



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
1984 Volume VI: Geology and the Industrial History of Connecticut

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## Introduction

In 1800, when industry began to supplant agriculture as the principal occupation of Connecticut residents, there was virtually no competence in manufacturing by other than handcraft methods in the United States. Fifty-five years later the international ascendancy of New England's manufacturing technology was demonstrated by the dispatch of a commission from Great Britain to the United States to buy the machine tools required for the new Royal Small Arms Factory at Enfield, near London. The technology of manufacturing, which originated in Connecticut and neighboring parts of Massachusetts, spread to the middle Atlantic states and the midwest and effected a massive transformation of American society.

Industrial innovation in New England was a result of interaction of many social, economic, cultural and geographical factors. The latter included the exploitation of local mineral wealth during the start-up phase of industrialization and, most important, the use of water power resources, which in Connecticut were particularly suitable for the needs of the early industrial entrepreneurs. It was not until the last third of the nineteenth century that more power for industry was obtained from steam engines than from the fall of water. Reliance on water power determined the location and scale of early New England industries and gave industry a geographical focus that still influences the pattern of land use in the region. When this geographical constraint was removed by the availability of low-cost fossil fuel, New England's principal natural advantage as a region for manufacturing industry was lost.

These events receive sparse attention in college-level history books while books used in the schools do not go much beyond mention of the handcraft stages of industry in New England. One reason for this is that scholars know relatively little about the history of the industrialization of New England. Industrial entrepreneurs did not usually keep many records and the men who worked on the shop floor kept none. It is only in the last few years that evidence from historical and industrial archaeology has begun to fill this gap. This evidence, like that used by geologists, comes from close observation of physical remains. The traces of early industries are abundant in Connecticut and there are many opportunities for observers without special equipment or facilities to find and interpret evidence on our industrial past.

The objective of the seminar on the geology and industrial history of Connecticut was to develop the idea that observation and interpretation of physical evidence can be used as a teaching device in the schools and that such observation can be applied to the study of both geology and industrial history. The units developed by the Fellows fall across this range of subject matter. Some deal with aspects of the geology of Connecticut, some with the State's industrial history, and some with both of these subjects. In addition, a number of the Fellows had special teaching requirements that they wished to address in their units, such as the need to include quantitative material that could be used in mathematics instruction.

The surficial rather than the bedrock geology of the State is most important in its industrial history. Hence the emphasis in this seminar was placed on landforms and water resources rather than on processes, such as erosion by flowing water, can be observed at work in the field or even in classroom demonstrations without special facilities or equipment. Several of the Fellows have incorporated experiments and demonstrations in their units. The interest evinced by the Fellows in water resources is appropriate because it is likely that the most serious environmental problems to be faced in the United States in the next decade will be those of water supply and water quality. However, none of the Fellows addressed the problems of the disposal of fluid and solid wastes; this is a subject that might well receive attention in a future seminar.

It emerged in the course of the seminar that one serious problem faced by the Fellows in their teaching is the lack of suitable text and reference books. The history of Connecticut is a required subject in our school system but the only textbook that has been available is inadequate, out of date, and about to be out of print. The books are old, inaccurate, and not suitable for use in the schools. The same is true for the geology of Connecticut; the State Geological and Natural History Survey publishes reports that are useful to professional geologists and engineers but these have not been interpreted for teachers or the informed public. Some of the Fellows in the seminar made the point that the academic community has not been generous in serving the needs of the schools or the public at large by making the results of its research more widely available. This task needs to be undertaken with the support and encouragement of institutions such as Yale.

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