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F. Ray Keyser, Governor
Published quarterly at Montpelier, VT, by the Vermont Development Department. Published board: Roland Q. Seward, Carl A. Pfeifer, Richard H. Wadhams, Glendon B. Sepp, Ruchp. Commissioner: Roland Vautour.
Per copy—50c; per yr.—$2 in U.S., posse. and Canada. ($3.50 for 2 yrs.; $5 for 3 yrs. —elsewhere: 40c per yr. additional.

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ROUNDUP ON

BOATING

FERRIES • SAILING
CANOEING • MOTOR BOATS
CHAMPLAIN Ferries

THEY'VE BEEN CARRYALLS FOR TWO HUNDRED YEARS
LAKE CHAMPLAIN is known for its history and for its surpassing beauty. But it lingers more immediately in the memories of travelers as the lake they had to cross to reach the other side. If we are to go back beyond the French and Indian Wars to the era of the discoverers and scouts, the white race has been ferried across the lake by paddle, pole, sweep, oar, sail, sidewheel, cable and propeller; by horse, steam reciprocating, gas and diesel internal combustion engines for over three centuries.

The Champlain double-enders may seem unheroic but they are durable. This is noteworthy in a stampeding era of change which elsewhere has ridden herd on the ferry until, like the bison, its survival as a species is threatened.

There are still five ferry crossings on the lake. No prediction is more reasonable than that a century from now the voyaging public will still be passing by boat between the commonwealths of Vermont and New York. The lake is too wide for bridges between the most populous and heavily traveled areas on either side, and where it is narrow, too far removed from major highways to supplant the ferries with costly spans. The lake sees to it that Vermont is New England and New York is New York.

Over the main stem of the long vine of water trailing 120 miles from Whitehall, New York, to St. Johns, Quebec, there are two bridges but these, at Crown and Rouses Point where the lake is narrow, do not happen to coincide with the main pass through the Green Mountains from Burlington to the east, nor, west of the lake, through the Adirondacks. Here the lake is ten miles wide. Where the new thruways on either side will come nearest to the water the link is and always will be by boat, except during the three coldest winter months when ice crowds the ferries into their slips.

Two hundred and ten thousand automobiles cross the lake each year, a large part of them on the steel ferries of the Lake Champlain Transportation Company, at Burlington, Grande Isle and Essex. At the heart of the summer season three large boats on the Burlington-Port Kent route alone are required to funnel the phalanx of vacationists between the Green and Adirondack mountains. They come from all fifty states and many foreign countries and are bound for almost every conceivable destination, including, last year, one that the dockmaster at Burlington had never heard of. Shortly before the departure of the ferry for Port Kent, Ausable Chasm and points west a gentleman from Brooklyn roared down on the pier, lowered his window and hollered: "Hey Mac, when you get to the other side, how far is it to Audible Charms?"

The traffic gradually increases as wider and faster highways make it possible for metropolitan people to venture farther into the hinterlands even on short weekend trips. Thus it happens that while elsewhere tunnels and bridges yearly dispatch the remaining ferries forlornly to the smelters leaving moss-grown roads, rotting piling and sagging dockhouses, broad Champlain, like a few seacoast bays, sounds and islands, preserves an ancient mode of travel and the often uproarious traditions of Yankee owners and skippers, and of the endless caravan of travelers who have crossed the decks of their boats.

From the discovery of the lake in 1609 until 1749, according to Hemenway, the only boats were dugouts, canoes and flat-bottomed, oar-propelled bateaux—not a sail was to be seen. During the period of the French fort-building at Crown Point and Ticonderoga relatively large sloops and schooners sailed periodically from St. Johns with provisions for the garrisons. The conquest of the lake by the British in 1759 added more craft to the lake’s growing squadron. Some of these probably served as peacetime ferries prior to the Revolutionary War.

William Gilliland, pioneer settler of a vast tract on the New York shore in what are now Essex, Willsboro and Plattsburgh, mentions in his diary that on July 10, 1765, he succeeded in getting New England men to ferry some cattle he had driven from Albany from a place he called "Cloven Foot" (perhaps Kingsland Bay) on the east shore to "Cloven Rock" (probably Split Rock) on the west.

In 1768 Samuel Deall of Ticonderoga was carrying freight in a small vessel and five years later tried unsuccessfully to obtain the exclusive right to establish a ferry. Major Phillip Skene, Loyalist founder of the port of Whitehall (Skenesboro) at the head of the lake, built several trading sloops or schooners which were captured by Colonel Herrick in 1775 at the same time Ethan Allen seized Fort Ticonderoga from the British. The Revolution was a scene of fevered shipbuilding. Benedict Arnold produced the first American fleet at Whitehall and the British, at the northern end of the lake, were similarly busy at St. Johns. If these ships and those of the American and British fleets during the War of 1812 were to be assembled they would present an impressive armada of sailing vessels large and small. At least two heavy war schooners were pressed into service between Burlington and...
and St. Johns when peace finally came. The Lansingborough Central Oct. 8, 1787 advertised that the sloop Nabby Hanah, 29 tons, "will positively sail from Whitehall Landing for St. Johns in Canada ... Sept. 18, Oct. 6 and 25." Passengers and freight were solicited.

Because the first attempts were by trial and error and service was often intermittent, the dates when the regular ferries ran at the lake's major crossings are hard to establish with authority. Some that were given state charters never ran and some ran that never had charters. In 1783, a man named McKenzie established a ferry from Moriah to the Vermont shore. The only written testimony, curiously enough, that Allen Wood, presumably the first ferryman between Orwell and Montcalm Landing, was operating a boat in 1802 consists of his name and date carved on a flat rock on the Vermont side. Just as elusive are the names of some of the landings. Although Larrabee's Point has been known by that name since John Larrabee arrived in 1783, it was previously called Shaw's Landing and a ferry was then running to Ticonderoga. There were, to muddy the water further, other ferries running abreast of this one—from Smith's Landing and Blood's Point to Montcalm Landing, directly below Mount Defiance on the west shore. But Montcalm Landing, as the line steamboat and railroad terminal has been called for generations, was previously known as Port Marshall!

With the evidence available it is safe to state that the crossings (proceeding north) from Chipman Point to Wright's, Orwell to Montcalm Landing, Larrabee's Point to Ticonderoga, Chimney Point to Crown Point and Port Henry, Arnold's Bay to Bessboro (Westport), Basin Harbor to Rock Harbor, Kingsland Bay to Grog Harbor and Charlotte to Essex were all established before the close of the 18th century. Two of them, indeed, must have been operating during the Revolution, for unless there was a ferry how were the troops to cross from Fort Ticonderoga to the breastworks and field hospital on Mount Independence on the Vermont side? It is known that there was a "bridge of boats" when St. Clair evacuated the fort in the path of Burgoyne in 1777 prior to the decisive American victories at Bennington and Saratoga, but such a floating bridge must have been arranged to take care of heavy traffic in a hurry. Whether two other abandoned crossings in the extreme south, Benson to Putnam and Cold Spring to Dresden, were active in the very early days is unknown.

The land north of Burlington was a forested buffer first between the British in the south and the French in the north, and later, during the Revolution, between the British in Canada and the Americans to the south. Thus some of the ferries in the Champlain islands did not operate regularly until shortly after the beginning of the 19th century.

The ingenuity of early fresh-water boatmen found expression in a curious variety of craft. Some were merely floats or loads of cattle. The float became in turn an oar-propelled, then sail-driven scow with the sail often on one side to afford cargo space amidships and with lee boards to help keep the freight on its feet. "The sail-rigged scow boat with us is institutionalized," announced an observer in the northern islands. And so it was on some crossings throughout the 19th and even during the early years of the 20th century.

One can imagine the dexterity required to maneuver such an ungainly craft (or even the schooner that generally succeeded it) from such a landing as that at the old stone house now owned by École Champlain, out of narrow Kingsland Bay through a stiff wind to Grog Harbor on the New York shore. Sail ferries ran also from Charlotte to Essex and from Arnold's (earlier known as Ferris) Bay two miles to Barber's Point. The sailors at the narrow southerly crossings solved the problem of hitting the target by having several landings on each side, any of which they could call upon in a fickle wind.

"Now nothing but the humble ferry boat . . . was seen," wrote Caroline Royce. "Barber at the Point, and Ring at Rock Harbor saw each other's sails swing and fill in the same wind, or flap idly against the mast in a maddening calm. Further down the lake another sail, that of McNeil, ferrying from Charlotte to Essex, might be discerned . . .

