

NEW JERSEY'S CULTURAL RESOURCES: A.D. 1865 TO THE PRESENT

by

Edward S. Rutsch

Introduction

Although New Jersey has always functioned as an integral part of a larger region, it was during the second half of the nineteenth century and the twentieth century that factors outside the state assumed more importance than ever before. These determinants, which brought rapid changes to the culture, have been lumped under the general term "Industrial Revolution." It is worth noting that many chroniclers of this era have chosen transportation developments as the prime example of the profound changes brought about by the Industrial Age. It is true that the ability to ship people and goods in huge numbers and tonnage without much concern for the variances in weather and local conditions affected changes in the culture to an extent that has never before been experienced in human history. However, almost every other facet of the culture was also changed effectively by the increasing amount of non-human energy that was harnessed to accomplish the tasks of mankind.

As one might expect, the effects of the "Industrial Revolution" are evidenced in the changes wrought on the cultural landscape. It is the symbolic meaning of this record on the cultural landscape or built environment that cultural historians--using archeological methodologies--read, study, analyze, and interpret. The most important examples of this physical record are the significant sites which the historic preservation movement is attempting to save so that the country's cultural heritage and patrimony are not lost as it builds for the future.

Archeologists have very limited experience as students of this period of New Jersey's cultural history, and they must adjust traditional archeological methods to the reality of the historical data that are available for study. Thoughtful students will discern that the great changes which occurred in the nineteenth century, as well as the fact that the period was so recent, demand the application of methodological approaches geared to fit the available sources of information.

Basically, the data base of the period post-dating 1865 reflects two obvious factors when compared with the study of pre-history and the earlier historic periods. First, the written record is much larger and more readily available than for any earlier age. Second, more of man's efforts to modify his natural environment are discernible either above or on the surface of the ground. The abundance of this era's physical remains results from two major factors: 1) the fact that the period is recent and is represented

by the topmost stratum of the cultural landscape; and 2) the fact that man's activities in harnessing the vast energies employed in the Industrial Revolution have affected and modified the land much more extensively than ever before.

The Built Environment

Inasmuch as this study deals with sites of the built environment, it is fitting to look at New Jersey's buildings rather than at its transportation routes as the first example or theme of the period, and to attempt to relate to this subject the other facets of culture history. It is only with a knowledge of this interrelationship that a clear picture of the cultural whole can be understood. Historical hallmarks will be touched on, but no short essay can address the diversity of this era.

In his discussion on the period from 1765-1810, Dr. Wacker mentioned that mechanically driven sawmills were built to harvest what was the initial settlement capital of New Jersey's landscape--namely, the great forest that covered most of the land. With the widespread adaptation of hydropowered sawmills, Americans began to machine-produce rather than handcraft the lumber they used. Although the technology of mechanical sawmilling had long been known in Europe, it was in the settlement of America that widespread adaptation took place. In America, wood was an abundant and cheap resource whereas skilled labor was scarce. Therefore, mechanical sawmilling, although a wasteful way to saw planks and boards, enabled machines to compensate for the scarcity of skilled human labor (Hindle 1975: passim).

Buildings constructed at the beginning of the nineteenth century were of heavy timber, fitted together with hand-fashioned mortise and tenon joints fastened with wooden pegs in a time-honored tradition. Advances in iron manufacture and technology led to the production of machine-made nails in the early 1800s. The combination of cheap, abundant nails and the establishment of standardized lumber in sawmilling operations allowed a building to be erected by less skilled carpenters in a new American type of construction called balloon framing. This type of building was quickly and cheaply raised, and it has come to dominate the American landscape from its inception in the 1830s (Fitch 1966:121).

These innovations were followed quickly by others. Americans invented and adapted other types of woodworking machines to replace the hand skills of cabinetmakers and joiners. Soon, a host of laborious chores were handled rapidly by unskilled labor using new machines. Examples of such chores included planing wood smooth, cutting moldings to shape, and preparing standard wooden joints. All of these advances, changes, and adaptations led to a standardization in architectural styles and building techniques, visible in the cultural landscape and documented in the literature.

