proximity yet are of known relationship that determines the identification and attributes of cultural resources in the system. A classic example of a macro-system is the McDonald's Hamburger chain with shops that occur throughout the world. Military sites of the U.S. constitute a system that has had a great deal of archaeological attention and for which the designation as a macro-system is appropriate. Industrial entities, religions, and transportation networks, are also examples of macro-systems. Many of these have longevity, integrity, and recorded identifications justifying the macro-system designation.

Macro-systems have differing levels of systemic distribution. There are, for example, county level macro-systems (school districts, road systems, ditch and/or irrigation systems, etc.), statewide systems (state institutions, corporations with state level charters such as CF&I with satellites throughout the state, etc.), national level macro-systems (anything to do with federal agencies, national corporations, national religions, etc.), and international macro-systems such as McDonalds, Kodak, Pepsi-Cola, and others.

Districts. We feel that the term "district" is ambiguous but has achieved a foothold in historical archaeological literature. This term does not conform to a geographical or cultural boundary. The continuing use of this term with its many arbitrary meanings and uses may cause problems. However, there is justification for retaining the term "district" as a synthesizing term that fulfills some of the idealized uses of the term "district." For example, an historic district could be defined, based on the many activities of the Leadville silver boom. These activities included mining, smelting, transportation, ranching, timber industries, and related sites, macro-sites, and macro-systems. Inclusion of all of the cultural phenomena

in a "district" would focus attention on cultural processes of the whole rather than the parts. However, something that would ordinarily be considered unique could be lost in the whole, so unique sites need identities.

Population Estimates

A weakness in recording cultural resources is the vagueness of records through which concepts of demography and social organizational relationships might be interpreted. We recommend that estimates of populations related to sites or other resources be considered a minimal level of recording for demographic information. Information related to social and other organizational principles is considered part of this information category.

We recommend the following system for recording population estimates by approximate group sizes. Appropriate group sizes can be divided into the areal extents of resources to derive population density approximations. Other estimates can be proposed related to other attributes of sites.

TABLE 6

Population Estimates

1-5	1001-3000
6-10	3001-5000
11-30	5001-10,000
31-50	10,001-20,000
51-100	20,001-50,000
101-300	50,001-100,000
301-500	Greater than 100,000
501-1000	

Ethnicity

The relationship of various cultural traditions to resources is important in Colorado history. Diverse populations have lived in the state in communities and neighborhoods that have specific ethnic resources and behaviors. Historical archaeology can be used to understand our collective heritage and the processes of change in different ethnic groups.

The taxonomic units used for identification of ethnicity (Table 7) are arbitrarily selected. Some of the terms may be objectionable to segments of contemporary society (i.e., Spanish, Mexican, Hispanic, Chicano). The terms are selected because they conform to cultural resources. Spanish refers to cultural materials derived from Spain or a Spanish cultural tradition and which characterize resources of the Conquistadores or of more recent remains identifiable as having been derived from Spain. Chicano resources can be identified with art, architecture, and other resources of more recent origin which exemplify political movements identifiable with persons who call themselves Chicanos. The terms Mexican and New Mexican derive from places of origin or of traditions. Hispanic is a term reserved for usage with resources of unknown specific identity but

which is associated with Spanish-speaking populations.

The taxonomic groups representing ethnicity may include terms that are not explicitly ethnic but represent values, races, and other bases for social organizational distinctions that may be reflected in material resources or behavior inferences. This is the justification for inclusion of the terms Texan, Black, Slavic, and Austrian, that are not accurately ethnic in the sense that other terms denoting language and culture relationships are ethnic. The terms Slavic and Austrian are used, in southern Colorado, to denote eastern European peoples in a broad sense as amalgamations of populations that are of mixed or indeterminate origins.

Combinations of ethnic designations can be used, if appropriate. The population of the Arkansas River Valley in the 1840s, for example, was a mixture of persons of diverse ethnic groups with architecture generally related to New Mexican architectural principles but with other material culture relationships including those of Native American, English, French and "American."

"American" is as good a term as any to refer to material culture and behaviors of citizens of the United States who do not maintain cultural traditions of their ancestors' ethnic groups. This definition allows incorporation of the heritage of all persons who conform to the cultural traditions that have become typical of citizens of the United States. The use of the term "American" is preferred to uses of "Anglo, Anglo-American, European, Western-European," and others that force distinctions to be made with Black, Hispanic, and other persons who conform, in the main, with the material culture and behaviors of other citizens of the United States. Persons or populations who do not conform closely to the material culture and behaviors of the mainstream of American Culture can be differentiated into ethnic groups.

TABLE 7

Ethnic Groups

American	German	Polish
Austrian	Greek	Russian
Black	Hispanic (Mexican, New	Scot
Chicano	Mexican)	Serbian
Chinese	Indian (East)	Slavic
Cornish	Irish	Spanish
Croatian	Italian	Texan
Czechoslovakian	Japanese	Welsh
English	Native American (spe-	Yugoslavian
French	cify group)	Other

Social-Structural and Ideologically-Related Behaviors and Inferences

Material culture distinctions cannot be explained without knowledge of the behavioral characteristics of humans and human groups. The relationships of technologies and societies are addressed commonly by archaeologists, historians, and others without proper regard for the relevance of individuals; social, religious, and other behaviors of human groups; or status, role differentiations, and other behavioral characteristics responsible for material culture.

Some of the relationships between human behavioral differences and cultural resources are explicit, as is the case with symbolism of specific religious groups. Other manifestations may be identified as inferred patterns related to organizational and behavioral distinctions. An example of this is the concept of social and economic stratification indicated by differential distributions of architecture and monetarily-ranked goods. Social stratification and other organizational principles can be identified through oral, historical, and ethnographic sources and validated by analogies where specific relationships of behavior to material resources cannot be determined empirically.

Explanations for material culture differences cannot be resolved without investigation of causes. Historical archaeological investigations have great relevance in assessing and testing causal factors since the subject matter can be viewed diachronically. It is possible to design research on empirical knowledge of status, role, value, socio-economic distinction, and other characteristics that result in material culture models for socio-economic and other distinctions in our society. Inferences can also be made concerning material culture and identified with patterns of behaviors. These patterns can be inferred from functions of features, activity sets, socially diagnostic artifacts, census information, oral accounts, and other materials and sources. A list of descriptor terms is proposed in Table 8 for some of the behaviors which might be known or inferred for cultural resources in Colorado.