A surviving anecdote of sail-ferrying in the vicinity of Westport has to do with a gale of wind and a skipper powerless to prevent his boat with one passenger from running hard aground, with a crunch, on the New York shore.

"Where you bound?" the captain asked his passenger.

"Elizabethtown."

"Well we'll back up and get another start and take you right up there!"
Benjamin Bell, whose schooner was the first ferry from Grand Isle to Cumberland Head, charged 83 cents for man and horse, but 38 cents for a single man and 40 cents for a single horse. History does not divulge the reason for the extra cent for a horse presumably other than the man's own mount. Cows cost 38 cents and hogs and calves for 8.

The Lion, as Bell called his craft, suffered a peculiar accident in 1813. While crossing to Cumberland Head she was fired upon and besieged by three British row galleys which had been lying under cover at Point-au-Roche. The British released the crew but ran the Lion ashore and set her afire. A later appraisal revealed that she was still sound.

In the best traditions of Yankee defiance and frugality Bell rebuilt her and returned her to ferry duty.

In 1788 “Admiral” Gideon King built in Burlington two cutters for service to Essex and Plattsburgh. From 1790 to 1800 eight 30-ton sloops were built at Burlington alone. At least one of these, the Lady Washington, carried contraband, for she was fitted up with false bulkheads. Prior to 1815 twenty-two additional sloops, several weighing 75 tons, were launched in Burlington Bay and other ports.

An event of importance to a business chain to the vagaries of the wind was the filing in Washington, in 1819, of a patent to Mr. B. Langdon of Whitehall for a horse-powered ferry. Boatsmen on the lake and on the Hudson to the south readily adopted Mr. Langdon’s invention which at first seemed a hardship on the horses, according to a traveler in 1820, “but this is an illusion as it seems very inmaterial to their comfort whether they advance with their load or cause the basis on which they labour to recede.”

The ferry-boat, the passenger declared, is of the most singular construction. A platform covers a wide, flat boat. Underneath the platform there is a large horizontal solid wheel which extends to the sides of the boat, and there the platform or deck is cut through and removed so as to afford sufficient room for two horses to stand on the flat surface of the wheel, one horse on each side, and parallel to the gunwale of the boat. The horses are harnessed in the usual manner for teams, the whiffle trees being attached to stout iron bars fixed horizontally at a proper height into the posts, which are a part of the fixed portion of the boat. The horses look in opposite directions, one to the bow and the other to the stern; their feet take hold of channels or grooves cut in the wheels in the direction of radius; they press forward and, although they advance not, any more than a squirrel in a revolving cage or than a spitz dog at his work, their feet cause the horizontal wheel to revolve in a direction opposite to that of their own apparent motion. This, by a connection of dogs, moves two vertical wheels, one on each wing of the boat. . . . The horses are covered by a roof furnished with curtains to protect them in bad weather and do not appear to labour harder than common draft horses with a heavy load.

The “superior Horse-Boat Eagle,” probably of this type, was running three trips a day between Basin Harbor and Westport in 1841. Six horses drove another between Charlotte and Essex between 1821 and 1827, but this was of a different design since three horses, yoked together on each side of the deck, transmitted their power directly to the wheels through treadmills. This was the arrangement employed on the Gypsy which Asa Barber of Chimney Point ran to Port Henry for a few years before the Civil War. As contrasted with the Langdon method where the horizontal wheel trod by the horses was geared directly to both paddle wheels, the treadmills provided uncertain navigation, for if the horses on the left treadmill walked faster than those on the right the ferry was bound to veer sharply to starboard regardless of what the helmsman might do. The magic ingredient of a straight true course was the long whip of the “engineer” who sat usually in one of the passengers buggies and applied encouragement to one team or another, depending on which was lagging.

Mr. Barnes all but overcame this difficulty by importing some even-gaited Canadian ponies.

The motive power that blew the lid off the world of transportation was, of course, steam. Champlain was the first lake in the world to boast a regularly scheduled steamboat. Launched less than a year after Fulton’s triumphal voyage to Albany on the Clermont, the paddle boat Vermont entered service in the spring of 1809, to be followed in the course of ten decades by twenty-eight similar vessels, the last built in 1906. They have received due attention and are considered here only insofar as they served as ferries. Many of them steamed strictly on “line run” the length of the lake from St. Johns to Whitehall as links with the Hudson River boats in a kind of early inland waterway. When railroads on both sides of the lake replaced them and they ceased to be indispensable carriers on this heavily traveled route their schedules were integrated with those of the trains to provide, with the boats of Lake George and the Hudson River until 1932, what was advertised as the finest summer excursion in America. Boating on Lake Champlain is a vast subject, as may readily be appreciated by the registrations of 1868 when 600 vessels of all kinds: steamers, canal boats, schooners, sloops and tugs were entered upon the rolls. Their aggregate tonnage was about 40,000.

Steam ferries did not at first supplant those driven by wind or horses. The Vermont, like the Clermont, was clumsy. It did not tie up at way-landings but anchored offshore and disgorged its passengers over the side in small boats. In the early years there was no steamboat wharf in Plattsburgh harbor. Passengers from the line boats disembarked off Ransom’s Landing at Cumberland Head where, with ferry passengers from Grand Isle, they were sailed around the point to Plattsburgh in pirogues or periaguas. These narrow, long, flat-bottomed vessels with lee boards were very common on more sheltered American waterways during the early 19th century. Carrying high narrow-headed sails, their two unsupported masts bent like marsh grass in the wind.

Tall funnels exhaling clouds of smoke from hissing wood-burning boilers were first to be seen on the longer ferry runs. In 1825 the Champlain Ferry Company placed the 75-foot, 8-mile-an-hour General Greene in service between Burlington and Port Kent. A one-way crossing cost $2.00 for a “four-wheel pleasure carriage on springs, drawn by two horses, including the driver,” and fifty cents less for a two-horse wagon or sleigh or a two-ox cart. The fare for a single ox, horse or person was fifty cents, while
“parties of pleasure going and returning the same day” crossed at half price. For his monthly salary of $25.00 the captain operated the boat, collected fares and freight charges and boarded his crew of six at $1.67 1/2 cents a week. At the end of eight years of shuttle service the General Greene was replaced by the larger Winoski on this run.

Other early steamers on ferry routes exclusively were the MacDonough, which inaugurated regular service between St. Albans and Plattsburgh in 1825, and the Water Witch, whose route was Vergennes to Whitehall from 1832 to 1836. When steam proved too expensive on the short Charlotte-Essex crossing the Messers. McNeil and Ross entered their new steamer Washington on the hotly contested north-south line run while McNeil’s ferry horses victoriously returned to their treadmills. These and other steamers, together with the companies that ran them, were all engulfed by the Champlain Transportation Company which in 1825 established headquarters in Burlington and has remained there ever since.

Nothing that happened on the Hudson River in the stock-watering, hijacking mid-19th century was without its counterpart on Lake Champlain, except that the local Dews, Fisks and Vanderbilts operated on a smaller scale. The methods used by the directors of the Transportation Company to dominate the north-south raceway and the most lucrative ferry route are a primer in monopoly. They would first try and usually succeed in buying out their competitors. Failing in this they would start a rate war and starve them out. In the case of the Francis Saltus they resorted to piracy. The Saltus was built in Whitehall in 1844 as a through-service opposition boat. Its owners did not capitulate until the Transportation Company in desperation produced the 240-foot United States with its superior speed of nineteen miles an hour.

In 1852 the monopoly strangely decided to sell all its boats including the recently acquired Saltus to the Rutland and Burlington Railroad. There were then no tracks through the Vermont islands to Montreal and the Rutland at Burlington needed a connection on the west side of the lake with the Grand Trunk Railroad at Rouses Point. The Rutland, as the directors of the Transportation Company had undoubtedly calculated, did not have much luck in the steamboat business. After two years it was forced to return the boats at a painful sacrifice. But the Francis Saltus was not included in the deal. The Rutland had meanwhile sold her to the Plattsburgh and Montreal Railroad which had just opened its line from the Canadian border to Plattsburgh and needed a ferry connection with the railroads at Burlington. (For there were then no tracks south of Plattsburgh on the west side of the lake). The Saltus thus entered a new role as an opposition ferry and once again appeared in competition with her former owners, the Champlain Transportation Company. The complicated machinations that followed amounted to an offer to representatives of the Plattsburgh and Montreal that if they would lay up the Saltus and allow the Transportation Company to ferry the railroad’s passengers to Burlington on its own boat, the United States, the monopoly would make it worth the railroad’s while. Accordingly in the spring of 1856 the Saltus was laid up in Plattsburgh and for a time all was serene.