It is important to understand the speed with which this adoption of ideas took place. As each idea caught on and spread, usually from larger to smaller cities and only then to the countryside, it coexisted with older methods. These ideas were often supplanted just as quickly by newer ones. The diversity inherent in New Jersey's mixture of many cultures was further complicated by its people's ability and readiness to try as many innovations as could be imagined.

Other cultural forces played roles in the changing built environment of the nineteenth century. The very industries that affected change in the cultural landscape themselves required very specific built environments. As industry proliferated, ever larger and more specialized physical plants and power systems were required. The earliest industrial buildings were of frame and/or stone construction but it was soon discovered that fire damage to these buildings was very extensive. Studies of mutual insurance companies for the nineteenth century revealed that frame mill buildings were usually total losses in fires; traditional stone buildings, while more fireproof than frame structures, were also expensive losses in fires. Although the stone walls did not burn, they did crack and craze as a result of the heat, thereby losing their strength. It was found that brick did not deteriorate in fires, and therefore, standing walls were reusable in reconstructing the buildings. The use of brick and other aspects of slow-burning mill construction were thus adopted (Ristau 1975:59).

Possibly more important in influencing the built industrial environment was the fact that mutual insurance companies would only provide fire insurance for mills that were built to their specifications. These specifications included slow-burning construction features such as brick over frame or stone, and heavy timber over iron which bent and twisted in the heat of a fire (the timber charred but remained intact). The insurance companies even supplied standard inexpensive plans for preferred mill construction. It is no wonder that American architecture of the second half of the nineteenth century--both domestic and industrial--took on a mass production look.

As iron production in pounds per capita soared, new metal smelting techniques, such as the Bessemer Converter, were employed and made possible the large-scale production of steel. With its superior strength, steel rapidly took the place of wrought iron as the predominant material used for tools and structural members. Because steel could be cast and worked only in large manufactories, its acceptance spelled the end of the medium-sized enterprise, much as the blacksmith with his hand tools had been replaced earlier. Its use towards the end of the nineteenth and into the beginning of the twentieth centuries as the structural frame of multi-storied buildings greatly changed the cultural landscape. Exterior walls

that had been load bearing now became curtain walls, with the load being carried by the steel frame. Advances in casting also enabled the sheathing of a building in a metal facade rather than in one of wood or brick (Fitch 1972: 211).

Advances in the techniques of lime burning resulted in the abandonment of sand mortar that formed the bond between bricks and stones for the new Portland cement, a far more durable and stronger binder. With the added mixture of gravel, cast concrete walls could be used in construction. The technique of reinforcing this concrete with iron rods and mesh resulted in reinforced concrete and steel buildings of great strength, built ever larger and taller until vertical height made them "skyscrapers" (Fitch 1972: 217).

A visual chronology of building fabric for this study period, then, could be categorized as follows: hand-worked timber, machine-worked timber, native stone and wooden frame, brick and wooden frame, brick and cast-iron frame, brick and steel frame, brick curtain wall and steel supporting frame, and steel-reinforced concrete. To be sure, this suggested model is not conclusive but rather indicates a trend including local variations and much overlapping. Methods that record and analyze this physical change are available to the present-day observer and, far from conflicting with traditional architectural history, they give it a new dimension.

Other Factors: Industrialization, Transportation, and Urbanization

Although the nineteenth century witnessed the expansion of the use of wood worked by machine in the building industry, it also saw the end of wood used as an industrial fuel. The widespread charcoaling of the forest to fire New Jersey's iron industry became increasingly expensive inasmuch as the vast quantities of wood needed for this work could not be replenished quickly enough. The energy problem of the iron industry was solved with the building of canals and railroads, connecting the sources of ore with the anthracite coalfields of eastern Pennsylvania. The iron produced in the new anthracite-burning furnace was very pure and proved better than its antecedents for casting. This led to the use of cast iron in a wider variety of products. The wrought iron preferred by blacksmiths and for specialized construction purposes could also be produced in greater quantities and in a more uniform manner in puddling furnaces and under the rollers of mechanical squeezers.