TABLE 8

Behavioral Descriptors

Acculturated	Colony
Adaptive	Commune (settlement pattern & descriptors)
Affluent	Conformist
Age Groups (relevant for age-graded groups such as the National Guard)	Conservation ethic
Ambilocal	Conservative
Anarchistic	Conspicuous consumption pattern
Appollonian	Craftsmen
Authoritarian	Cyclical economy
Automated	Declining economy
Closed (group which has cultural, ethnic, linguistic, and/or other barriers which maintains the autonomy of the population and inhibits changes)	Dependent
	Dionysian
	Egalitarian inheritance
	Elitist
	Enculturated

Behavioral Descriptors

Entrepreneur
Exhibitionist
Extended family (specify how it is extended)
Humanistic
Hunting and gathering company
Idiosyncratic
Impoverished
Indigenous kinship based society (i.e., Ute Indians)
Individualistic
Isolationist
Kin Clique (used to designate a kinship group related in diverse ways but not in conformity with easily defined relationships)
Laborers
Labor intensive
Labor/management
Open (group which has little or no barriers to outside influences and changes to the group)
Organic structure (where divisions exist in a group and all parts differ but are functional for maintenance of the whole group)
Owner/operator/customers
Parasitic (where a group or segment of a group benefits at the expense of others)
Patrifocal
Persistent
Primogeniture inheritance
Professional
Progressive
Radical
Reactionary
Regimented
Religions (Catholic, Jewish, Mormon, etc.)
Scroungers (persons who opportunistically use an area and its resources and leave when they complete the uses)
Segmentary structure (divisions exist in a group and the divisions are all identical)
Self-sufficient
Settlers (persons who commit to an area and make investments of capital and labor with permanency as their goal)
Sexual division inheritance (specify)
Sexual division of labor
Sex ratio (males divided by females X 100 = sex ratio of population)
Single generational
Single household
Single resident
Skilled
Sodalities (Boy Scouts, UMW, Elks Club, etc.)
Son-in-law inheritance
Squatters (persons who use an area and resources and make minimal adaptations with investments adequate to make a living or profit over a period of time)
Liberal
Lineage
Lower Class
Managerial
Matrifocal
Mechanical, or segmentary structure
Middle class
Multiple generational
Multiple household
Multiple residents
Narcissistic
Neolocal
Non-kinship group
Nuclear family
Oligarchical
Subsistence consumption pattern
Symbiotic (where reciprocal relations exist in a group or between groups and all benefit)
Traditional
Ultimogeniture inheritance
Uni-sexual group (as in a group of male laborers)
Unskilled
Upper class
Uxorilocal
Virilocal
Xenophobic

Settlement Patterns

Distributions of peoples and resources on the landscape vary in relationship to patterns such as environment, industry, and ethnicity. Some of the variations are known and defined as taxonomic units (e.g., vara strip settlements). Other patterns are either poorly known or remain to be identified. Patterns of one aspect of culture, such as settlement patterns, are usually related to large systems. The larger systems are related to land and resource ownership, economic, and other principles and practices that can be part of national and international systemic relationships.

Settlement patterns and attributes can be identified by widely recognized terms which lack clean definition. These terms can be used in a general sense for pattern identification. An accompanying list of descriptors (Table 9) includes many of these terms. More specific terms are available but they are complexly defined and most of the criteria necessary for discrete classification is not available for resources that are archaeological in nature.

Settlement attributes are related to variables such as transportation systems (roads and railroads), ownership systems (cadastral survey lines and water rights), population concentrations (hamlets and villages), distribution of natural resources (mining camps and hot spring resorts), and others. Patterns and explanations for patterns can be identified by correlating combinations of variables from the descriptor list with other information recorded on site survey records or available through historic, oral, archival, geographic, economic, and other sources.

TABLE 9

Settlement Pattern Descriptors

Autonomous settlement (ranch, farm, camp, etc.)
Cadastral landscape (typified by farming areas where most visible distinctions of settlements and land usages are based on sections and their subdivisions)
Central place
Commercial district
Contour landscape (typified by settlement where irrigation limits the most visible land usages and contour lines separate land usage areas)
Crossroads settlement (located at crossroads in cross pattern)
Elementary school community
Fort pattern
Grid pattern community (town platted into blocks and lots in a grid pattern)
High school community
Industrial district/park
Lineal (on a transportation route)
Lineal isolated (on a transportation route)
Mormon community (nucleated settlement based on house lots of 10 acres each)
Nucleated rural (settlement where multiple homes are in the settlement and the operators of farms/ranches, etc., do not live permanently on the lands they work)

Settlement Pattern Descriptors, continued

Placita (a small Hispanic settlement of contiguous structures in a line, "L," or other arrangement, but not a square)

Plaza (a Hispanic settlement based on a square as a community nucleus)
Residential area

Resource specific settlement

School lands: Sections 16 and 36, or alternative areas, which were set aside for schools or school support

Shopping center

T-shaped settlements (located where road joins a major transportation route or railroad and community grows perpendicular to route)

Vara strip settlement (Hispanic settlement based on strips of land perpendicular to ditches)

Activity Sets

Activities represented by artifacts often contrast with the thematic system relationships of sites. This lack of congruence has been a problem for those using archaeology as the primary means of deriving inferences concerning site specific relationships. The category "activity sets" has been proposed as a means of differentiating evidences of common activities from thematic system relationships.

Activities at many diverse-function sites may appear to be similar if site activities are inferred only from artifacts. These similarities are consequences of similar need fulfillment at the diverse sites. The predominant artifacts of sites usually represent such need fulfillment sets as domiciliary activity, trash and waste disposal evidence, and livestock maintenance evidence represented by statistically dominant artifacts. These statistically dominant artifacts can mask distinctive thematic characteristics of sites. If the "activity sets" can be identified and considered separately from the thematic system relationships of sites, diverse sites can be distinguished more easily. Segregation of "activity sets" from thematic analyses could permit comparisons of sites with different thematic relationships. Discrete characteristics have been found that characterize activity sets at some sites with differing thematic relationships (Buckles 1978a and 1981a).

The descriptors listed below can be used to identify models of activity sets that occur or might occur at historical archaeological sites. The descriptors represent "candidate" terms for predictable sets. The set definitions are dependent upon variations in site type, permanency, type of site termination, temporal relations of sites (e.g., when livestock were the primary transportation or when mechanized forms of transportation were used), and others. These candidate terms can be used in combinations to define sets.

TABLE 10

Activity Set Descriptors

Sets

Animal-drawn transportation	Lg. equipment construction or use
Blacksmithing	Livestock raising-related
Building construction	Manufacturing-related
Business/commerce-related	Mechanized transportation
Butchering	Military
Camping	Mining-related
Clothing	Office-related
Domestic (general)	Personal potpourri
Education-related	Place name
Energy-related (i.e., fuel uses, productions, etc.)	Railroad-related
Entertainment	Recreation
Farming equipment & related items	Religious-related
Fishing	Restaurant-related
Food consumption	Retention (a packrat who saved things)
Food preparation	Timber industry-related
Household furnishings	Utilities (elec. wire, plumbing, etc.)
Hunting/Trapping	Workshop-related
Hygiene and medicine	Unknown
Industrial-related	
Landmark	

Attributes

Alcohol consumption	Recycling (expressed in several different ways, i.e., cans made into collanders, lanterns, etc.)
Catastrophic (destruction of site by catastrophe, hence preservation)	Self-sufficient (lack of prepared food and food containers)
Industrially dependent (presence of lg. amounts of prepared food and food containers)	Status (affluent, impoverished, etc.)