But the Transportation Company could not abide the thought of the Saltus ready under the slightest pretext to spring forth again. On June 18 one of its officials, Captain Lot Chamberlain, took a crew to Plattsburgh, boarded the Saltus, put the watchman ashore, got up steam and sailed the Saltus out of enemy waters. Eventually, after hot litigation, the courts returned her to her rightful owners. But the monopoly was not to be dissuaded by the edict of a judge. Later, while the Saltus was docked at St. Johns, Captain Chamberlain again seized her on a technicality (upheld by the Supreme Court of Montreal) steamed her across the border to Shelburne Harbor, tied her up, then removed and hid part of her machinery.

The immortal climax of this series of events was described in later years by Captain Robert White:

One memorable Sunday about one hundred men came from Plattsburgh on the sloop Hercules for the purpose of taking the Saltus back by force if necessary. The C. T. Co. were, however, prepared, having the steamers United States and Canada there with their crews and having also dismantled the engine of the Saltus. . . . I saw Sheriff Flanagan draw a revolver on Judge Smalley but the Judge did not scare a bit. . . . The C. T. Co. finally moved the Saltus inside the zereek, ran a chain cable ashore and around a tree and Henry Campbell sat on the chain a revolver in his hand and dared anyone to remove the cable.

The fight moved again to the courts with the result that the monopoly had to purchase the Saltus again and pay costs and damages. After that it took no more chances and scuttled her once and for all.

The only difference between the line paddle boats and those built for ferry duty was that the former were larger and, with their cabins, dining rooms and ornately decorated and carpeted halls, more luxurious. Regardless of their length and weight they all drew less than ten feet of water and were thus admirably suited for service anywhere on the lake, whether in the narrow channel leading to Whitehall or in shallow ferry and way landings. The 166-foot Saracens, built in Shelburne Harbor in 1842, was specifically designed for the Burlington-Port Kent run although for a time she was involved on line service in the war with the Saltus. Later Plattsburgh and St. Albans were added to her Burlington-Port Kent schedule.

Many of these vessels were very fast even by present-day standards. In 1852 the polished engine of the 250-foot R. W. Sherman (later called the Americus) drove her from Port Kent to Burlington in exactly 27 minutes at the rate of twenty knots. This record stands to the present day. One reason for the Sherman’s speed was her narrow hull—too narrow, in fact, for optimum stability. The Company widened her four feet near the water line and she never again attained her former speed.

The coming of the railroads had, as we have seen, added to the ferries a new and indispensable role as train connections. Prior to the building of the short line south to Plattsburgh, the bustling railroad and steamboat terminal of the north was Rouses Point. There passengers for New York and Boston took the line boats to Whitehall or the railroad ferry to Burlington to make connections with the Vermont Central or the Rutland and Burlington. A fascinating description survives, written by a traveler in 1852, of the long Rouses Point pier, now reduced to a heap of stones.

Late in the evening the steamer landed us at the end of water-communication of Lake Champlain, at a very extraordinary place named “Rouses Point,” within one mile of the boundary line of the U.S. and Canada; it requires some little detail to convey to the reader the enormous extent of bustle, confusion, business & pleasure, all brought into focus upon an immense wharf or pier of wood, running the length of some hundred feet into the lake itself. Upon the entire length of this pier is erected a large hotel, warehouses and stores adjoining; the (continued on page 20)
VERMONT BOATING EVENTS

June 3 - Sept. 2: Lake Bomoseen - Lightning Fleet 277 Races (Sun.)

July 4 and July 7 - Aug. 25: Lake Dunmore - Lightning Fleet 243 Races (Sat.)

July 13 - 15; Shelburne Bay (Lake Champlain): New England Lightning Class Championships. Sponsored by Champlain Lightning Fleet 301

July 27 - 29: Burlington - Lake Champlain Waterama. Swanton-Summer Festival

Aug. 18 - 19: Malletts Bay (Lake Champlain) - Malletts Bay Annual Race Weekend

UPPER PEOPLE LIVING along the coast or on the Great Lakes might be incredulous at the thought of good sailing in the Green Mountain State. Although far removed from the briny deep, Vermont offers a large variety of fresh water lakes which would delight all but the most confirmed deep water sailor. Tucked in the valleys along the length of the state are numerous smaller lakes which sport day sailors of assorted size and shape during the summer months. Winds made capricious by the surrounding hills can lend however, an unexpected capsize for the unwary skipper.

Although a variety in boats is the general rule on these lakes, on occasion one-design fleets are established. Dunmore and Bomoseen have active Lightning fleets with some topflight sailors.

Champlain is by far the largest, containing along two-thirds of the state's western boundary. The Lake's one hundred-mile length and nine miles of show live encompass ideal sailing waters. Located between two mountain ranges, winds are steady without rapid fluctuations.

With a south wind blowing a curious venturi effect is produced by Champlain's surrounding mountains, which increase wind velocity. This northerly wind, blowing along the length of the lake, can kick up a sea in a remarkably short period of time and can give the unwary small boat owner cause for concern.

On days such as this the smaller sailboats are usually found on the sheltered bays with crews hiked out over the side and hulls hidden by sheets of spray.

The center of sailing activity on Lake Champlain is Malletts Bay where the Malletts Bay Yacht Club has the largest concentration of sailing craft on the lake. Running a full schedule of racing and cruising events, the club has some of the best choices of Lightnings, Flying Scots, Yankoons, Amphibicons and the like. Cruising auxiliaries wishing to sample some of Vermont's scenery can make the trip from the south by way of the Champlain Canal. Access from the north is gained through the Champlain Canal. Launching areas are provided on most sailing lakes for trailered boats shown on page 10-11 map.
Malletts Bay, the busiest boating area in Vermont, swarms with a diversity of sail and power craft, from little Sunfish sailers to an occasional 80-foot, palatial yacht. Among them (both pictures by Bruce Nett) is A. W. McLaughlin’s 36-ft. Galatea, an ocean-type cruising ketch which McLaughlin, a Burlington meteorologist, built in four years’ spare time, from designs by Francis Herreshoff.
Racing thrills . . .

At the right, John F. Smith shows a Lightning Class Meet on Lake Dunmore, and below, Wing Woon catches the leader in a Sunday race in the Gut, on Champlain.
PADDLING your own canoe is one of the pleasurable activities at Ecolo Champlain, as pictured here by Mack Derick. And so it is on big lakes and small in the Green Mountains for the thousands of boys and girls attending Vermont's 113 summer camps.

For flat-water canoeing is still an active sport and favored by fishermen too, to gain the quiet reaches inaccessible by land.

Slow-river canoeing is limited largely to certain larger streams, as shown on the p. 10-11 map. Except for such beautiful rivers as the Lamoille, the Otter, Connecticut and the White, extensive runs are limited by power dams, shallows and cattle fences.

Quick-of white-water canoeing is not for the sedentary paddler; it is a growing, exciting sport. The boiling river rapids, run in the high, clear water of April, include the White, Green, Waits and Saxtons rivers.

But preeminence is the West. Here aided by the release of impounded waters, the White Water Slalom Championships are held in May. Here aficionados race in both canoe and kayak through gates and natural hazards. A glimpse of this exciting sport is shown on the opposite and following two pages. Photographs are by Hans Carroll.
& Quick

The more wicked the rapids
the greater the kicks
Murder!

Man-placed gates
and natural boulders
bedevil racers—and come
under the heading of sport
The Champlain Transportation Company had a northern terminal for trains and other boats plying alongside either pier, receiving and discharging merchandise or passengers, and greatly to the business-like character of the place. Here the Yankee is in his glory, although the confusion and noise beat even that of the Broadway in N. Y. This was another occasion on which the weary traveler had little chance of a night's rest, surrounded as he is by the hissing of engines, both from boat and rail, the noises of cranes and the bustle of hundreds of passengers with their heavy baggage.

Probably the most unusual of all the lake's ferries was the 258-foot Oakes Ames, built in Marks Bay south of Burlington (Oakledge) almost directly opposite the Transportation Company's shipyard at Shelburne Point. The Marks Bay shipyard with its carpenter and blacksmith shops, stocks and ways has vanished without a trace and it is hard to visualize the animated scene there in 1868 when the 1,145-ton steamer slid into the small bay. The Oakes Ames had railroad tracks across her lower deck which enabled her to ship a small train across the lake. Captain N. B. Proctor, her designer, builder and first master, designed also a "self-adjusting railroad bridge" which, with the help of an engine on shore, could quickly transfer loaded cars from the shore to the boat. With two engines, one for each sidewheel, the Ames could turn around within her own length and travel at least nineteen miles an hour.

