THE ART OF producing birch-bark canoes by use of traditional Indian materials and methods is lost in most areas, but it is kept alive expertly in Minnesota by William ("Bill") Hafeman of Bigfork. The agile, seventy-three-year-old outdoorsman has become widely known as "the builder of birch-bark canoes" because this has been his major occupation in recent years. Thousands of persons have seen his canoe replicas at historic sites and at visitors' centers. Many have viewed him at work via films, television, newspapers, and magazines and in person at the Minnesota State Fair.

Through his reconstructions part of the history of North America in general and Minnesota in particular springs alive. In fact, it is a fortunate tie-in that he holds forth in this state because Minnesota is a

HE SPLITS the cedar log.

THE HAFEMANS trim limbs from the perfect cedar tree they have just cut with a crosscut saw. The wood will be used for the ribs, planking, and gunwales of the canoe.

HE CUTS the cedar ribs with a drawknife.
watershed with waterways that long furnished routes for the originals of the various canoes Mr. Hafeman makes. In some, Indian people traveled to their destinations, fished, or fished. In the larger Montreal canoes, voyageurs and other fur traders plied the Great Lakes to Grand Portage in Minnesota's northeastern tip, and in North canoes traders navigated inland lakes and wild rivers to transport tons of barter goods and furs west of Lake Superior. Without these carriers, early exploration of the north country and the existence of the fur trade on a large scale would have been impossible.

To take the step-by-step photographs on these pages of Mr. Hafeman constructing a North canoe by Indian methods, Robert C. Wheeler, associate director of the Minnesota Historical Society, made several trips northward to Bigfork at different times of the year. Mr. Hafeman is one of the few persons anywhere still making birch-bark canoes by the old methods. He says that was not precisely his goal when he set out more than fifty years ago to follow his dreams. In his youth Mr. Hafeman had heard tales of the wild north country from a half-Indian janitor where he attended school, and for years he longed to go into the wilderness and live. He and his wife Violet finally managed this move in the early 1920s when they left their home in central Wisconsin and went to Bigfork in Itasca County. They returned to Wisconsin briefly when their son Stewart was born, but when the boy was only a few months old the Hafemans returned to the Bigfork area and have been there ever since.

SPLITTING THE CEDAR into very thin planking helps achieve the characteristic lightness of the birchbark—an important quality on the water and on long portages.

GATHERING THE ROOTS of the spruce tree, or watap, found under the moss in spruce swamps, are John Yust (left) and Mr. Hafeman. Watap is split and soaked, then used to sew the bark together and to lash on the gunwales.

STANDING HIGH on the tree, Mr. Hafeman takes a huge sheet of bark from a birch tree. This does not kill the tree since only the outer layer is taken. Huge birch trees free of knots must be used for the bark.
Their was an arduous existence for a while. They lived off the land by hunting, trapping, fishing, gardening, and picking and canning wild fruit and berries. Mr. Hafeman also constructed some furniture. Soon he started a boat works that turned out primarily cedar-strip canoes for resort owners.

Mr. Hafeman was aware of birch-bark canoes before going to the north country, and they had not been forgotten. Once, as a youth, he had pulled the bark from some birch trees and built a small, crude replica of a canoe. Even then, he thought that someone ought to keep that art alive. Now, with his boat business going well, he decided to try to build a birch-bark canoe. His first attempt failed.

Sometime during these years he met a man who had recently observed and memorized the procedure by which Indians built canoes. He related it to Mr. Hafeman who made another attempt and this time succeeded in building what he called his "banana boat" because of its shape. But he was and is a perfectionist and kept working to recreate as closely as possible the Ojibway (Chippewa) "long-nose" canoe.

In 1964 the Smithsonian Institution in Washington, D.C., published a book, The Bark Canoes and Skin Boats of North America, by Edwin Tappan Adney and Howard I. Chappelle. This is the classic work on the various types of canoes and kayaks made by the different tribes of North America. It includes many photo-

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HE SEWS with the watap.

THE BARK on the bow and stern are also sewed with watap.
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PLANKING IS INSERTED and pounded in under the ribs. The ends of the ribs are caught under the gunwales, thus applying pressure against the planking which in turn exerts pressure against the bark and maintains the form of the canoe.
graphs, diagrams, and explanations of how to construct various birch-bark canoes and gives background information on their origins. With a copy of this book in hand as well as a commission from the Minnesota Historical Society, Mr. Hafeman set about in 1969 to build his first replica of a thirty-six-foot-long Montreal canoe which "extended the Indian birchbark canoe to its ultimate as a cargo vessel," as Eric W. Morse expressed it in his Fur Trade Routes of Canada/Then and Now (Ottawa, 1968). The Montreal or canoe du maitre was capable of carrying three tons of goods plus its crew and its gear.

Since then Mr. Hafeman has built for the society a twenty-six-foot North canoe of the type used west of Lake Superior, two sixteen-foot canoes now on exhibit at Connor's fur post near Pine City, and a third canoe of this size given to the society by the Fort Snelling State Park Association. Mr. Hafeman also built a Montreal canoe and a North canoe for exhibition at Grand Portage National Monument, a North canoe on exhibit at the Superior National Forest visitors' center at Ely, and a number of canoes for several well-known persons, including one presented to Mrs. Lyndon B. Johnson and a miniature replica given to Hubert H. Humphrey when he was vice-president.

In these pictures, Mr. Hafeman builds a North canoe, showing many of the processes starting with selecting a tree and ending with the finished product.