Association with Important Persons or Events

The need-to-know relationships of historical resources to National Register significance criteria are addressed, in part, by the broad approach of the framework. The framework addresses phenomena likely to yield information important in history and those attributes related to the broad patterns of our history. However, specific association with important persons and events is not addressed.

Identification of phenomena with important persons and events is dependent, in part, upon the quality of research in searching for identifications of persons and events related to sites. Often such relationships are not pursued by archaeologists due to lack of historical knowledge of the area or lack of knowledge of how to identify ownerships and associations of the

past with sites.

One way to insure that researchers are responsible for identification of persons and events with sites is by mandating investigation of that type of information. This would require the presence on forms of "levels" of investigation with specific types of information collected about the sites (i.e., local history sources, regional histories, local informants, archival sources, patents, abstracts of title, etc.). Categories of information on forms are proposed to fulfill these needs but the format is left to those who will design the forms.

SUMMARY

It is necessary for common sense to be used in developing a framework for historical archaeology. It is possible to "overorganize" and produce interminable classifications and variants through approaches similar to those used for prehistoric sites and phenomena. Such organization may be premature. Among the major problems to be resolved before developing sophisticated organizational schemes for historical archaeology are: determining levels of adequate knowledge about history, industrial histories, histories of artifact manufacturing and knowledge about various technology and behavior related to technological development. The apathetic attitudes of many archaeologists towards historic resources have also caused problems in developing a framework. There is a general lack of accurate knowledge about the historic period and which activities are represented most frequently by historical cultural resources. The common place activities of the past are those about which contemporary historians and anthropologists know the least. The academic tradition of our society has been so concerned with significant figures and events in history that most academicians and cultural resource-related investigators have little knowledge of the past except through stereotypic views.

Until recently, most historical archaeology was concerned with unique or "important" events and persons of our society. The older generation of investigators who had knowledge of the mundane did not investigate that aspect of history.

This report points up some great needs for behavioral research studies in regard to historical resources in Colorado (and elsewhere). There is a great need for the development of models that correlate material culture with important historical activities. For example, there is no synthesis of the diverse information available about ranching and farming material culture. Since almost all investigators in the state are concerned with these industries, it would be useful to develop a synthetic study designed for model building and the generation of research problems that can be considered by the research community as a whole. This problem has been addressed in part by Buckles (1983). Some models developed for Colorado resources include sporting culture outhouses (Baker 1983), railroad construction sites (Buckles, In Press), haymaking (Buckles and Buckles n.d.), mines (Markoff 1981), diverse settlement patterns (Buckles 1981a), charcoal making, ranching, and mining settlements (Buckles, editor, 1978a and Buckles, editor, n.d.--Dallas Project). Significant

contributions can be made by development and sharing of models, bibliographies, laboratory manuals, computer programs, and other resources. Evaluative standards need to be developed to aid in considerations of the National Register significance of historical phenomena. Knowledge concerning historical archaeological resources in Colorado is presently inadequate and it would be premature to recommend criteria for evaluation.

We feel that a high level of public involvement is necessary to prepare an adequate framework for historical resources and evaluative standards. Whether through questionnaires (see Appendix B), oral histories, public workshops, or a combination of techniques, information should be garnered from the public to acquire knowledge, develop frameworks, build models, and build and test research designs.

It is vital to know and take into consideration public perceptions of what is important. We have recognized, through our questionnaire-related information gathering in Pueblo County, that involvement is very meaningful to the public and the professionals. A major factor related to this public involvement has been a successful movement to generate funds for use in preserving historic resources considered to be of significance in Pueblo County.

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APPENDIX A

EXAMPLES OF WORK SHEETS FOR RECORDING RESOURCES IN THE SYSTEM

EXAMPLE

WORK SHEET (State Historical Society Project)

SITE: 50R211 -- The William Lowery Ranch. This site has a very complex history and at one time was a part of the platted town of Dallas although nothing was discovered archaeologically that pertains to the town.

TEMPORAL (CHRONOLOGICAL) ESTIMATE: 1883 to 1960s (known span)

1883 to 1905 -- mining (Uncompahgre Mining District); post-1905 -- agricultural.

Prior to 1885 -- communities.

ECOLOGICAL AND TOPOGRAPHIC ZONES: Ecological: Grassland, scrubland

Topographical: Mountain valley

Climatic: Precipitation: 13 inches Growing Season: 112 days
(Kelley 1964) (Kelley 1964)

THEMATIC SYSTEMS, SYSTEM TYPES, AND DESCRIPTORS: Systems: Mining; agricultural;

communities Types: Placer; general farm; part of platted town of

Dallas.

Descriptors: House (sandstone foundation, house had burned); privies; dumps; root cellar; coal shed; ice house; garage (workshop); granary; rabbit hutch; chicken house and scratch yard; barn (horse barn, hay mow and dairy barn); animal pen; pigpens; feedrack; fields; gardens; fences; irrigation ditches; roads; pumphouse; ice pond; springhouse; feedrack; bridge; spring; stackyard; corral; blacksmith shop; ford.

FORMAL NETWORK RELATIONS: Communities -- autonomous site. Mining -- satellite to

corporate mining Macro-system. Agricultural (ranch) -- autonomous site. Agricultural (ditches) -- satellite to ditch Macro-system.

POPULATION ESTIMATES: 1 to 5 (at time of ranching)

ETHNICITY: American (as known)

SOCIO-ECONOMIC AND IDEOLOGICALLY-RELATED BEHAVIORS AND INFERENCES: Conservative,

nuclear family, self-sufficient, settlers.

SETTLEMENT PATTERNS AND TYPES: Autonomous, contour landscape settlement.

WORK SHEET (State Historical Society Project), continued

ACTIVITY SETS: Building construction; animal-drawn transportation; clothing;
energy-related; farming equipment and related items; fishing; food consumption;
food preparation; household furnishings; hunting/trapping; hygiene and medicine;
livestock-raising-related; personal potpourri; workshop-related; unknown; enter-
tainment; mechanized transportation; butchering; railroad-related.

ASSOCIATION OF IMPORTANT PEOPLE AND/OR EVENTS: None

DATA GAPS: First known use of area was in 1860 and site may go back this far
but no evidence has been found. Oral, archival and historical research were
done for this site. Has good vernacular architecture and some of the structures
may be from the town of Dallas.

REFERENCES: Rossillon n.d.b.

DATE OF RECORDING: _____

RECORDER: _____

EXAMPLE

WORK SHEET (State Historical Society Project)

SITE: 5MN65 -- Monitor Mesa Wickiup

TEMPORAL (CHRONOLOGICAL) ESTIMATE: Mid-1700s (dendro)

ECOLOGICAL AND TOPOGRAPHIC ZONES: Ecological: pinon/juniper, near oak groves and ponderosa pine forests
Topographical: mesa

Climatic: Precipitation: 10 to 15" Growing Season: 100 to 140 days
(Kelley 1964) (Kelley 1964)

THEMATIC SYSTEMS, SYSTEM TYPES, AND DESCRIPTORS: Systems: Native American
Types: Seasonal camp

Descriptors: Wickiup (1)

FORMAL NETWORK RELATIONS: Autonomous site.