The northern terminal for trains and boats having moved south from Rouses Point to Plattsburgh, the Ames served as a traveling railroad bridge between the Plattsburgh and Montreal and the Rutland and Burlington railroads, saving eighteen miles over the shortest rail route between Boston and Montreal and nearly thirty between Ogdensburg and Boston. She made four daily trips in each direction. The Champlain Transportation Company acquired her, inevitably, and made her over into a luxurious line boat, but she served in this role only a year and a half, for on a quiet summer night in 1873 her pilot miscalculated and ran her full speed onto Steam Mill Point near Westport. Although no lives were lost, the Champlain, as she was now called, was a total wreck.

In the mid-19th century immigrants from Canada poured through the sluice of the Champlain valley into the cities of the east. For several decades a cavalcade of Irish, ascending the St. Lawrence to disembark at Montreal, streamed south on the line steamboats from Rouses Point and Plattsburgh. A babble of brogue echoed in the lake ports and the ferries, loaded with motley belongings, resembled battlefields after the din of war had passed.

As early as 1827 Captain Basil Hall of the Royal Navy described a crowded Lake Champlain steamboat bulging with tourists, business men and Irish emigrants, one of whom, sitting apart from the others on a bundle containing her scanty store of wordly goods and gear tied up in a threadbare handkerchief, reminded him of a painting by Raphael. The sight of Irish "in infinite tribes overflowing by every outlet to the Stares" intrigued Nathaniel Hawthorne in Burlington. He described the men as exhibiting "lazy strength and careless merriment" and the women "with far plumper waists and bonnier limbs as well as bolder faces, than our shy and slender females." The ferry boats had deposited at the wharves a pot-pourri of merchants from Montreal, British officers from volunteer garrisons, French Canadians, Scotsmen of a better class, gentle men of the south on a pleasure tour, country squires on business, the wandering Irish and of course great numbers of Yankees with horse-wagons and ox teams.

The lake ports were junctions of immigration south from Canada and of westward migrating New Enganders. The latter movement had begun in earnest after the War of 1812 and was greatly augmented in 1823 with the opening of the Champlain Canal to the Hudson River. Every Tuesday and Saturday during the 1830's and 40's canal packets left Vergennes, seven miles up the Otter Creek, for Whitehall, the Hudson River, the Erie Canal and points west. For a time there was, as has been said, a steam ferry between Vergennes and Whitehall; others carried hopeful ex-farmers and their families in bulging wagons from Vergennes to Westport or Port Henry on the first lap of their trek toward the sunset.

Such was the traffic that ferry proprietors built inns at their landings—at McNeil's in Charlotte, at Chimney and Chipman points, at Cold Springs and at Wright's. Returning to New England from Niagara Hawthorne admired the Greek Revival hotel, subsequently destroyed by fire, on the shore at Larrabee's Point:

On the banks of the lake, within ten yards of the water, stood a pretty white tavern with a piazza along its front. A wharf and one or two stores were close at hand and appeared to have a good run of trade, foreign as well as domestic; the latter with Vermont farmers and the former with vessels plying between Whitehall and the British Dominions. Altogether this was a pleasant and lively spot. I delighted in it, among other reasons, on account of the continual succession of travelers who spent an idle quarter of an hour in waiting for the ferry boat; affording me just enough time to make their acquaintance, penetrate their mysteries, and be rid of them without the risk of tediousness on either side.

Indeed to learn how people lived and what they owned, whether animal or vegetable, it was not necessary to observe the kitchens or barnyards of the hinterlands for they yielded their contents to the decks of the ferries.

The most fateful cargo ever carried across the lake was a single casket. It came from Harper's Ferry, Virginia and arrived in Vergennes on December 4, 1870, but since the Nonpareil, the steamer to Westport, had been laid up for the season a wagon continued the mournful journey to the wharf and settlement at Adams Ferry (Arnold's Bay) in Panton. The casket was loaded aboard and the boat set sail in grey weather for Barber's Point. From there, accompanied by his widow and by Wendell Phillips, the anti-slavery orator, John Brown, continued homeward to a grave in the snow at North Elba. In this quiet place the guns of Fort Sumter could not be heard, but blue regiments lining the rails of the steamers not long thereafter passed southward into the fury of the war. Daniel Adams, the ferryman, did not survive it. He and his sailboat were lost in a vicious squall in 1864.

For the ferries, for the line steamers, for the iron-laden barges of Port Henry, for the skippers of lumber tows in Burlington, for the masters of sloop-rigged canal boats and pinflats alike, the last years of the 19th century were years of unbridled prosperity. They were also drowsy years of the veranda vacation, of cool summers and green watering places.

Leaving Burlington by the morning boat, the party will find carriages in attendance at Port Kent (or they may transport their own by the steamer) to convey them to both places, and after a day of exciting enjoyment, may return to Burlington by the evening steamer. After viewing the stupendous operations of nature at the Chasm, they may expiate among the trees in the pleasure of a pic-nic, or an excellent meal will be found at the "Chasm House" near by.
At Cliff Haven carriages with coachmen in costly livery met the Burlington boats and whisked passengers to towering Hotel Champlain on the ridge at Bluff Point. The grandeur of the hotel, frequently the summer White House during the administration of President McKinley, was invaded by that of the steamer Vermont II with her stateroom hall of walnut, chestnut and gilt 175 feet long, with 61 staterooms, president's and bridal rooms and a dining room for 150 persons. She carried a crew of sixty.

Having begun its reign eleven years before that of the queen whose name the era adopted, the Transportation Company by the opening of the 20th century had, like Her Majesty, grown plump, stately and somewhat arthritic, with a built-in sense of manifest destiny. Not long after the end of the first World War, however, the directors began to suspect that the old era was not going to last forever, that the horseless carriage was more than an experiment, and that it was not enough to advertise the line as "The Oldest Steamboat Company in the World."

A new generation of travelers wearing goggles and clutching Blue Books were raising dust along the roads to the ferry landings. Clearly steam and gasoline had to mix. In 1925 the iron-hulled Chateaugay, laid up for several years at Shelburne Harbor for want of business, was shorn of part of her stateroom hall and cabins fore and aft to make room for cars. The Ticonderoga abandoned the Westport-St. Albans run to join the Chateaugay on the shuttle between Burlington and Port Kent. Older travelers will recall driving over the perilously narrow gangplanks of the Ticonderoga, having the air let out of their tires or deckhands stand on the running boards so that their high-bodied vehicles would not strike the ceiling of the forward promenade deck; having the gas temporarily drained out of their tanks and the cars, jockeyed about between the stanchions and backed up as far as the paddle-shaft on either side of the engine room. In the course of her daily run to the train connection at Montcalm Landing even the proud Vermont III, famished for through-passengers, took on cars at Plattsburgh and Burlington.

There were a few days of glory for one of the steamers during the flood of 1927 when Vermont rivers wrought almost total havoc on railroad and highway bridges. The Chateaugay was the only link between northern Vermont and New York. For two weeks her boilers were never given a chance to cool as she plowed through swollen waters mined with floating trees, barns and dead cows. Loaded to the guards with beef, cement, lumber, mail and Red Cross supplies, she had no room, according to Captain John Montgomery, "to put a chicken on her anywhere."

The Transportation Company had enjoyed so many decades without competition that when independent operators started running car-carrying ferries virtually abreast of the large steamers, the old line scarcely knew what to do about them. The first of the new interlopers was Captain Elisha N. Goodsell, a resourceful Yankee who had cut his teeth in the ferry business in the Islands. His family had had experience competing even with themselves. In 1887 Goodsell's father put his father-in-law, whose ancestors had been operating the Isle La Motte-Alburg ferry since 1805, out of business by building the first bridge between the towns. As a boy Goodsell sailed with his father in a schooner carrying stone from the Isle La Motte quarries for an addition to the Burlington breakwater. From then on, for seventy years, he never left the lake except for an interval as Collector of Customs at Alburg. His first ferries ran from Swanton to East Alburg and to Alburg Springs, from Windmill Point and Alburg to Rouses Point and from Grand Isle to Cumberland Head. No one ever knew where Captain Goodsell was going to turn up next, or with what kind of boat. He was cheerful, ingenious and utterly resilient to adversity, even if one of his ferries was at the bottom of the lake, which was the case more than once.