Small furnaces and forges--formerly so widespread in New Jersey--began to disappear in favor of a few larger enterprises around which good-sized industrial towns grew up. These iron towns were located at superior waterpower sources near good transportation links to the Pennsylvania coal regions. Locating iron works in vast

woodlots became unnecessary, and even close association to the iron mines was less important. Thus, hundreds of smaller iron settlements lost their primary function to a few larger industrial sites: Stanhope, Dover, Chester, High Bridge, Pompton, Oxford, and Allaire. The seeds of the demise of iron smelting as an important New Jersey industry lay in this situation. However, inasmuch as many tons of coal were required to smelt one ton of iron ore, it was far easier to ship New Jersey ore to the Pennsylvania coal rather than the reverse. Eventually, even larger iron smelters were built in Pennsylvania such as in the City of Bethlehem (Tremin 1964: passim).

The New Jersey iron industry was not finished by any means, but it became increasingly more involved with manufacturing products than with smelting iron. Advances in the industrial techniques of smithing, machining, and casting iron, as well as in the ability to coordinate all three of these activities, led to the establishment of large factories where iron products of a specialized nature were manufactured. Thus, Paterson produced steam locomotives and Trenton produced wire cable. Oxford and Morristown manufactured railroad car wheels and Bridgeton produced nails. Iron works ringing New York Harbor produced parts of steamships' engines and fittings. This same specialization also occurred within other industries toward the latter part of the nineteenth century, so that Trenton became a center for industrially made ceramics, Paterson for silk, and Union City for laces, to mention but a small sample of New Jersey cities.

Always the corridor state, New Jersey became the home of a large portion of the railhead facilities of New York Harbor. Through the railroad yards and docks along the New Jersey coast from Edgewater to Bayonne passed the products of the expanded American hinterland in transit to New York City and abroad. Increased transportation was also intrastate, however, as commuter trains and interurban trolley lines allowed the people of New Jersey to live in residential communities remote from city centers. This horizontal stratification of society became commonplace with the expansion of rail service around urban centers in the latter half of the nineteenth century and beginning of the twentieth century. Thus ended the social diversification of people living near manufacturing and industrial centers, and New Jersey developed into a highly suburbanized state (Reps 1965: 147).

Rapid transportation facilities affected many other cultural changes. Rail service, coupled with huge urban populations, allowed New Jersey farmers to concentrate on cash crops of dairy, fruits, and vegetables for the city markets. High profits allowed for rapid farm mechanization, use of fertilizers, and techniques such as irrigation. Regional travel to and from the city by rapidly

moving public transportation increased leisure time; while, discretionary income allowed a wider spectrum of urban people to escape from the cities to the seashore and to the lake and mountain regions of the northwestern portion of the state, where many resorts were built. (Although New Jersey became the most urban and densely populated state, it also had considerable rural and forested areas in percentage of its total area.) The old division of New Jersey into Philadelphia and New York-oriented sectors is still discernible today, not only in the urban sprawl surrounding each city but also in the residents at the seashore resort towns; the northern shore points are visited by New Yorkers and the southern shore area, especially Atlantic City southward, by Philadelphians.

Throughout the late nineteenth-century and into the 1900s, ever-larger waves of immigrants from Europe moved through New York Harbor into New Jersey. These people were immigrating in far greater numbers than ever before, and their countries of origin were eastern European and Mediterranean. Their homelands had not educated them for the industrial society, as had the homelands of the northern Europeans who had immigrated earlier in the century. Their culture was exotic to that of their earlier counterparts, who had little personal regard for them and who exploited their helplessness by placing them in crowded conditions in urban and manufacturing centers. This stratification of immigrant populations hastened the horizontal stratification of working class, middle class, and wealthy into cities, suburbs, and exurban estate areas, respectively.