POPULATION ESTIMATES: 1 to 5

ETHNICITY: Native American (possibly Ute)

SOCIO-ECONOMIC AND IDEOLOGICALLY-RELATED BEHAVIORS AND INFERENCES: Hunting and gathering economy; indigenous kinship based society; self-sufficient; subsistence consumption pattern.

SETTLEMENT PATTERNS AND TYPES: Autonomous settlement

WORK SHEET (State Historical Society Project), continued

ACTIVITY SETS: Domestic; building construction.

ASSOCIATION OF IMPORTANT PEOPLE AND/OR EVENTS: None

DATA GAPS: Need pattern analyses for wickiups, cultural-ecological, model building; need activity sets for status and role, seasonal activities, etc.

REFERENCES: Buckles 1971:655-657.

DATE OF RECORDING: _____

RECORDER: _____

EXAMPLE

WORK SHEET (State Historical Society Project)

SITE: Bent's Old Fort

TEMPORAL (CHRONOLOGICAL) ESTIMATE: Occupation 1: 1833 to 1849 (Bent's). Occupation 2: 1861 to 1881 (stagecoach station).

ECOLOGICAL AND TOPOGRAPHIC ZONES: Ecological: Grassland w/cottonwoods

Topographical: Plains

Climatic: Precipitation: Not given Growing Season: Not given

THEMATIC SYSTEMS, SYSTEM TYPES, AND DESCRIPTORS: Systems: Business/Commerce; Services; Transportation Network; Government; Military

Types: Trade, trapping; lodging; stage station; stage road;

freight road; Indian Agency; depot; quartermaster; stores; trails (military, post, stock)

Descriptors: Post, icehouse, trash dump, race track, cemetery, fur press, walkways, corrals, gate, wagon room, caches.

FORMAL NETWORK RELATIONS: Business/Commerce -- autonomous; Services (under Bent's) -- autonomous, (in transportation era) -- satellite to transportation Macro-system; Transportation (stage station) -- satellite to transportation Macro-system; government -- satellite to government Macro-system; military -- satellite to military Macro-system.

POPULATION ESTIMATES: Unknown

ETHNICITY: Native American (Southern Cheyenne, Arapaho, Kiowa, Comanche); Hispanic; Anglo-American.

SOCIO-ECONOMIC AND IDEOLOGICALLY-RELATED BEHAVIORS AND INFERENCES: Open, entrepreneurial; multiple residents; organic structure; owner/operator/customers.

SETTLEMENT PATTERNS AND TYPES: Fort pattern.

WORK SHEET (State Historical Society Project), continued

ACTIVITY SETS: Animal-drawn transportation; building construction; business/
commerce-related; clothing; domestic (general); food consumption; food preparation;
hunting/trapping; hygiene and medicine; personal potpourri; military.

ASSOCIATION OF IMPORTANT PEOPLE AND/OR EVENTS: Ceran St. Vrain, Charles and
William Bent, George F. Ruxton, Col. Henry Dodge, Thomas Fitzpatrick (Indian
Agent), Marcus Whitman, Francis Parkman, Kit Carson, John C. Fremont, Col. Stephen
Watts Kearney.

DATA GAPS: A fairly conventional report in dealing with architecture and artifacts
which gives good comparative data for further work on forts in this time period.
No attempts were made to look at social patterns, interaction, etc.; however, the
work done was to the specification of the contract -- the work was done in order
for the fort to be reconstructed.

REFERENCES: Moore 1973

DATE OF RECORDING: _____

RECORDER: _____

EXAMPLE

WORK SHEET (State Historical Society Project)

SITE: 50R173 -- The Alkali Creek School

TEMPORAL (CHRONOLOGICAL) ESTIMATE: Late 1890s to late 1930s.

ECOLOGICAL AND TOPOGRAPHIC ZONES: Ecological: Scrubland, grassland

Topographical: Mountain valley

Climatic: Precipitation: 13" Growing Season: 112 days
(Kelley 1964) (Kelley 1964)

THEMATIC SYSTEMS, SYSTEM TYPES, AND DESCRIPTORS: Systems: Education; Recreational/
Cultural;
Agricultural. Types: Country one-room schoolhouse; ranching (year long
'grazing); used as a community hall.

Descriptors: two privies, small shack used as playhouse (oral account), schoolhouse
foundation, coal shed, animal shelter, dump.

FORMAL NETWORK RELATIONS: Satellite site -- education Macro-system.

POPULATION ESTIMATES: Population differed on a yearly basis.

ETHNICITY: Unknown

SOCIO-ECONOMIC AND IDEOLOGICALLY-RELATED BEHAVIORS AND INFERENCES: Age groups;
non-kinship group; open; organic structure; authoritarian; regimented.

SETTLEMENT PATTERNS AND TYPES: School lands.

WORK SHEET (State Historical Society Project), continued

ACTIVITY SETS: Building construction; education-related; recreation; food
consumption.

ASSOCIATION OF IMPORTANT PEOPLE AND/OR EVENTS: None known.

DATA GAPS: Unable to define the privies archaeologically; therefore, unable to
answer all questions asked in the research design of this site. Oral histories
were collected, archival research and historical research done.

REFERENCES: Rossillon, Buckles and Haecker n.d.

DATE OF RECORDING: _____

RECORDER: _____

EXAMPLE

WORK SHEET (State Historical Society Project)

SITE: 5LK35 -- Nine Mile House

TEMPORAL (CHRONOLOGICAL) ESTIMATE: 1878 to 1881

ECOLOGICAL AND TOPOGRAPHIC ZONES: Ecological: Sage grass, glacial deposits

Topographical: Mountain valley

Climatic: Precipitation: 15 to 20" Growing Season: Average 60 days
(Kelley 1964) (Kelley 1964)

THEMATIC SYSTEMS, SYSTEM TYPES, AND DESCRIPTORS: Systems: Services; Business/Commerce;
Transportation Networks;
Agriculture Types: Stage stop or station (public house); stage road
(former county road); ranch (hay fields and irrigation).

Descriptors: Well, public house (owner-operated), blacksmithing area, dumps,
outhouse (privy), ditch, gulch and ditch, historic county road, livestock enclosure
(pasture), woodpile area.

FORMAL NETWORK RELATIONS: Services, Business/Commerce (stage station) -- autonomous
site; Transportation Network (county road) -- satellite to county road Macro-system;
Agricultural (ranch, hayfields) - autonomous site; Agricultural (ditches) -- satellite
to ditch Macro-system.

POPULATION ESTIMATES: 1 - 10 (as known)

ETHNICITY: American (as known).

SOCIO-ECONOMIC AND IDEOLOGICALLY-RELATED BEHAVIORS AND INFERENCES: Squatters;
owner/operator/customers, entrepreneur.

SETTLEMENT PATTERNS AND TYPES: Lineal isolated; autonomous; central place.