When the Government threatened to tie up his 85-foot, double-ended steamer Venus because he was not complying with regulations for vessels over 65 feet in length, Goodsell beached the boat, sawed ten feet off both ends, planked them up and returned her to duty as a 65-footer, thus escaping the red tape for longer vessels. Once when the Venus was coming jauntily into the slip at Alburg and Goodsell's brother, Captain Bert, rang for full astern, the engineer, Julius Paquette, hollered up to the pilot house: "Gee, Cap, we've lost our propeller!" Captain Bert emerged calmly from the pilot house, walked to the bow and waved back the people standing on the dock. "Back up!" he told them. "We're coming right in here!" Come in they did, with a splintering crash. This accident and a congenital tendency to vibrate opened the seams of the Venus so that some nights rising water in the hull put out the banked fire in her boiler. Goodsell installed a gasoline pump to bail her out enough each morning so the boiler could be fired up. The steam pump took care of the leaks for the rest of the day.

One of Goodsell's more curious entries so far as propulsion is concerned was the Dean Goodsell, a steam cable barge which wound itself back and forth between Alburg and Rouses Point just a few yards south of the Canadian border. The cable ran 6,000 feet from shore to shore and in the middle of the channel rested on the bottom so as not to interfere with navigation. Securely fastened on both sides of the lake the cable passed through the hull of the sixteen-car barge and around a large drum. When the engine (which Elisha had salvaged from the Venus) was started, the drum gripped the cable and the barge forged ahead. The beauty of this arrangement was that it required only an engineer and avoided costly mishaps of boats that had to be steered. At least that was what Goodsell calculated until the engineer succeeded in losing a driverless car off the
The Oneida, once William Randolph Hearst’s luxurious yacht.

stern. Affixed to its radiator cap was an American flag which presently was sighted still in place, undulating gently in water not very deep.

For tourists an extra feature of the crossing to New York on the Dean Goodsell was a visit to Fort Montgomery, not too reverently called Fort Blunder by the natives. The United States government built it at enormous expense to guard the entrance to the lake after the War of 1812. Work ceased while Canada benevolently saw to ceding the small area to the United States. The massive pile was at length quartered there and no enemy ever repulsed. Passengers from the Dean Goodsell alighted at the foot of the hapless fort and for an extra stipend were led about the crumbling walls.

Among Goodsell’s other island ferries was The Twins (Alburg Springs to Swanton) which was steered by a sweep and whose fussy internal combustion engine was started with gas, then switched over to kerosene; and the Sport, an elegant 95-foot duplicate of the large lake steamers with paddle wheels and walking beam in miniature. She came from the St. Lawrence River where she had been a private yacht, and for years paddled daintily back and forth south of the railroad bridge between Alburg and Rouses Point.

With two elderly ocean-going steam yachts, the Admiral and Legonia II, plying between Burlington and Port Douglas (only a short distance south of Port Kent) Goodsell succeeded during the Twenties in cutting heavily into the traffic of the Transportation Company’s large steamers. He advertised the lowest rates, the fastest transportation. A veteran of two trips to the Mediterranean and three to South America, the Oneida had oil-burning steam engines with a cruising radius of 4,000 miles. The fourteen men who looked after her polished engine and boiler rooms when she was a yacht were required to change their shoes three times en route from boiler room to top deck. So silent was she under way that all that could be heard, even in the engine room, was the hiss of steam.

She had two galleys and a Gar Wood tender capable of sixty miles an hour, but what made her the talk of the oceans, not to mention Lake Champlain, were her princely staterooms. Colonel Lindbergh and Jack Dempsey lounged in them, Charlie Chaplin and Jimmy Walker; Pola Negri, Norma Talmadge and Greta Garbo. Marion Davies’ suite had a gold bed and a carpet an inch and a half thick. The bathroom fixtures were of gold. The shower was entered through a glass door with a gold knob. Goodsell made the most of Miss Davies’ quarters by levying an extra fee for admission. Beginning as it did in the pit of the Depression in 1932 the Oneida’s career on Lake Champlain was brief. She lies, alas, a rusting hulk near the shore inside the Burlington breakwater.

If the Oneida was the symptom of an era, no less so was the clandestine cargo that crossed her decks and those of all the boats on northern crossings. It was the time of high black sedans with tasseled silk shades pulled down over the rear windows, and chain-smoking drivers with shifty-eyes and five o’clock beards. One morning in the Twenties when Ralph Paquette of the Dean Goodsell was warming up his engine at Rouses Point a black sedan roared down the ramp onto the boat. The driver had a revoler. “Let’s go!” he shouted. “They’re after me!” Faster, much faster than he was accustomed to, Paquette threw the lever that started the engine. He had not much more than left the dock when the Customs men screeched to a halt on the ramp. “Stop the boat!” they commanded. The run-runner fingered his revolver.

“I can’t,” answered Paquette plaintively. The Customs men ran for their speedboat but the ferry had almost reached the Vermont landing by the time they caught up. They were just clambering aboard when the black sedan lurched up over the bow apron, bounced onto the dock and was safely away in a cloud of dust.

Cargo was cargo. For ferry captains it was a time of “Ask me no questions and I’ll tell you no lies.” The booze came from Canada in every possible disguise and reached its destination by every artifice. It crossed the ferries in loads of hay, it arrived on the large steamers buried in crates of apples. Let no one suppose that during Prohibition the Northcountry was without its underworld. There was Clyde Irwin and Keeseville’s “Muskrat” Rebear who acquired his nickname when he was
and his wife Philemon in comfortable circumstances. Philemon was the first woman in the world to carry a pilot's and master's license for a steamboat. With a boiler-room voice that belied her jingling chains and bracelets and rustling taffeta skirts, she wore her distinction well. When her husband died she steered the boats and collected the fares herself. Automobiles usually revived traffic on ferries fitted to carry them but they eventually put Philemon out of business since her steamers carried passengers. On the turn of the century larger boats like the A. Williams, Masquin and Reindeer used to call at Vergennes although they had difficulty warping around one bend in the river. Captain Joy of the Reindeer was appropriately named. His tuneless whistle could be heard even on the foggy morning he planted his 180-foot boat in a mud bank.

By 1927 the Charlotte-Essex must have had more water behind her than any ferry in the world, for she was built in Athens, New York in 1869. Her vertical-beam engine was then second hand since it had first served in the Hudson River ferry J. T. Waterman, built in 1858. The beam engine, one of the earliest, and, as refined for lake, sound and river paddle boats, the most reliable of all steam power plants, was simplicity itself. Its most prominent feature was its walking beam, one end of which was connected to the piston and the other to a long connecting rod that drove the paddles by way of a crank. The finest of these hand-built engines, gleaming with brass and polished steel, were made by Andrew Fletcher, a Scotsman whose shops were in Hoboken, New Jersey and whose handiwork was to be found in all of the later Champlain and Lake George sidewheelers.

Although the engine of the Charlotte-Essex, Fletcher's fourth, had by 1927 been running for 60 years it was still in good condition, although the wooden hull in which it served had become, as they say, a little peaked. As the George H. Power the 12-car (or carriage) ferry had plied from Athens to Hudson, New York from 1869 to 1921. It was then brought up through the Champlain Canal for its six-year stint between Charlotte and Essex. During the last few seasons it was nip and tuck for Engineer Ralph Bigelow. The boiler inspectors had cut steam pressure from 40 to 25 pounds. On a rough day the hull had a sickening tendency to bend over the waves like a lily pad, opening the top of the slide ways, narrowing them at the bottom and cramming the engine's cross-head. Eventually the Charlotte-Essex migrated through the Champlain Canal to the St. Lawrence where she did not have to contend with waves and apparently ran several more years before she was last christened by the old man with the scythe.

In 1936 25,000 cars crossed the lake on the five steamers then operating out of Burlington. The Chateaugay, Ticonderoga and Vermont of the Transportation Company ferried fifteen thousand to Port Kent and the rest crossed to Port Douglas on Goodsell's Legonia and Admiral. Four years later the C.T. Company was transporting 20,000 cars but since its paddle boats were large and expensive to operate and the Vermont was ploughing red ink on the north-south run to Montcalm Landing, the old company suspended all operations in 1932. The following year it returned the Chateaugay to service and in 1936 the Ticonderoga was cautiously brought out of retirement. New competition, however, was afoot in the person of Horace W. Corbin. Having won and lost a fortune in Mexican lumber Corbin was no stranger to finance, politics or the boating business, since his uncle had built the A. Williams for service between St. Albans and Plattsburgh. Corbin embellished his lakeside home on Grand Isle with mementoes of his ancestors, General Custer, with goldfish tanks set in the walls, and the yard outside with strutting peacocks, a jackass and other strangely assorted animals. In a series of daring moves, reminiscent of the empire builders of the 19th century Corbin obtained control of Goodsell's Grand Isle to Cumberland Head ferry. In Burlington, flying the banner of the Green Mountain-Adirondack Ferry Company he laid down the keels of two large steel ferries, the City of Burlington and the City of Plattsburgh. He next bought the tottering Champlain Transportation Company, boats, docks, shipyard and charter.