Always crowded, the city centers became more congested than ever before. Large, multifamily tenements joined the earlier one-family working man's cottage, and pollution from the industrial centers spoiled streams, rivers, and harbors. Municipal water facilities and sewerage systems were built toward the end of the nineteenth century, with large cities (such as Newark) purchasing rural watersheds which today remain as the state park system, the last green forested areas. Urban sewage, although centrally collected, was not treated causing New Jersey's urban waterways to become sewers in themselves.

The income of the richest members of the population was not taxed and many spent their money lavishly on creating status with material possessions. Large numbers of mansions and country estates were built. Furnishings, landscape ideas, and impoverished nobility were imported from Europe to decorate these establishments. Some outstanding religious and public buildings date from this era and were supported by this element of the population. Landscapes of public parks and cemeteries in urban areas were professionally designed and made significant contributions to the cultural landscape which have lasted until today.

As the century drew to a close, manufacturing in New Jersey underwent some changes as the petroleum industry, with its many diverse products, located itself in the state adjacent to the chemical industry along the coast. The world's earliest oil pipeline connected the western Pennsylvania oilfields with the New York Harbor at Bayonne. As the industry proliferated, industrialists created a new type of housing for their urban workers, utilizing the best architectural minds to create, for example, garden apartments. Pollution from these relatively new industries, however, has taken an even nastier turn, as poisonous wastes and carcinogens have been dumped into already soiled rivers and marsh areas.

Overview of the Cultural Evolution of New Jersey

As often happens, the philosophies upon which a culture operates can only be best discerned in the past tense, as a people's history is written. If New Jersey is viewed as an example of the American experience in terms of generations, the first generation--the Colonial society--appears stratified into a small upper class of merchants and wealthy landowners, a far larger farmer and craftsman middle class rightly depicted as "hustlers" by Dr. Wacker, and a large but not a majority class of landless, poor laborers, indentured servants, slaves, and disenfranchised Indians.

The freedom in the political arena brought about by the end of Colonial rule and the establishment of the Republic was accompanied by a freedom from restrictive economic policies. For New Jersey, this freedom meant a chance to develop its own version of the new economic miracle formulated in Europe, the Industrial Revolution. During the first half of the nineteenth century, the state was in the forefront of American participation in industry, as children of the Colonial hustlers opened shops and factories making anything that would sell. These early industrialists were technicians who worked and lived alongside their workers. With them began the tradition of viewing technological innovation as the answer to every problem. During this formative industrial period, New Jersey can, in many ways, be compared with Japan in its similar adaptation to an industrial society a century later. The first steps were taken by copyists who, with cheap labor, survived on a scaled-down version of a borrowed technology. For example, Paterson's locomotive makers began their industry by copying the original British models; while, Jersey iron makers turned to the then new British technology that used coal rather than wood as fuel (Leo 1975: 24).

In the second half of the nineteenth century, the next generation--the hustler's grandchildren, if the analogy is maintained--continued to adopt the philosophy of technological manipulation of resources as a spirit of progress enveloped the country. These sons of the millwright-entrepreneurs became manufacturers and financiers

who, as a matter of survival, placed a social and physical distance between their families and those of their workers (Cotz, Rutsch, and Wilson 1980), regardless of whether these workers were skilled native-born citizens or the landless peasants from Ireland and southern Europe whose pioneering entrance into the culture coincided with their introduction to industrial society (Rutsch 1978: 1).

By the turn of the twentieth century, America, like the Japan of today, had become firmly established as an industrial power. New Jersey was at the center of the rich industrial settlement since a substantial part of the American industrial network was located in and around the metropolitan centers of New York and Philadelphia. It was still believed that new technological ideas reflected progress and that progress could solve all ills.

It is interesting to speculate that this era in New Jersey's history can be epitomized by Thomas Alva Edison, the "genius of Menlo Park," whose technological advances added machines to expand and enhance the use of humankind's senses. With them, people could record and transmit communication, capture the image of culture in motion for all time and, most fundamentally of all, light the shadows of night as no one had ever dreamed possible. In view of these tremendous technological leaps forward, America's participation in the First World War can be interpreted as the country's progressive philosophy in action. World War I was not regarded as simply another European conflict but rather as "the war to end all wars." Americans believed that the war--and indeed the world--could be won for mankind by the application of its progressive system.