WORK SHEET (State Historical Society Project), continued

ACTIVITY SETS: Building construction; food preparation; food consumption; house-
hold furnishings; personal potpourri; clothing; livestock-related; animal-drawn
transportation; blacksmithing; workshop-related; mining-related; railroad-related;
energy-related; unknown.

ATTRIBUTES: Alcohol consumption; catastrophic.

ASSOCIATION OF IMPORTANT PEOPLE AND/OR EVENTS: A. S. Weston (state senator,
judge)

DATA GAPS: Unable to find all features archaeologically due, probably, to con-
struction of new county road. This site brought forth additional questions which
were not answered due to time limitations.

REFERENCES: Buckles and Buckles 1978

DATE OF RECORDING: _____

RECORDER: _____

EXAMPLE

WORK SHEET (State Historical Society Project)

SITE: 5LK129 - Dinero Placer

TEMPORAL (CHRONOLOGICAL) ESTIMATE: Occupation 1: 1878 to 1887 (charcoal);

Occupation 2: 1887 to 1903 (company mining camp - Dinero Mining and Milling Co.);

Occupation 3: 1903 to 1918 (squatters related to placer mining).

ECOLOGICAL AND TOPOGRAPHIC ZONES: Ecological: Lodgepole pine, sage grass

Topographical: Mountain valley (terrace)

Climatic: Precipitation: 15 to 20"

(Kelley 1964)

Growing Season: average 60 days

(Kelley 1964)

THEMATIC SYSTEMS, SYSTEM TYPES, AND DESCRIPTORS: Systems: Communities; agricultural;
mining; resource processing;

transportation networks Types: Charcoal processing; placer mining; company town;

roads; irrigation.

Descriptors: 5 brick kilns (charcoal); dumps; roads (1 historic service road and

1 modern county road); ditch (irrigation); flume (irrigation); poss. assaying; mining

pit; butchering structure (poss. store from oral history); prob. structure of unknown

use; two structures of unknown use (prob. related to company mining town and one is

a poss. boardinghouse from oral history); house.

FORMAL NETWORK RELATIONS: Mining -- satellite site to a corporate mining company

Macro-system; Resource processing -- autonomous; Agricultural, ditch -- satellite
to a ditch Macro-system.

POPULATION ESTIMATES: 51 to 100 during the mining period.

ETHNICITY: American (as known).

SOCIO-ECONOMIC AND IDEOLOGICALLY-RELATED BEHAVIORS AND INFERENCES: Dependent,

entrepreneurial, multiple residents, laborers.

SETTLEMENT PATTERNS AND TYPES: Central place, resource specific settlement.

WORK SHEET (State Historical Society Project), continued

ACTIVITY SETS: Building construction; food preparation; food consumption; house-
hold furnishings; personal potpourri; clothing; livestock-related; mining-related;
railroad-related; metal working; energy-related; unknown.

ASSOCIATION OF IMPORTANT PEOPLE AND/OR EVENTS: None (as known)

DATA GAPS: Unable to answer all archaeological questions because of poor context
and site disturbance. However, most questions answered by archival and oral
research.

REFERENCES: Miller 1978

DATE OF RECORDING: _____

RECORDER: _____

EXAMPLE

WORK SHEET (State Historical Society Project)

SITE: 5MF605 -- Ft. Davy Crockett (?)

TEMPORAL (CHRONOLOGICAL) ESTIMATE: 1832(37) to 1844

ECOLOGICAL AND TOPOGRAPHIC ZONES: Ecological: Grassland or scrubland

Topographical: Park (high altitude desert),

cismontane

Climatic: Precipitation:

Growing Season:

THEMATIC SYSTEMS, SYSTEM TYPES, AND DESCRIPTORS: Systems: Business/Commerce

Types: Trade, trapping (winter trading post)

Descriptors: Charcoal concentration; ash pit; other pits. No architectural features or remains found during excavation.

FORMAL NETWORK RELATIONS: Autonomous Site

POPULATION ESTIMATES: Unknown

ETHNICITY: Anglo-American; Native American (Nez Perce, Ute, Shoshoni -- wives of the owners).

SOCIO-ECONOMIC AND IDEOLOGICALLY-RELATED BEHAVIORS AND INFERENCES: Open; entrepreneurial; multiple residents; organic structure; owner/operator/customers.

SETTLEMENT PATTERNS AND TYPES: Fort pattern.

WORK SHEET (State Historical Society Project), continued

ACTIVITY SETS: Business/Commerce-related; personal potpourri; building construction;
clothing; workshop-related; Native American; food consumption.

ASSOCIATION OF IMPORTANT PEOPLE AND/OR EVENTS: If this was Ft. Davy Crockett
then there would be the association of various trappers in the area. The owners
were William Craig, Philip Thompson and Prewitt Sinclair.

DATA GAPS: The excavation did not prove that this was Ft. Davy Crockett; however,
if not, then it was related to the same time period and same systems. Unfortunately
there was not enough time given to reading this report to determine what other data
gaps there would be.

REFERENCES: Eddy 1982

DATE OF RECORDING: _____

RECORDER: _____

APPENDIX B

QUESTIONNAIRE AND EVALUATION

TO WHOM IT MAY CONCERN:

We are conducting a survey of knowledge, attitudes, and opinions concerning historical remains in Colorado. The survey is part of a project sponsored by the Colorado Historical Society which has as its goal the development of planning systems for cultural resources of all ages and kinds throughout the state.

These remains are related to activities our ancestors, or predecessors were engaged in which have been important in contributing to our behaviors and heritage. Knowledge of information other than the material remains are also important in identifying and verifying remains and we ask you to identify histories, oral accounts, archival sources, industrial records, and other information which may also be relevant. Some information may be known by reputation only. Please cite such information so that it can be checked out in the future.

The survey consists of four parts listed below:

1. Identifications and locations of evidences, or possible evidences, of events of state, national, or international significance.
2. Identifications and locations of evidences, or possible evidences, of structures, events, and other activities of the past which are important to know about the heritage of any community or county.
3. Identifications and locations of material remains which may be considered by your community or county to have significance but which may not have been identified or recognized to date.
4. Information about persons, organizations, activities, attitudes, facilities, etc. concerned with community or county heritages or material culture remains.

This solicitation of information is designed to ultimately lead to planning concerning historic material remains. The task is awesome and the project is designed to try to stimulate help and ideas from many sources. There can be many benefits to your communities and counties and it is hoped that some may be realized by your participation in the project. Benefits can be: knowledge you gain about your area which might make living in the area more meaningful; recognition of the significance of otherwise unrecognized remains which can be preserved and protected; realizations of economic benefits by using stabilized historic structures for attention attracting businesses; attracting tourism by focusing upon some of the remains; developing educational programs concerned with researching information about remains; stimulating the writing of local histories; providing information and perspectives for local level planning; coordinating planning with other areas, and many other benefits.