In 1944 he purchased the old Chateaugay, sold her engines for scrap, cut the hull into sandwiches of steel and shipped them to Lake Winnipesaukee, where they were welded together to become the present motorship Mount Washington III. Scarping all but the hull of the 262-foot Vermont III he redesigned her as an Atlantic coast diesel freighter. She serves today in this capacity. With the advent of World War II he leased the
still the best way to get to the other side

Shelburne Shipyard to a firm making P.T. boats for the Navy. Faced with the spectre of gasoline rationing and the eclipse of the ferry business he sold at a great profit both the City of Plattsburgh and the City of Burlington to Electric Ferries, Inc. of New York, and the Gloucester-Yorktown Ferry Co. of Virginia, respectively. Since coal was not in short supply he put the control of the company, but their plans were scotched by the actions of a Vermont stockholder, an associate of Corbin, who sought redress in the federal district court of the free-styled Vermont judge, Harland B. Howe. Excoriating the New York bankers for unethical practices in a manner that Ethan Allen would have found satisfying, Judge Howe is reported to have exclaimed in one hearing: "You New Yorkers aren't satisfied to milk the cow, you want to strip her!" At length two Burlington banks stepped in and removed the company's encumbrances across the lake.

The Corbin era ended in 1948 when Lewis P. Evans, Jr., Richard H. Wadhams and James G. Wolcott, a triumverate grounded in corporate management, engineering and finance bought the old company and set to work acquiring and building steel ferries for their three crossings, now including that from Charlotte to Essex. For a few years prior to the purchase of this crossing by the Transportation Company Captain Wally Mock, who sailed the last of the lake's freight-carrying sloops, operated the diesel ferry Plattsburgh there. He had brought her from the overcrowded Grand Isle-Cumberland Head crossing and remodeled her pilot house so that it was only five feet two inches high and admitted Wally but no one else. If he had something better to do, like tuning up the engine of his car or changing a flat tire, ferry passengers waited. While standing on the dock at Burlington one day in a big blow from the north Wally watched one of the ferries rolling and pitching toward the gap in the breakwater. "Got a pretty bottom, ain't she?" he said.

A kind of grim humor dominated the struggles of the first years as the new owners of the Transportation Company strove to advance simultaneously on all fronts. As some cribbing from their Burlington dock floated past the office window one spring during high water President Evans remarked: "The trouble with wood is that it rots." Shortly thereafter the derick boat sank causing further deferment of deferred maintenance. And the aging Grand Isle-Cumberland Head ferry Roosevelt II almost sank in 1952 when a wave forced her against submerged pilings in Burlington. Seven years later they towed her out into the broad lake and the president of the company himself chopped several holes in her hull. But this time, true to her Vermont heritage, the Roosevelt was not inclined to sink. With several more holes she was dispatched at last. "She went down defiantly," says Evans, " Stern in the air like the Titanic!"

There are no wooden hulls serving any of the three routes today. Many decades have passed since Sam Rice of Cold Spring bent against his 14-foot oars and rowed his last load of passengers to Dresden. Where wind, horses and steam once reigned from Charlotte to Essex now throbs the steel Juniper, a small diesel single-ender brought up from New York City. Her new name is clearly an improvement. When she was owned by the Pepsi-Cola Company she was called The Big Bottle. The Grand Isle, now on the Cumberland Head crossing, came all the way from a shipyard in Tampa, Florida. Burlington to Port Kent is today a three-ferry route consisting of the 50-car, 177-foot Valour, built at Shelburne Harbor in 1947 and the two-deckers Adirondack and Champlain. Whereas the lake's first modern steel ferries migrated south, the Adirondack and Champlain, formerly the Governor Emerson C. Harrington and City of Hampton respectively, were built downcountry and came north. The Matt Haven, until recently a spare at Burlington, came to Lake Champlain in 1945 from New York where she had served on the St. George-Staten Island run. Now she is back in salt water again at Nassau.

In order that large vessels may pass under the low bridges of the Champlain Canal it is necessary that most of the superstructure be temporarily removed, but it is frequently less expensive to do this than build a new ferry, particularly when the construction of some metropolitan bridges renders obsolete a steel boat in perfectly good condition.

The two ferries at the southern end of the lake are still independent. Until recently the family of former Governor Harold Arthur owned the Chipman Point cable crossing. A large steel barge, propelled by a tug lashed alongside, crosses from Larrabee's Point to Ticonderoga. The only vestige of the old days is the last of the paddle boats, Ticonderoga, which completed 43 seasons of operation in 1953 and two years later was transported nearly two miles overland to the grounds of the Shelburne Museum.

Although the era of sail and steam have given way to that of the internal combustion engine the past is linked to the present in the lives of the men who belong to the lake. Elisha Goodsell's son, Elisha R., and nephew, Richard Botsford, are owners of the Larrabee's Point ferry and Botsford is a manager of the Transportation Company. Davenport, Paquette, Fisher, Chapman, Godfrey, and Valiquette are names that represent, past and present, thousands of miles of travel in the pilot houses and engine rooms of the callayls of Lake Champlain. Six decades ago the grandfather of the brothers Dan and Willard Blood, who run the Chipman and Larrabee's Points ferries, was carrying passengers in a sailboat from Orwell to Montcalm Landing.

There are still Larrabees at Larrabee's Point. At Chimney Point in an old brick house, part of which was a tavern during the Revolution, lives Mrs. Millard Barnes, whose uncle ferried the body of John Brown from Arnold's Bay to New York in 1859, and whose husband's father, Asahel Barnes, was running the horse-ferry Gypsy right in front of her house over a century ago. The proprietor of the tea room in the old dock house on the wharf at Essex is Caroline Parmenter, whose Great-Grandfather Ross, with McNeil of Charlotte, built the Steamer Washington in 1827 to replace the horse-ferry; and whose great-great-grandfather, William Gilliland, was the first settler on the west side of the lake in 1765. If it is true that a place without tradition is not worth a guinea, the lake and its shores are rich beyond measure.

Perhaps a steam whistle, piped to a boiler powered by atomic fission, will again be heard blowing for a landing a century from now. Maybe tomorrow's generations will skim across the waves in hydrofoil boats. If the Champlain Cut-Off, connecting the St. Lawrence Seaway and the Hudson River is built, it is even conceivable that passengers will arrive in Burlington from Plattsburgh in an ocean liner. But pass the broad lake in ships they must, until the day the lake runs dry.

(Concluded on page 28)
FERRY Ride

There’s something about it—adventure begins with casting off, released to dream as we please, with only the new shore ahead.
A respite on the inland sea
## Sailing Vessels

**Built Prior to 1815**

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## Passengers Steamers on Lake Champlain

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<td>1856</td>
<td>Shelburne</td>
<td>224</td>
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<tr>
<td>Adirondack</td>
<td>1867</td>
<td>Shelburne</td>
<td>251</td>
</tr>
<tr>
<td>Oxes Ames (later Champlain)</td>
<td>1868</td>
<td>(Burlington)</td>
<td>255</td>
</tr>
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</table>