In this same vein, the end of this progressive era could be said to be symbolized by referring to yet another resident of New Jersey, President Woodrow Wilson. Wilson's failure to lead his country into the League of Nations after World War I can be interpreted as Americans' turning to their own extensive problems. It was a period when they began to realize that perhaps flaws existed in the country's progressive policy and that some new philosophy more in tune with their actual strengths and abilities might better be applied to the problems of maintaining the burgeoning economy and addressing the extensive social ills that seemed endemic to the industrial culture. During this same isolationist period, the United States adopted laws governing further immigration, which by 1924 not only controlled the numbers of people who could enter the country but also placed quotas on ethnic groups that greatly favored those nationalities who were already skilled members of the industrial society.

The chemical industry, which flourished and grew in the post-progressive era, was made welcome in New Jersey at a time in its history when various industries were beginning to relocate southward in search of cheaper labor. Chemists had learned to take natural

resources, break them down into their constituent elements, and then recombine them into new forms. Their experiments added vast amounts of knowledge to the industrial community. The resultant progress, begun by the great-grandfathers of these innovators, had by now become a finely tuned system by which the environment could be manipulated to an ever greater extent. For example, wood that was mechanically cut into boards in the early period and later shaped into finished complicated moldings and other forms by more sophisticated machines, could now be broken down chemically and used in new combinations as part of paper, fabrics, chemicals, and finally, even foodstuffs.

The great-great-grandchildren of New Jersey, who reached maturity in the mid-twentieth century, had as their social environment a great economic depression and a second World War. As many businesses moved southward during this period, New Jersey succeeded in maintaining a home for industry, often at costs to the environment only now being assessed. Industries that were too dirty or poisonous for other states were made welcome here. As industries left the inner cores of the old cities, suburbia rezoned itself to accommodate the building of industrial parks. Additional suburban housing in the form of the 1950's and 1960's tract dwellings accompanied the incursion of industry into these communities.

Today, people have begun to realize that their natural resources are far from unlimited and that the results of industrialization at the expense of the environment are not only a self-fouled land in which to live but also an ultimately poisonous existence. As the people of New Jersey grapple with these problems, they are realizing that economic health cannot be maintained at the expense of physical well-being. The reflection of this change in philosophy is only just being discerned on the cultural landscape.

The Role of Archeology in Interpreting New Jersey's Cultural Landscape

Archeology is a method by which the material culture left behind by a people, as well as the changes made by that people on the landscape, can be studied and analyzed. Once the discipline has adjusted its methodologies to the data base under study--in this case, the period in New Jersey's history from 1865 to the present--archeology can be an effective tool by which the data base can be analyzed. Part of America's self-realization as a culture has been to ask students of history to identify places which are significant. Over time, the concept of culture history has expanded to include places other than those that are associated with famous people or historically important events, or those structures which are justly considered great works of architecture.

Archeologists, as one kind of cultural historian, are being asked to identify those places, remains, and artifacts that symbolize why the culture has evolved as it has. In addition, they are playing a role in saving many sites which contain the information needed for New Jersey's story to be told. Finally, archeologists have been asked to play a role in recording the physical phenomena of the state's past even as such remains disappear due to the reusing of land. Happily, archeologists are also part of an environmental movement that seeks, with some initial success, to save the usable part of the historic fabric for adaptive reuse in today's world.

The essence of archeology's role in preserving and studying this particular era lies in its ability to place the period in perspective. Thus, the people of New Jersey will have a record of what has worked well before and what has had dire consequences or side effects so that they can consider the results that their actions will have on the environment. Archeologists can help society devise a way to use, not abuse, the land. Knowledge of the physical environment can be enhanced by an understanding of culture, and the result may lead to a human way to survive.