In order to expedite the collection of information, we have developed four questionnaires (one for each of the four parts listed above) vital to our task. Could you, your organization, persons knowledgeable about your area, or a combination of all, please respond to the questionnaires? If nothing is known of specific information for your area, please indicate. The questionnaires are for use in all areas of Colorado and therefore some of the questions may not be pertinent to your area. Also, please feel free to volunteer information for areas of interest that we may have overlooked. Under any specific question, if you feel our approach has neglected certain areas of information, please advise us and include the additional information.

We are asking you to respond by writing out the information which you think is relevant on separate sheets of paper. This questionnaire would be more structured if we had "fill-in" categories, but the costs of paper would be prohibitive. A method which may be useful for your group would be to tape record the meeting (or meetings) and then abstract the relevant information from the recording. If you use this method, it would be useful to make copies of the information to put on deposit in your local library, historical society, or other depositories.

If there are problems in citing information because of volume, or other problems, then make notes to that effect. Some of the categories may appear to ask the impossible of you. For example, in Lake, Mineral, and other counties with a great deal of mining activity it would not be practical to do more than state that there are great numbers of mines. On the other hand, in counties, such as Bent County, any mines should be cited individually (if they exist). The noting of such information now would be an important legacy for the future.

Our goals are diverse. We are attempting to acquire information which will identify resources throughout the state. We want to identify resources in areas where information is lacking. Your responses will provide a base of somewhat comparable knowledge. Another goal is an attempt to draw out information which may not be available even in the very near future. It is already too late for collecting firsthand information on many subjects. The potential value of the survey can be achieved by considering the importance of information collected by turn-of-the-century historians about the fur trade, Indian trade, data accumulated by railroad history buffs about nineteenth and early twentieth century railroads and railroaders, W.P.A. photographs and information collections made during the 1930s, and many similar sources.

The help you can give on this project will be highly appreciated by us and by future generations.

Thank you.

Sincerely,

William G. Buckles
Department of Anthropology
University of Southern Colorado
Pueblo, CO 81001

WGB/nb

QUESTIONNAIRE #1

IDENTIFICATION AND LOCATIONS OF EVIDENCES, OR POSSIBLE EVIDENCES, OF EVENTS OF STATE, NATIONAL, OR INTERNATIONAL SIGNIFICANCE.

We would like to know if evidences of events of these levels of significance have been identified with known locations or material evidences in your community or county. The number and variety of such events is almost infinite but we have listed some topics which might stimulate responses.

The information we are seeking on the types of events are as follows:

1. Name
2. Location (section, township, range, if possible, or address)
3. Dates (cite initial, end of original use, and end of any later use)
4. Present Condition (identity of remains, e.g., still standing but abandoned, converted into another use, destroyed by highway, etc.)
5. Source (can be written, oral, etc.)

TOPICS

Explorations (Spanish, French, American, and locations visited, locations of artifacts, mines, prospecting, etc.).

Indians (known historic camps, battle sites, agencies, trails, trade with Mexicans, Americans, etc.). (Do not include prehistoric Indian sites since this is too complex a problem to be dealt with in this questionnaire.)

Warfare (battlegrounds related to Spanish vs Indians, Americans vs Indians, Indians, e.g., Utes, vs Indians, e.g., Arapahoe, etc.).

Early Settlements (Hispanic, fur trade, Indian trade, forts, Spanish mines, etc.).

Historic Roads and Trails (pre-1859) (includes trails, roads, "road ranches," stage stations, e.g., 4 Mile House, etc.).

1859 Gold Rush (sites or artifacts associated with the rush which might be settlements, mines, remnants of equipment, etc.).

Civil War Relationships (military posts, Indian battle sites, e.g., Sand Creek Massacre, occupations of southern sympathizers, etc.).

Frontier Conditions (evidences of the diverse frontiers, e.g., farmers, ranchers, boom towns, etc., which can vary from sod houses, unmodified ranches, outlaw hideouts, etc.).

Silver Boom-Related (mines, smelters, charcoal kilns, aerial tramways, roads, ghost towns, etc.).

Transportation (post-1859) (roads, segments of original railroads, abandoned railroads, passes, stage stations, etc.).

QUESTIONNAIRE #1, continued

TOPICS, continued

Industrialism (the earliest industrial developments such as evidences of manufacturing, flour mills, lumber camps, company towns, etc.).

Industrial Warfare (railroad conflicts, e.g., Ludlow, miner's camps, forts of warring railroads, courts where historic trials took place, etc.).

Spanish-American War (sites where significant events relating to the war took place, recruitment of Rough Riders, etc.).

World War I (sites where significant events relating to the war took place such as manufacturing, evidences of World War I military posts, National Guard armories, etc.).

Depression Period (squatter's camps, placer miner's camps, hobo jungles, communes, moonshining activities, CCC camps, etc.).

World War II (same type of information as under World War I and add detention camps for Germans and Japanese, air raid shelters, etc.).

QUESTIONNAIRE #2

IDENTIFICATIONS AND LOCATIONS OR EVIDENCES, OR POSSIBLE EVIDENCES, OF STRUCTURES, EVENTS, AND OTHER ACTIVITIES OF THE PAST WHICH ARE IMPORTANT TO KNOW ABOUT THE HERITAGE OF ANY COMMUNITY OR COUNTY.

It is important to know information about any community or county which can identify the dates of structures and evidences of other activities. These types of information are almost never available and are in danger of being lost by the persons who may know of them, or by the sources of information being lost. The following questions are concerned with trying to find information about the earliest, the first, the oldest (that is, the oldest still existing), and other information of relevance to your area. The search for such information will stimulate, we believe, interest in local heritage and searches to fulfill local heritage gaps.

Structures and activities which occur in most areas are large in number and types. The following list is not intended to be comprehensive but to stimulate ideas on your part. Hopefully, you will come up with known "first" or "surviving" activities or structures which are not on the list. In the event that the location of earliest structures or activities of some type is known and there is also an "oldest" (e.g., surviving) structure or activity, then list the two as separate entries.

The types of activities and structures in the following list have been limited to types of the nineteenth and early twentieth centuries. This limitation is to reduce the size of the list of types. If it is possible, later structures and activities can be identified. This would be a contribution to a profile which might be solicited later in this century. The types of activities are requested for both rural and urban areas.

The information we are seeking on the types of activities and structures are as follows:

1. Name
2. Location (section, township, range, if possible, or address)
3. Dates (cite initial, end of original use, and end of any later use)
4. Present Condition (identity of remains, e.g., still standing but abandoned, converted into another use, destroyed by highway, etc.)
5. Source (can be written, oral, etc.)

TYPES OF ACTIVITIES OR STRUCTURES (please give information for both rural and urban areas)

Any kind of occupation (house, dugout, camp, or any other type of dwelling)
Homestead
Irrigation System
Road
Open Range Ranch
Deeded Land Ranch
Farm
Industry (mine, lumber camp, brick works, mills, smelter, dairy, foundry, meat packer, feed lot, sugar refinery, etc.)

