



Restoration: Shaping The Land, Transforming The Human Spirit

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(Above) The Curtis Prairie, the oldest example of restoration in the United States, was reclaimed from farmland in 1934.

(Below) Labor was provided in the early days by the Civilian Conservation Corps. In the summer of 1936, buckets were used to keep young plantings alive.



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Ecological restoration has only recently begun to attract the attention of large numbers of environmentalists concerned about the conservation of natural areas, but neither the idea nor the practice of restoration are entirely new. What is now generally regarded as the first systematic attempt to restore native ecological communities on disturbed land began in 1934, when a faculty committee at the University of Wisconsin in Madison proposed developing a collection of native ecological communities on derelict farmland then being acquired by the university for an arboretum.

The purpose of this project, as expressed by Aldo Leopold, who played a leading role in developing and carrying it out, was to establish a collection of all the ecological communities native to the area. To some extent this could be done simply by protecting existing communities from further disturbances. But since many of the

original communities no longer existed on the site, it would be necessary to recreate them. The attempt to do this, carried out during the first half-dozen years by Civilian Conservation Corps enrollees working out of a camp on the site, and in more recent years by a succession of faculty and students, has gradually led to the creation of the most extensive collection of restored ecological communities in the world — a total of over thirty more-or-less distinct community types covering roughly 300 acres and representing all the major communities native to Wisconsin and the upper Midwest.

For many years the Arboretum served as a model and training ground for the few conservationists involved in restoration work. More recently it has played a leading role in the development of restoration as a discipline. Broadly speaking, there have been two phases to the development of ecological restoration.

In the first phase, the emphasis was on the product of the restoration effort — the restored community as an object in the landscape. This was only natural since it is precisely a concern about the quality of the product (specifically, its authenticity, or resemblance to the natural or historic system chosen as a model) that distinguishes restoration from other forms of land rehabilitation. Yet taken by itself this conception of restoration is limited in its value as a strategy for natural area conservation. This point of view simply ignores what may be restoration's greatest benefit — its

value to the restorationist as a process, a way of learning about the system being restored, and finally a way of establishing an intimate, mutually beneficial relationship with it.

This more recent conception of restoration began during the late 1970s as a direct result of our need to explain the significance of the Arboretum to the public and also to find ways of maximizing its value as a facility for teaching and research. In both areas, the partial artificiality of the restored communities was something of an embarrassment. Fifty years earlier, Aldo Leopold and his



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This photo from the 1940s shows a controlled burn, necessary for the prairie's survival. The man on the left is Aldo Leopold.

colleagues had proposed creating a collection of communities which ecologists could then study in place of their natural counterparts, which were becoming increasingly rare. The problem was that even after a half-century, none of the restored communities was fully authentic, and this clearly limited their value for both research and education.

One midsummer day during my first year at the Arboretum I was walking on Curtis Prairie, reflecting on its deficiencies and defects, when it occurred to me that from a certain point of view those defects were actually the most interesting things about the prairie. If there were still defects in

these plant communities despite decades of our tinkering, perhaps they were telling us something about our limitations in understanding them. Perhaps what was really interesting here was not the communities themselves as more-or-less finished products, but the process of restoring them. Maybe the best way to learn about a community like the prairie was to try your hand at restoring one.

Over the years some of the most interesting research from the Arboretum had been a direct result of the restoration work, and would have been difficult or impossible to carry out in an entirely "natural" landscape. An obvious example was the "discovery" of the prairie fire back in the 1940s. Though the prevalence of fire in tallgrass prairies in historic times was well documented, its role in the ecology of prairies was not clearly understood. Restoration efforts at the Arboretum began without employing fire, and the results were highly unsatisfactory. Reintroduced prairie natives flourished, but so did a host of weedy, non-prairie species, which prevented the natives from closing together to create a real prairie. Research carried out on the Arboretum prairies soon established the critical role of fire in the ecology of the tallgrass prairies of the upper Midwest.

Along with a number of similar experiences at the Arboretum over the years, this suggested a pattern in ecological research in which ideas based on observation and analysis are put to the critical test of synthesis. This soon led to the notion of restoration as a technique for basic research, a way of raising questions and testing ideas about the systems being restored. We even coined a term — "restoration ecology" — to refer to this approach to ecological research, and in 1984 the Arboretum sponsored a special symposium to explore this idea as part of the celebration of its 50th anniversary.

Here was a first step toward serious consideration of the process of restoration and its implications for the restorationist. The notion of restoration ecology suggested at the very least that restoration was a powerful

way of learning about a natural system, establishing, if you will, intellectual intimacy with it. The next step was to ask just what kind of activity restoration is, and to recognize its affinity with agriculture, medicine and art. Looking back, I realize that what we were doing was learning about the peculiar relationship of the restorationist to the landscape. We were looking at the process of restoration as a ritual and "reading" it to see not just what it accomplished or produced, but what it expressed about a person and his or her relationship to the land.

Watching a group of volunteers collecting seed on Curtis Prairie one fall day, I realized that they were repeating the experience of hunter-gatherers who inhabited this area centuries ago, and who actually, through their hunting, gathering and burning, had helped create the prairie communities we tended to think of as "native," "original," or "natural." At this point I realized that restoration represents a reenactment — not only of the forces that created the communities being restored in the first place, but of the entire passage of cultural evolution, from hunting and gathering through agriculture, to the analysis and synthesis of modern science. I now see restoration as providing the framework for a system of rituals by which a person in any phase of cultural evolution can achieve a harmonious relationship with a particular natural landscape.

Looked at in this way, it is clear that the business of ecological restoration is much more than a technical and scientific challenge. It is also a model for a healthy relationship between ourselves and nature and, beyond that, a way of exploring, defining, and ultimately celebrating the terms of that relationship.

It is here that I now see the greatest value of restoration — not in its ability to transform the landscape directly (or at least not only in that), but in its ability to transform it indirectly through the education and transformation of the human beings who inhabit and shape it. ■

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