## Principal Ferries on Lake Champlain since World War I

<table>
<thead>
<tr>
<th>Name</th>
<th>Off. No.</th>
<th>Where Built</th>
<th>Type</th>
<th>Length</th>
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<tbody>
<tr>
<td>Adirondack</td>
<td>211156</td>
<td>Jacksonville, Fl., 1913</td>
<td>Diesel screw</td>
<td>117</td>
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<tr>
<td>Admiral</td>
<td>106021</td>
<td>Providence, R.I., 1892</td>
<td>Steam screw y'h't</td>
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<tr>
<td>Alexander</td>
<td>107465</td>
<td>Vergennes, Vt., 1897</td>
<td>Steam screw</td>
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<tr>
<td>Angia</td>
<td>218902</td>
<td>East Alburg, Vt., 1916</td>
<td>Gas'le screw</td>
<td>49</td>
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<tr>
<td>Champlain</td>
<td>169008</td>
<td>Cohoes, N.Y., 1922</td>
<td>Wood screw; aux. power</td>
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<tr>
<td>Champlain</td>
<td>229460</td>
<td>Baltimore, Md., 1930</td>
<td>Diesel screw</td>
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<tr>
<td>Charlotte-Essex</td>
<td>85171</td>
<td>Athens, N.Y., 1869</td>
<td>Steam sidewheel</td>
<td>95</td>
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<tr>
<td>City of Burlington</td>
<td>235212</td>
<td>Burlington, Vt., 1936</td>
<td>Diesel screw</td>
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<tr>
<td>Rising Sun</td>
<td>236530</td>
<td>Burlington, Vt., 1937</td>
<td>Diesel screw</td>
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<tr>
<td>Cumberland</td>
<td>217495</td>
<td>Swanton, Vt., 1919</td>
<td>Steam screw</td>
<td>64.6</td>
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<tr>
<td>Dean Goodsell</td>
<td>86261</td>
<td>Burlington, Vt., 1927</td>
<td>St. cable bge</td>
<td>64</td>
</tr>
<tr>
<td>Fort</td>
<td>253748</td>
<td>Daviesville, N.Y., 1912</td>
<td>Cable barge; aux. towboat</td>
<td>75</td>
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<tr>
<td>Fort</td>
<td>278723</td>
<td>Warren, R.I., 1959</td>
<td>Cable barge; aux. towboat</td>
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<tr>
<td>G. R. Sherman</td>
<td>86463</td>
<td>Champlain, N.Y., 1890</td>
<td>Steam screw</td>
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<tr>
<td>Grand Isle</td>
<td>266081</td>
<td>Tampa, Fla., 1953</td>
<td>Diesel screw</td>
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<tr>
<td>Hildegarde</td>
<td>15005</td>
<td>Islip, N.Y., 1876</td>
<td>Steam screw</td>
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<td>Juniper</td>
<td>249023</td>
<td>Yonkers, N.Y., 1945</td>
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<td>Kittery</td>
<td>161161</td>
<td>Kennebunkport, Me.</td>
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<td>Legonia II</td>
<td>206627</td>
<td>Wilmington, Del., 1909</td>
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<td>Newburgh, N.Y.</td>
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<td>Plattsburgh</td>
<td>223203</td>
<td>Whitehall, N.Y., 1923</td>
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<td>Roosevelt</td>
<td>203203</td>
<td>Milford, Del., 1906</td>
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<td>Roosevelt II</td>
<td>223266</td>
<td>Nyack, N.Y., 1923</td>
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<td>Sport</td>
<td>222430</td>
<td>Swanton, Vt., 1922</td>
<td>Steam sidewheel</td>
<td>95</td>
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<tr>
<td>Stanley B</td>
<td>222430</td>
<td>Swanton, Vt., 1922</td>
<td>Gasoline cable</td>
<td>65(a) E. Alburg-Swanton</td>
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<td>New Alburg</td>
<td>218636</td>
<td>Burlington, Vt., 1919</td>
<td>Steam screw</td>
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<td>The Twins</td>
<td>203310</td>
<td>Champlain, N.Y., 1905</td>
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<td>60(a) Alburg-Spr.-Swan</td>
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<td>Ticonderoga</td>
<td>169525</td>
<td>Whitehall, N.Y., 1924</td>
<td>B'ge; aux. power</td>
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<td>Ti-Orwell</td>
<td>222430</td>
<td>Ticonderoga, N.Y.</td>
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<td>Vaux</td>
<td>253781</td>
<td>Shelburne, Vt., 1947</td>
<td>Diesel screw</td>
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<td>Venus</td>
<td>253781</td>
<td>Alburg, Vt.</td>
<td>Steam screw</td>
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<table>
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<th>Name</th>
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<tr>
<td>A. Williams</td>
<td>1870</td>
<td>Marks Bay</td>
<td>125</td>
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<tr>
<td>Vermont II</td>
<td>1871</td>
<td>Shelburne</td>
<td>272</td>
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<td>Maquain</td>
<td>1880</td>
<td>Swanton</td>
<td>145</td>
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<tr>
<td>Reindeer</td>
<td>1881</td>
<td>Alburg</td>
<td>180</td>
</tr>
</tbody>
</table>

Many of the above paddle boats operated also as ferries during their long service as line boats.
UNDER Power

RUNABOUTS, CRUISERS, EVEN YACHTS,
ABOUND IN VERMONT WATERS

Lake Eden, near Hyde Park—Winston Pote.
VERMONT'S multiplicity of forest-girt lakes and great power dam impoundments are powerful lures to those who have explored the manifold pleasures of power cruising in fresh waters.

All Vermont waters 20 acres or more in size are "public" (but small lakes and reservoirs are best suited to boat fishing.) So there is hardly a boatable lake in the state without at least one public boat-launching site. By boat there is the fishing, swimming and water skiing too. But it is the chance to cruise in natural and beautiful surroundings that brings boat-toters to Vermont waters from many miles.

A peculiarity in the boating here is that the fine cruising waters of the Connecticut River are subject to New Hampshire regulations.

In Vermont proper, a boat licensed elsewhere (in New York, for instance) enjoys free use here also, for 90 days. All powered boats must be elsewhere licensed or by the Vermont Department of Public Safety, in Montpelier. (Federal rules pertain also on Lake Champlain.) Rates run from $2.50 to $25 depending upon the boat's length. Licensed craft must carry approved fire extinguishers and lights, if used at night. All boats, powered or not, must carry a life preserver for each passenger.

Skiers on Vermont waters must wear a life belt and must keep at least 100 feet from swimmers or other boats. Any power craft must slow to five mph. within 200 feet of a beach or recreation area.

On the Connecticut (technically New Hampshire's river), there is no reciprocity on boat licenses. They must be secured from the New Hampshire Department of Safety, Concord. Rates for outboards are based on horsepower, and for inboards on boat length. Here fire extinguishers are required, also, but only powered craft must have life preservers. On New Hampshire waters, skiers (keeping at least 150 feet from shore) are not required to wear life belts, but there must be another person in the boat with the operator. In both states any boat accident must be reported promptly to the state authorities.

Experienced boatmen advise special caution on Lake Champlain. Violent storms and gale winds can appear here suddenly, and a small boat can be swamped before shelter is reached. Both the U.S. Coast Guard and the Vermont Department of Public Safety patrol the Lake.

Most sail and power enthusiasts bring their craft to Vermont waters by car trailer, but an increasing number, with an eye to Champlain, navigate all the way. The 60-mile Champlain Canal (9-foot draft and 11 locks) connects Champlain's southern tip with the Hudson River, thence either on tide water to the ocean or on the canal to Lake Erie. At the northern end the Richelieu River and Chambly Canal (6½ foot draft and 9 locks) runs 80 miles to the St. Lawrence, near Montreal, and the Great Lakes beyond.
A 48-foot cabin cruiser at Basin Harbor

Easy launching on a small northern lake—Bruce Nett

Powered pontoons on the Connecticut—Bullaty-Lomeo

Cruising Lake Memphremagog, near Newport—Geoffrey Orton
Whenever I go to Vermont I feel that I am traveling toward my own place . . . Bernard De Voto
Perfection Unlimited

The people at Simmonds create tiny controls for space-age giants

MURRAY HOYT

Photographs by John F. Smith
The very fact of uneventfulness was a matter of quiet pride to the officers and the better-than-four hundred workers of Simmonds Precision Products, in their modern low-lying plant set down next to the hayfields and pastures of the Champlain Valley on the outskirts of Vergennes, Vermont. It was their work that had played a small but vital role in planning for that uneventfulness. And their hands, months before, that had made or assembled components into delicate instruments critically responsible for it.

One of their SARAH system recovery packages, the (Search and Rescue and Homing) was installed in the space capsule. Its receiver packages were installed aboard the planes and ships of the recovery squadron. The system was never used because the recovery turned out to be visual. But the attempt would never have been made had there not been some system ready in case of trouble. (Ham, the astro-chimp, on an earlier flight, was recovered with SARAH.)

A great many pickup planes were equipped with Simmonds fuel injection systems which functioned steadily, with delightfully monotonous efficiency, throughout.