QUESTIONNAIRE #2, continued

TYPES OF ACTIVITIES OR STRUCTURES, continued

Social Organization (club, fraternal organization, military, etc.)
Hotel
Resort
Spa
Park
Race Track
Store (grocer, druggist, mercantile, gunsmith, farm supply, implement, mail
order, etc.)
Street
School (parochial, private, public, trade, college, rural, etc.)
Church
Library
Post Office
Museum
Jail
Doctor
Hospital
Pest House
Nursing Home
Saloon
Brothel
Theatre
Country Club
Newspaper
Restaurant
Blacksmith
Dressmaker or Tailor
Cemetery
Dump

QUESTIONNAIRE #3

IDENTIFICATIONS AND LOCATIONS OF MATERIAL REMAINS WHICH MAY BE CONSIDERED BY YOUR COMMUNITY OR COUNTY TO HAVE SIGNIFICANCE BUT WHICH MAY NOT HAVE BEEN IDENTIFIED OR RECOGNIZED TO DATE.

Of direct relevance to your community is the intention of our survey to identify material remains which are deemed by your community to have been significant. This is your opportunity to recognize what is important. Importances of material remains do not have to be associated with historic events or figures which are well-known. Many things that are important, or will be important, are not recognized to be so at present. For example, styles of architecture which are produced by the users (called "vernacular architecture") are becoming things of the past -- old barns, houses, outhouses, and other structures are replaced with "double wides," "ranchers" (meaning mass produced ranch style houses), "Butler," and other prefabricated structures. Similarly, many activities are becoming those of the past. What do we know, for example, about the armies of railroad construction workers, coal miners, timber cutters, blacksmiths, sheepherders, ranch hands, settlers, road builders, ditch builders, country schools, and many other persons and activities which contributed to our state? Many remains, in any area, lack adequate written information and oral accounts and archaeological investigations will be the bases for most knowledge.

The information we are seeking on the following questions are:

1. Name
2. Location (section, township, range, if possible, or address)
3. Dates (cite initial, end of original use, and end of any later use)
4. Present Condition (identity of remains, e.g., still standing but abandoned, converted into another use, destroyed by highway, etc.)
5. Source (can be written, oral, etc.)

QUESTIONS

1. What significant events have taken place (and where) in your county/community which are contributions to the region, state, or society and which you may believe are little known or appreciated (e.g., distinguished visitors, pageants, movie location, Chautauquas, inventions, manufacturers, etc.)?
2. What sites of populations existed for which there are no records (e.g., outlaws, colonies, gypsies, workers camps, Hoovervilles, etc.)?
3. What are the derivations and locations of place names (can you identify origins of place names, e.g., creeks, topographic features, ditches, roads, subdivisions, etc.)?
4. Has your county/community contributed to a new industry, new development in agriculture, mining, ranching, refinement or development of machinery, a social movement, or other contributions to our heritage which you believe should be recognized?
5. Are there any unique types of settlements, structures, or other manmade parts of the environment of a time, period, ethnic group, movement, etc. which you feel warrant further identification or recognition?

QUESTIONNAIRE #3, continued

6. What is known about early cow camps, herder's camps, or other relatively unknown activities in your area (please give ranch or rancher they were associated with)?
7. Are there any physical remains of the "art deco" architecture from the period of the 1930s, 1940s, etc. (e.g., restaurants in shape of hamburger, etc., unique murals in restaurants, motels, etc.)?
8. Please develop other questions or provide statements about remains which might have been stimulated through this or the other questionnaires.

QUESTIONNAIRE #4

INFORMATION ABOUT PERSONS, ORGANIZATIONS, ACTIVITIES, ATTITUDES, FACILITIES, ETC. CONCERNED WITH COMMUNITY OR COUNTY HERITAGES OR MATERIAL CULTURE REMAINS.

The objective of this questionnaire is to solicit information about the activities in your community or county and the persons involved in these activities. This will provide some idea of the statewide level of activity concerned with local heritages and their protection and preservation. From the responses, a list of people will be compiled which can be used for further investigating some of the information, making local contacts, and perhaps even forming some statewide group of interested and concerned citizens.

QUESTIONS

1. What areas of concern do you and others in the community feel should be addressed in regard to historic cultural resources in your county (e.g., what is felt to be important that has been overlooked in previous studies -- historic, archaeological, etc.)?
2. What value (significance) does your community (local government, societies, individuals) place on cultural resources? Is expansion and development of more importance than the preservation, restoration, or recordation of the resources or is equal value placed on all? Please answer for both rural and urban areas of your county.
3. Are efforts made by local government (rural and urban), the local societies, or individuals to preserve sites (historic or prehistoric), buildings, information, photos, etc. in regard to impacts on cultural resources in your county?
4. What agencies, organizations or persons are involved in decision making in regard to cultural resources (historic and prehistoric) in your county?
5. Is there anybody (professional or amateur) currently conducting any historical research in your county? If so, could you please list them and where we can get in touch with them.
6. What would you consider to be most historically important in your county? (Can list several in order of importance.)
7. What structures or historic sites would you recommend for recordation, restoration, or preservation?
8. Is there, at present, or has there been any preservation and restoration work done in your county? If so, please state where and what type.
9. Do you, at present, have anybody collecting oral histories, old photographs, etc.? If so, where are they stored and are they available for research purposes?
10. Are there any local written histories available and, if so, could you please list them and inform us where they may be obtained (e.g., on place names, local personages, natural resources, etc.)?

QUESTIONNAIRE #4, continued

11. What persons would you recommend for giving oral histories on the county?
What ones should be collected in the near future before the people are gone?
12. Is there a group of people who would be interested in a future workshop where discussion could take place on questions raised in these questionnaires and on what your community considers to be of importance in the way of cultural resources and how they should be handled?
13. What persons have contributed the most and/or had the most influence in, or on, your county/community?

EVALUATION OF QUESTIONNAIRE

INTRODUCTION

The model questionnaire was designed to involve members of counties and/or communities in the process of identifying cultural resources that might be important in the statewide concept for historical archaeology. A copy is attached.

The questionnaire was tested in five tape recorded sessions involving persons in Pueblo County. The sessions were designed to last three hours. Transcription of the recordings made at the sessions has not been completed.

The following comments are concerned with overall impressions concerning the use and approach to using the questionnaire. The comments are based upon impressions and are not designed to be final conclusions. The comments concern three areas:

1. Involvement of the public
2. Value of the information recovered
3. Practicality of information collecting methods

INVOLVEMENT OF THE PUBLIC

A network of knowledgeable and involved persons exists in two organizations in Pueblo County. These are the Pueblo Chapter of the Colorado Archaeological Society and the Pueblo Historical Society. Requests for volunteers were made at meetings of the two groups and a number of persons responded. Most of the respondents were leaders in the two groups. Invitations were also extended to several professionals in the city of Pueblo who are employed in the library and a city office.

The initial session was attended by persons who, in the main, continued to attend the other sessions. Only one of the professionals from the community attended any of the sessions and that attendance was concerned with a "spin-off" of the sessions and not the questionnaire directly. Other persons from the community began attending the sessions as the project proceeded. These others were identified by the attendees as being knowledgeable in the topics under discussion. Attendance at the sessions was about nine persons.

