

ADVANCED READING

PASSAGE 1

In choosing a method for determining climatic conditions that existed in the past, paleoclimatologists invoke four principal criteria. First, the material—rocks, lakes, vegetation, etc.—on which the method relies must be widespread enough to provide plenty of information, since analysis of material that is rarely encountered will not permit correlation with other regions or with other periods of geological history. Second, in the process of formation, the material must have received an environmental signal that reflects a change in climate and that can be deciphered by modern physical or chemical means. Third, at least some of the material must have retained the signal unaffected by subsequent changes in the environment. Fourth, it must be possible to determine the time at which the inferred climatic conditions held. This last criterion is more easily met in dating marine sediments, because dating of only a small number of layers in a marine sequence allows the age of other layers to be estimated fairly reliably by extrapolation and interpolation. By contrast, because sedimentation is much less continuous in continental regions, estimating the age of a continental bed from the known ages of beds above and below is more risky.

One very old method used in the investigation of past climatic conditions involves the measurement of water levels in ancient lakes. In temperate regions, there are enough lakes for correlations between them to give us a reliable picture. In arid and semiarid regions, on the other hand, the small number of lakes and the great distances between them reduce the possibilities for correlation. Moreover, since lake levels are controlled by rates of evaporation as well as by precipitation, the interpretation of such levels is ambiguous. For instance, the fact that lake levels in the semiarid southwestern United States appear to have been higher during the last ice age than they are now was at one time attributed to increased precipitation. On the basis of snow-line elevations, however, it has been concluded that the climate then was not necessarily wetter than it is now, but rather that both summers and winters were cooler, resulting in reduced evaporation.

Another problematic method is to reconstruct former climates on the basis of pollen profiles. The type of vegetation in a specific region is determined by identifying and counting the various pollen grains found there. Although the relationship between vegetation and climate is not as direct as the relationship between climate and lake levels, the method often works well in the temperate zones. In arid and semiarid regions in which there is not much vegetation, however, small changes in one or a few plant types can change the picture dramatically, making accurate correlations between neighboring areas difficult to obtain. Tribalism, although greatly altered by modern history, remains a potent force among native Americans. It forms a basis for tribal identity, and aligns music and dance with other social and cultural activities important to individual tribes. Intertribal activities, on the other hand, reinforce native American identity along a broader front, where this identity is directly threatened by outside influences.

PASSAGE 2

Since the late 1970's, in the face of a severe loss of market share in dozens of industries, manufacturers in the United States have been trying to improve productivity—and therefore enhance their international competitiveness—through cost-cutting programs. (Cost-cutting here is defined as raising labor output while holding the amount of labor constant.) However, from 1978 through 1982, productivity—the value of goods manufactured divided by the amount of labor input—did not improve; and while the results were better in the business upturn of the three years following, they ran 25 percent lower than productivity improvements during earlier, post-1945 upturns. At the same time, it became clear that the harder manufactures worked to implement cost-cutting, the more they lost their competitive edge.

With this paradox in mind, I recently visited 25 companies; it became clear to me that the cost-cutting approach to increasing productivity is fundamentally flawed. Manufacturing regularly observes a “40, 40, 20” rule. Roughly 40 percent of any manufacturing-based competitive advantage derives from long-term changes in manufacturing structure (decisions about the number, size, location, and capacity of facilities) and in approaches to materials. Another 40 percent comes from major changes in equipment and process technology. The final 20 percent rests on implementing conventional cost-cutting. This rule does not imply that cost-cutting should not be tried. The well-known tools of this approach—including simplifying jobs and retraining employees to work smarter, not harder—do produce results. But the tools quickly reach the limits of what they can contribute.

Another problem is that the cost-cutting approach hinders innovation and discourages creative people. As Abernathy's study of automobile manufacturers has shown, an industry can easily become prisoner of its own investments in cost-cutting techniques, reducing its ability to develop new products. And managers under pressure to maximize cost-cutting will resist innovation because they know that more fundamental changes in processes or systems will wreak havoc with the results on which they are measured. Production managers have always seen their job as one of minimizing costs and maximizing output. This dimension of performance has until recently sufficed as a basis of evaluation, but it has created a penny-pinching, mechanistic culture in most factories that has kept away creative managers.

PASSAGE 3

The settlement of the United States has occupied traditional historians since 1893 when Frederick Jackson Turner developed his Frontier Thesis, a thesis that explained American development in terms of westward expansion. From the perspective of women's history, Turner's exclusively masculine assumptions constitute a major drawback: his defenders and critics alike have reconstructed men's, not women's, lives on the frontier. However, precisely because of this masculine orientation, revising the Frontier Thesis by focusing on women's experience introduces new themes into women's history—woman as lawmaker and entrepreneur—and, consequently, new interpretations of women's relationship to capital, labor, and statute.

Turner claimed that the frontier produced the individualism that is the hallmark of American culture, and that this individualism in turn promoted democratic institutions and economic equality. He argued for the frontier as an agent of social change. Most novelists and historians writing in the early to midtwentieth century who considered women in the West, when they considered women at all, fell under Turner's spell. In their works these authors tended to glorify women's contributions to frontier life. Western women, in Turnerian tradition, were a fiercely independent, capable, and durable lot, free from the constraints binding their eastern sisters. This interpretation implied that the West provided a congenial environment where women could aspire to their own goals, free from constrictive stereotypes and sexist attitudes. In Turnerian terminology, the frontier had furnished "a gate of escape from the bondage of the past."

By the middle of the twentieth century, the Frontier Thesis fell into disfavor among historians. Later, Reactionist writers took the view that frontier women were lonely, displaced persons in a hostile milieu that intensified the worst aspects of gender relations. The renaissance of the feminist movement during the 1970's led to the Stasist school, which sidestepped the good bad dichotomy and argued that frontier women lived lives similar to the live of women in the East. In one now-standard text, Faragher demonstrated the persistence of the "cult of true womanhood" and the illusionary quality of change on the westward journey. Recently the Stasist position has been revised but not entirely discounted by new research.