Research Problems of the 1865-to-Present Era in New Jersey's Culture History

Archeology is a scientific method rather than a science, and archeologists practice this method in order to retrieve data about past cultures. In the hands of anthropologists and other socially oriented historians, these data become the grist for discerning an interpretation of the true story of the past. As in a science, anthropologists look for the pattern of a shared culture, which is most often evident in material remains. Unlike a science, the data, in their discerned patterns, are formulated into the truth. Telling the story of a people, however, is perhaps best classified as an art.

Therefore, given the archeologists stand somewhere between science and art, what are the problems that confront them in their quest for the ultimate story? First, they must measure and count, as do all scientists, to establish what patterns can be seen in the data. To measure and count, however, they must recognize and gather the information or data on the subject under study. Finally, they must discern the pattern of culture that existed and place the information into an intelligible interpretation of the past. This process is summarized as follows:

1. Finding the data. Archeologists studying this period must reassess a plethora of material not traditionally considered the province of archeology. They must recognize and be open to new sources of information as well as learn from the experiences of other disciplines.

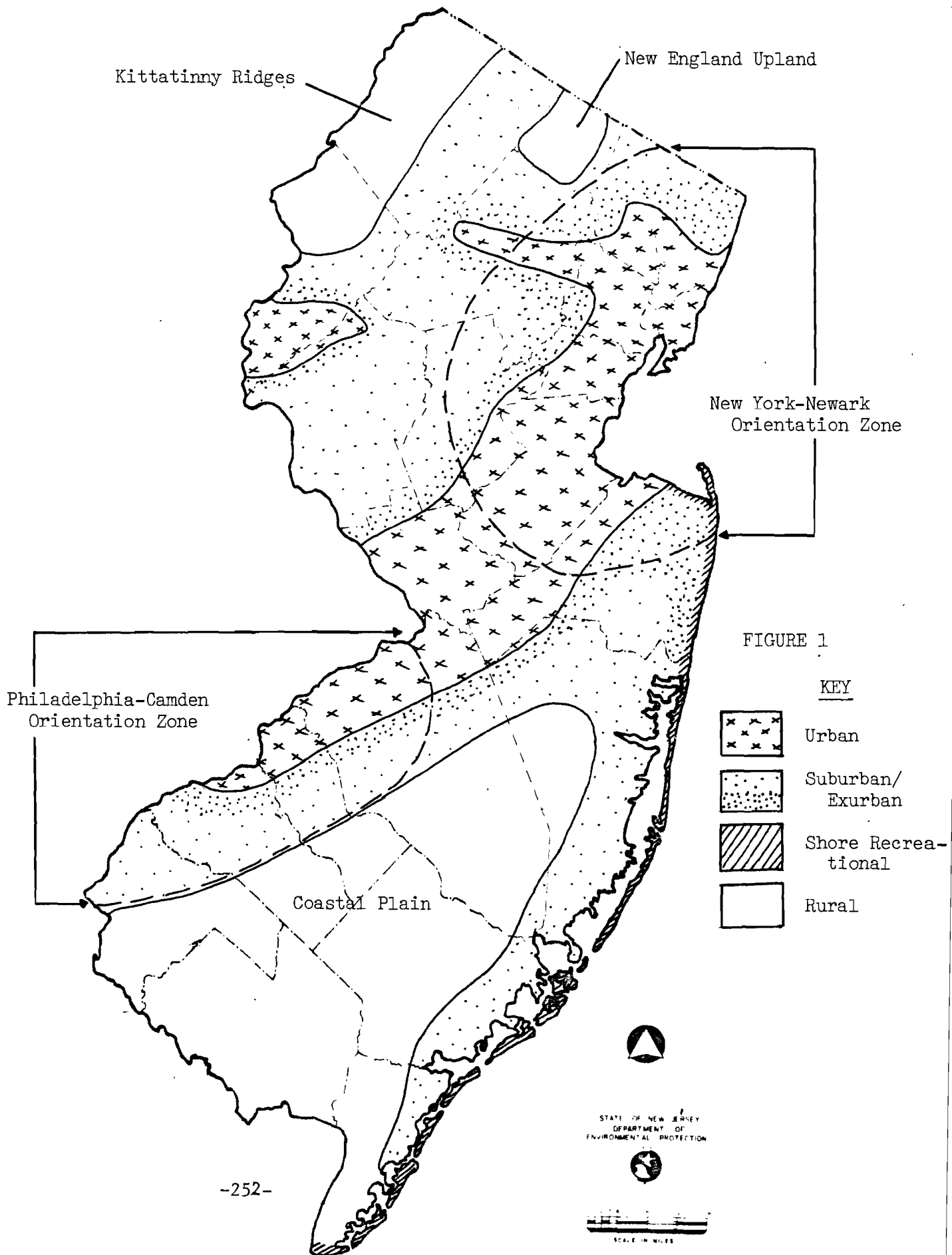
2. Establishing the way in which the data will be gathered, measured, counted, and assayed so that the information will reveal the patterns of culture. This step requires the formulation of typologies which reflect patterns of culture as they change over time.
3. Measuring, counting, and assaying the patterns of culture. To accomplish this step, archeologists must look at a wide body of data and move from large patterns to small.
4. Interpreting the findings and results in the context of the culture history of the period under study. Archeologists dealing with this most recent era in American history must be open to all methods of telling their story. They must, above all, not hide in the traditional jargon of the discipline, but rather acknowledge that the public, and not other archeologists, is the audience of "Public Archeology".