The sessions were enjoyable to all involved and extended far beyond the time frame established. Relationships between the attendees were friendly even when quite divided opinions were held. Consensus was the way that decisions were usually reached, although when there were distinct differences of opinion both opinions were recorded and identified for verifications or further research. The camaraderie of the group was such that the participants were disappointed when the sessions were completed.

This public involvement was very positive and has had "spin-off" results. One of the spin-offs has been a survey of cemeteries in Pueblo County. It began with an attempt to identify the oldest cemetery in Pueblo and went

from there to concern for the condition of the city cemetery, which has not been maintained properly. Restoring the city cemetery became a project of Colorado Archaeological Awareness Year involving members of the Archaeological, Historical, and Genealogical Societies, as well as non-affiliated persons. The city is currently working with a group of persons on refurbishing the oldest city cemetery with the possibility of making it into an historical park commemorating some of the history of Pueblo. County cemeteries, some of which are much older than the city cemetery, are being inventoried. Over 100 cemeteries have been inventoried to date. The goals of the inventory are multiple, serving genealogical, historical and archaeological needs.

Other "spin-offs" of the project include a search for information relative to Fort Pueblo and a search for the oldest standing structure in Pueblo County. Reports concerning these searches are on file at the Pueblo Regional Planning Commission.

There is a flurry of activity in Pueblo County related to concern for cultural resources. The activities include publications on significant events, persons, and structures in the county by avocational historians, research relative to specific sites, the pending nomination for the Hermosilla Ranch, and collections of oral histories.

Concern with resources in a broader area than Pueblo County may have been a consequence of the questionnaire project. The Southwestern Colorado Historical Society representing 15 counties, became concerned with the status of cemeteries in that part of the state. The Society initiated a plan to inventory the cemeteries, but discovered that genealogical societies were already inventorying them. It has now turned its attention to an inventory of museums and historical markers on roads. The Society plans to advertise the locations of the 55 museums it has located to date as a means of stimulating greater concern for the area's history. They have had less success with road markers, but are planning a listing and advertisement of their locations and significances. In part, the project has the goal of stimulating the placement of additional markers.

Public involvement has been very rewarding with friendships formed, recruitment of new society members, establishment of networks of knowledgeable persons, etc. The effects of the project on the public may be greater after the information is synthesized and made available to the persons involved for their comments and for use as a planning tool.

VALUE OF THE INFORMATION

The information collected with the greatest validity is the personal knowledge of those involved in the sessions. They represented a broad span of experience from members of pioneer families to persons with primarily "book" knowledge. The information acquired could have been derived from oral histories, but the questionnaire's organization made information on specific subjects of much greater value for the study of historical archaeological resources. It would take years of oral interviews to bring out the knowledge acquired in the questionnaire sessions.

The "book" knowledge which became part of the information base through the sessions had not been previously organized. Information sources are diverse, some are obscure, and would not have been found without in-depth research and considerable time.

The information most likely to be validated by on-the-ground verification is that related to personal observations and phenomena of more recent dates. The older the events or sites, the greater the reliance on "book" sources. Exceptions are finds of early, possibly Spanish or French, artifacts that are known to certain persons but have not been recorded elsewhere. Information concerning sites up to the end of the nineteenth century was dependent upon individuals in the group contributing hearsay evidence. Some of the persons at the sessions belong to families who occupied pioneer sites and thus the identification and ages of such sites are of little doubt.

Sites of the twentieth century have less chance of being misidentified by the informants and there are other informants who can be sought to test these identifications.

The information concerning the city of Pueblo recovered in the sessions is of less value than that collected about rural areas. The complexity of constructions, remodeling, etc., in the city resulted in problems of resource identification. Better information on resources important to the questionnaire can be found in archival searches, city directories, and other written sources.

Information acquired concerning rural areas includes many identifications that would be difficult to make without the aid of informants. There are many "unsung" sites, occupations, etc., with which the group members had familiarity that are important resources in the county for the categories listed on the questionnaire. These include a wide variety of settlements, activities, etc., of ethnic and other groups in the area that are otherwise not well known. Specific individuals associated with significant sites is an important source of information acquired from the project. These identifications would be very difficult to make without personal knowledge.

Much of the information gathered will be difficult to verify for early occupations without archaeological research and even then there may not be verification except through conformity with predictive models for types of occupations, not specific localities. Verification of some of the information may be achieved through cross-verification of archival and other data.

The information collected may include "translations" of information at personal and folklore levels so that the facts have become skewed over time. Original sources should be investigated to test the veracity of such information. It would be a mistake to uncritically accept any of the data obtained.

A large body of knowledge has been acquired that can be a starting point for further research. The information can be used for various purposes

and tested in several ways. A network for information sources has been established that can be followed up to seek types of information other than that on the questionnaire.

PRACTICALITY OF THE INFORMATION COLLECTING METHODS

The amount of information collected is staggering and transcribing tapes a monumental task, particularly because the informants were so enthusiastic that at times it appears everyone was talking at once.

The problems of the mass of information and confusion on the tapes need to be alleviated prior to future use of the system. Reducing the number of persons in the group means reducing the pool of information and some of the camaraderie. Additionally, feelings may be hurt by exclusion.

One solution to the problem of over-participation is the incorporation of a highlight recapping period so that key points are made and retained. The mass of information often contains valuable points that would not arise without the stimulation of the conversations persons have due to "over-participation."

At times, the mass data obscures the information most relevant to the questions listed. Techniques of ethnographic interviewing can be used to classify information to verify them at later meetings of the group. This is a means of "recapping" the high points but at the same time classifying the information for inclusion in the appropriate categories.

Solicitation of written responses to the questionnaire does not appear to be a feasible solution to the problem of over-participation. The most important thing about the information is that it seems to have been stimulated by participation in the group activities and we have doubts that there would be similar responses from individuals or that it would be as comprehensive if it were written.

The persons administering the questionnaire need knowledge of the state is history. There may be problems if these persons are "experts" since they may lead or intimidate the people who have personal knowledge. We feel that we have a good rapport with people in the Pueblo area and that our informants were not intimidated by us and did not consider us to be "experts." We have known some of these persons for many years in social and other relationships. It may be possible for the questionnaire administrators to have lesser amounts of knowledge and be very successful if they are good guides to the type of information sought.

Those administering the questionnaire need to be able to explain the concepts behind the questionnaire and keep the informants on track (but not too heavy-handedly). This was necessary a number of times in the sessions we administered. Groups of persons would break off and discuss subjects which confused the issue and interfered with the answering of the questions.

Some of the questions need modification or deletion. These include the questions about urban areas that are answerable through archival and

other sources. This type of information applies to larger cities but may not apply to smaller towns, so some latitude needs to be practiced.

The final assessment of the questionnaire will be done after the transcription of all the tapes and compilation of the results. The assessment will be incorporated into a revision of the questionnaire which will be submitted to the Office of Archaeology and Historic Preservation.