

2-13-02

## LECTURE 2: THOUGHTS ON TECHNOLOGY IN COLONIAL AMERICA

### A. Settlement patterns [see map]

### B. Cultural differences/cultural exchanges

#### 1. Cowan on native American technologies: what existed/what didn't exist.

--leather goods, basketry, tools of wood, flint, and stone, canoes, dugouts, cultivation of corn, etc.

THESIS: "THE TECHNOLOGICAL SYSTEMS THEY PERFECTED DID NOT PERMANENTLY DISTURB THE ENVIRONMENT" (p. 10)

#### 2. European technologies at the time of the voyages of discovery:

--perceived by native Americans as being strange, even alien to a degree:

--writing: the importance of written documents; books

--settled agriculture

--the idea of property ownership, esp. land

--social system based on specialization and division of labor (p. 14-15)

Examples: Water-powered grist mills (millwrights);

Water-powered saw mills and the lumber trade (see map; mills on the Merrimack/Saco/Kennebeck, etc.

Iron furnaces and forges (e.g. Saugus Ironworks)

The blacksmith: precursor of industrialization

#### 3. European adaptations to North America:

--borrowings from Indian technologies: corn; leather goods (moccasins); canoes, basketry....

--but not the bow and arrow. Why?

#### 4. Native American adoptions of European technology

--esp. metal goods: brass/iron tomahawks; firearms (see Malone essay in

S&C); knives; hand tools, etc.  
--cloth: esp. colored cloth

### C. The frontier experience: arrival, survival, adaptation

1. Cowan's discussion of the origin of "Yankee ingenuity" as springing from the need to be "jacks and jills of all trades" on the rural frontiers (p.16)

Crevecoeur: The American farmer is "a universal fabricator like Crusoe. . . . Does either his plough or his cart break, he runs to his tools; he repairs them as well as he can. Do they finally break down, with reluctance he undertakes to rebuild them, though he doubts his success. This is an occupation committed before to the mechanic of his neighborhood, but necessity gives him invention, teaches him to imitate, to recollect what he has seen. Somehow or another 'tis done." (cf. Hawke, p. 18)

Verlyn Klinkenborg records a conversation that he heard between two midwestern farmers: Referring to a new sickle blade for his mower, one said "Damn thing didn't fit." The other asked "What'd you do?" To which he answered "Fixed it." Klinkenborg continues: "The unexpected stalks a farm.... Not every farmer is an inventor, but the goods ones have the seeds of invention within them. Economy and efficiency move their relentless tinkering...."

### 2. Examples of cultural adaptation: **"VERNACULAR" TECHNOLOGIES**

--the axe (cf. cowan, p. 19)

--the Pennsylvania-Kentucky rifle

--housing: from huts and log cabins (a Swedish/Scandinavian importation) to standardized lumber: window frames (1720s)  
**THE BALLOON FRAME MYTH**

--Others: clipper ship; interchangeable manufacturing; automated mill; Model T Ford; skyscrapers; mass production assembly line

### 3. Yankee traits:

--flexibility:

e.g. Franklin's father: from wool dyer to soap maker;  
e.g. Simeon North: from blacksmith to gun maker/machinist;  
e.g. John Fitch: from clockmaker to steamboat builder;  
e.g. Charles Willson Peale: from saddle maker to watch maker to artist.

--speed, scale, uniformity

**D. The historical roots of our environmental crisis [cf. Lynn White]**

1. Biblical injunctions to "be fruitful and multiply...and subdue the earth"
2. The idea of abundance in America
3. Lumbering and deforestation
3. Dams and fishing

**SOURCES CONSULTED:**

Ruth S. Cowan, **SOCIAL HISTORY OF AMERICAN TECHNOLOGY**, ch. 1.

David Freeman Hawke, **NUTS AND BOLTS OF THE PAST**, ch. 1;

Ronald Jager, "Tool and Symbol: The Success of the Double-Bitted Axe in North America," **T&C** 40 (Oct. 1999): 833-60;