Students of this most recent period are presently concerned primarily with Steps 1 and 2 -- finding and recognizing the data base and establishing the way in which the data will be gathered, measured, counted, and analyzed to reveal patterns of culture. New sources of information for the archeologist come from cultural geographers, cultural historians, folklorists, architectural historians, and photoarchivists, to mention only a few. At the annual meetings of the Society of Industrial Archeology, it is always impressive to learn how many new sources of information are being recognized and used. In his comments on the first draft of this paper, Dr. Robert Schuyler suggests looking first at small units of data. Perhaps a better method for studying this large, eclectic data base is to examine the whole system at the outset in a general way for the sake of orientation before a single facet is carefully checked. Of course, both approaches are necessary, and the subject matter will benefit from a cross-pollination, each borrowing from the other.

Step 3--measuring, counting, and assaying the patterns of culture--has begun, but about all that can be said in this early stage is that the promise of real success lies ahead. As for interpretation, the archeology papers are flowing. Books, films, museums, and site interpretations have begun; interest and public awareness in the era are increasing. The future of the past seems promising.

Areas of New Jersey Sensitive to Sites from the 1865-to-Present Historic Period

The physical remains from this most recent historic period are numerous and complex for a number of obvious reasons. An attempt is made in the following paragraphs to categorize the likelihood of finding post-1865 cultural remains by analyzing demographic zones: urban, suburban, shore recreational, and rural. Inasmuch as these zones reflect cultural development in the landscape, this system works well (Figure 1).



A. Urban

Two areas are designated as "urban" on Figure 1: a small industrial core area centering on Phillipsburg and its environs along the Delaware River; and the wide industrial-communications band crossing New Jersey between New York and Philadelphia. This band is part of a densely populated East Coast urban strip that reaches from north of Boston southward to Richmond, Virginia, and has been loosely termed "Megalopolis." The New Jersey portion of Megalopolis includes the New York-Newark and Philadelphia-Camden urban concentrations on either end, where the demography is uniformly dense and industrial. A band of high-density residential housing connects the two urban centers, and ranges from multi-unit apartment houses to densely spaced single-family homes. Some older urban centers such as Jersey City and Paterson are in an advanced state of decay and house most of the state's newest waves of immigrants. Heavy and light industries abound as does a complex crowded transportation network based increasingly on highway transportation of cars, buses, and trucks, which replaced the earlier railroads. Although most transportation routes run in a northeast-southwest orientation, extensive systems radiate from the New York and Philadelphia cores.

This New York-Philadelphia corridor has traditionally hosted New Jersey's historic development. Twentieth-century activities such as landfill projects, highway construction, and draining and dredging projects, have modified the landscape. The densely populated industrial megalopolis contains the entire gamut of post-1865 historic remains, and it has the potential for becoming the laboratory for the study of the development of the American industrial society.

B. Suburban/Exurban

A general definition of "suburban" for the purposes of this discussion would be the area surrounding an urban zone in which the housing is predominantly detached. On the outer edges of this suburban zone are found the "exurban" areas where the density of settlement has decreased with an increased distance from the urban centers. Exurbia often consists of semi-rural farmlands in the throes of subdivision into houselots that are usually larger than the suburban property parcels.

The suburban/exurban zone borders the urban core of Megalopolis, and is typified by one-family detached housing. This region contains many old town centers and new massive shopping centers oriented to the highway network. Industrial parks are also frequently present; while, research and development sectors of heavy industries are located in scattered strips along the highways. Some

of these areas contain a high percentage of retired citizens who often live in new communities of attached one-story houses. The sites of archeological potential in this area include town centers and industrial sites.

C. Shore Recreational

The barrier beach and bay shoreline areas are intensively settled with resort communities which recently have tended toward full-time residences of commuters and retired people. Several areas are so densely settled that they have become resort cities, such as Atlantic City. Archeological potential within this region includes historic recreational structures (e.g. fishing and navigational structures, harbor facilities, resort hotels, etc.).

D. Rural

Three areas are shown as "rural" on Figure 1: the northwestern forested ridges of the Kittatinny Mountains; the rough forested ridges of the Reading Prong of the New England Upland physiographic province; and the coastal plain centering on the area known as the "Pinelands." The main uses of land in these areas have historically been agriculture, forestry, and recreation; settlement has consisted of individual farms, small year-round communities, and some seasonal lake communities.

Former industries, such as iron smelting and water-powered mills functioning for a rural industrial sector, have dwindled to nonexistence today. The site potential for remains from the 1865-to-present culture period is excellent within these areas. Representative cultural remains include examples of nineteenth-century domestic and commercial architecture, small mill settings, abandoned mines, and various transportation routes--road, canal, and rail.

REFERENCES CITED

- Cotz, Jo Ann, Mary Jane Rutsch, and Charles Wilson
 1980 Salvage Archeology Project, Paterson, New Jersey, 1973-76. Volume II, Paterson's Dublin: An Interdisciplinary Study of Social Structure. Report submitted to the Great Falls Development Corporation, Paterson, and the New Jersey Department of Transportation, Trenton.
- Fitch, James Marston
 1966 American Building, Volume I: The Historical Forces that Shaped It. 2nd ed. Shocken Books, New York.
 1972 American Building, Volume 2: The Environmental Forces That Shaped It. 2nd ed. Houghton Mifflin Co., Boston.
- Hindle, Brooke (editor)
 1975 America's Wooden Age: Aspects of Its Early Technology. Sleepy Hollow Restorations, Tarrytown, New York.
- Leo, Ralph
 1975 An Examination of the Technology That Evolved from the Rogers Locomotive and Machine Company, Paterson, New Jersey. In Northeast Historical Archaeology: 1974 Symposium on Industrial Archaeology, Paterson, New Jersey 4 (1)(2), edited by Edward S. and Mary Jane Rutsch, published by the Council for Northeast Historical Archaeology.
- Reps, John W.
 1965 The Making of Urban America: A History of City Planning in the United States. Princeton University Press, Princeton, New Jersey.
- Ristau, Toni
 1975 Mill Architecture in Paterson, N.J.: A Culmination of the Empirical Tradition in Construction. In Northeast Historical Archaeology: 1974 Symposium on Industrial Archaeology, Paterson, New Jersey 4 (1)(2), edited by Edward S. and Mary Jane Rutsch, published by the Council for Northeast Historical Archaeology.
- Rutsch, Edward S.
 1978 Salvage Archaeology Project, Paterson, New Jersey, 1973-76. Volume I. Report submitted to the Great Falls Development Corporation, Paterson, and the New Jersey Department of Transportation, Trenton.
- Tremin, Peter
 1964 Iron and Steel in Nineteenth-Century America. The M.I.T. Press, Cambridge, Massachusetts.