A great many of the pilots out over the ocean, knew at all times the exact amount of their remaining fuel energy by looking at a tiny 2.2 inch fuel indicator (since space on the instrument panel of a plane is at a premium) made by these Vermonters at Simmonds. But a fuel gaging system so fantastically engineered that it translated with complete accuracy the exact pounds of fuel remaining aboard at all times. This was the total of all the wing tanks. It was given in pounds because pounds translate with complete accuracy the exact pounds of fuel remaining in all the tanks. It was given in pounds because pounds translate fuel energy, while gallons vary with heat and cold. Some of those pilots could even flick a button and get the amount in any given tank, at the same time that the indicator continued to supply the total left in all the tanks.

Many of the doors and hatches of these planes, especially the helicopters, were held in place by Simmonds structural latches, flush with the surface and designed when locked in place, to be stronger even than the areas they fastened together. In the planes and ships, an unknown number of sailors or aviators during the operation, used Simmonds push-pull controls for any one of a hundred purposes.

There were other small Simmonds products present and functioning. And as I say, all the craft returned uneventfully and safely home. The Simmonds personnel, their friends and those of us who are their neighbors, could be forgiven our special interest and pride.

The building is red and looks lower even than it is because of its width. It was built 10 years ago, in a field between Otter Creek and the Panton Road. But that was not the beginning of the company. That started in 1906 as the L. F. Benton Company, in a brick building where there was waterpower beside the falls in Vergennes. When a British company joined it in '41, they became Simmonds-Benton Division of Simmonds Aerocessories, and later just Simmonds Aerocessories. In these stages the company built for the most part aviation spark plugs. In 1960 the company became a public corporation under the name Simmonds Precision Products. Its stock is sold Over-the-Counter in New York.

The transition to its present products began early in the 1940's when, after several years of development, Simmonds began to offer fuel injection systems to the gasoline engine industry. When you feed fuel into an engine through a carburetor, you mix it with air in the intake manifold in a fine mist, as if you were squirting to get rid of eight mosquitoes in your closet. A fuel injector system on the other hand has a nozzle for each cylinder. Fuel is squirted in as the intake valve opens. Air also enters direct into each cylinder. You hit each mosquito square in the eye instead of spraying eight times into the closet. You get among other things, higher power output and improved fuel economy. You eliminate carburetor icing, you don't stall, and you start on cold mornings.

About 1954 the company standardized the basic design for this system so that they could use some high production techniques and cut the cost per unit.

Aviation in-flight fuel had always been measured the way an automobile's fuel is measured; the gauges were none too accurate when your fuel got down into the rounded bottom of the tank. With huge aircraft carrying a total of up to 22,000 gallons in many tanks, that sort of inaccuracy might give you the disastrous information that you had a thousand gallons left when you had almost none, or might tell you that you had almost none when you actually had five hundred or a thousand gallons. To fit tanks into every bit of available space, engineers were giving them more astonishing shapes all the time and setting them at more amazing angles until the whole seemed to defy contents measurement. Something was needed that would give the pilot at a glance with extreme accuracy the total weight (energy) of all the fuel he had left in all the tanks, even when the fuel was sloshing around in there like the surface of a pondhole in a hurricane. Since each different tank-shape requires different calibration, and since every manufacturer and arm of government has
different ideas from every other, each tank unit is a new engineering problem within the main system concepts. Simmonds engineers put the data on IBM cards and take the whole down to a huge IBM computer in New York. They crank in the problem and get the answer and are charged for 7.268 minutes of computer time or whatever they use.

Thus what was once a trial and error matter, has been reduced to the point where they now know exactly the outcome before they cut their first die. The result: Simmonds systems are flying on more than 20,000 aircraft of 130 types, for better than 50 different airlines all over the world. Besides the Convair 880 and Caravelle jets, military craft using Simmonds systems include the F101, F102, CF104, F104, F8U1, F8U2, A4D-2N, DHC4, GV1, P3V, and helicopters put out by Bell, Miller, Kaman, Sikorsky, and Vertol.

Simonds Radio Beacons were developed primarily to search for and rescue people who were lost. It all started in World War II when England had to find a quick method for recovering her aviators down in the English Channel. If they weren't recovered in 45 minutes they died of cold and exposure. They had to recover them mostly at night, and even Englishmen were willing to admit that the Channel had now and then a spot of fog.

What Ultra Electronics, the original inventors, came up with was a package which could be automatically activated through contact with salt water, or could be easily activated manually by a person in trouble. Activation caused an antenna to rise, and a special signal pulse, different from all other pulse patterns and pre-set at the factory, to be broadcast at 243 megacycles. It caused, too, a bright light to come on at the top of the unit.

Another package, designed for the search craft, was developed. The special antennas in each wing (in the case of a search plane) picked up the broadcast signal. It would align as a vertical trace or line on the scope of the SARAH Mark II receiver, and a horizontal spike would align at right angles to it. The spike would stick out to the left or to the right of the vertical line depending on which antenna picked it up.

The operator then would turn the plane in that direction until there was a spike on both sides of the vertical line as the other antenna picked the pulse up, too. Since the antennas are positioned like a man toeing-out, their field-overlap would be small. When the two spikes were the same length, the plane would be headed directly for the beacon that was broadcasting the pulses. And since all
this would be visual on the scope, like looking at a small round television set, the pilot could keep a straight course toward the object in fog or darkness or under any other set of miserably adverse conditions. When everything suddenly disappeared from the scope, the pilot knew he was right over the object and could get his fix. Since each beacon had been pre-set to make its spike appear at a different place on the vertical line, there would be no confusion about a multiple pickup. He would see all the spikes on the scope, and the highest one would be the nearest. These systems are used to recover the Mercury capsules and the nose cones of Nike Cajon, Jupiter, Atlas, Redstone, Thor and Titan missiles.

These then are the three major products. There are others that don’t bulk as large in the production picture. I mentioned earlier the push-pull controls. These are a fairly large item, but are manufactured in a small factory which the company maintains in Glendale, California, near where the plane factories that use most of them are located, not mainly in Vermont. The company has, in addition, an Exchange-Transfusion Blood Pump, designed by Dr. William D. Worthyington of Burlington, for hospitals to use to change the blood in “blue babies” more easily and safely than it could ever be done by hand.

There are too, the flush-fitting latches that I spoke of.

Each of these products has had so many customer-demand-variations that to all intents and purposes Simmonds business is a custom-tailored one. As an example, there are 283 separate manual operations required in making their very simplest tank unit. This is used on Lockheed’s Executive Jet plane. Those 283 manual operations require four hours and thirteen minutes of people-time. This does not count machine time, just people-time. The company has about 600 tank unit designs in all.

Mass production, where a worker installs the same part day after day, is out for Simmonds because of this. Even automatic machining is a lot of the time uneconomical because so few parts are needed at any one time. The work would hardly be set up when the run would be over. An illustration of this is their recent Boeing order—a very satisfactory take-care-of-the-payroll order to be spread over some 10 years and calling for jubilation throughout the plant—which consisted of 117 ship sets of fuel quantity gaging equipment for the new 727 Jet Transport.

First the engineers had to adapt the unit to the 707’s tanks. This called for a great deal of engineering time to say nothing of the computer time involved. Then when production was achieved, only three or four of the sets
Drilling pump parts requires infinite precision. Bernard Daigleault, tool room foreman, has four 20 year veterans among his men.

went with the initial delivery, and after that, only five to seven a month would be needed throughout the rest of the contract. Boeing was producing a plane worth millions; on that basis you don’t produce many a month, and your fuel gaging equipment order is limited by the number you produce.

To be as automatic as possible, yet meet the challenge of short machine runs, Simmonds is experimenting with a punched-card control system on some of its machines. On a drill press, for instance, a card is put into the machine and automatically the machine bores a certain pattern of holes in the metal fed into it. You get the few pieces you need, put in another card, and the machine bores another pattern of holes automatically until you have enough of those pieces and shut it off or substitute another card. Thus the machine will work automatically on several small jobs in a short time. The work doesn’t have to be set up laboriously by hand, with possible minute variations in accuracy over the run of last week. Once it’s set up and the card made, each piece will be the same as all the others no matter how many weeks elapse between small runs of that particular part, or how rusty on that process an operator may become. Setting up work entails only reaching into a card file.

Because of the minute parts, the delicate hand assembly, the average tank unit costs upwards of $100. And there are many tanks in each big plane. There must also be one complex indicator worth between $350 and $1000. It is easy to see, then, how a plant with 40,000 feet of floor space could at all times have a million and a half dollars tied up in materials, finished parts in inventory, and work-in-progress.

The floor lay-out must provide for engineering and experimentation, raw material storage, manufacture, assembly, inspection and testing, plus of course shipping and office space. Some of the assembly calls for tolerances so minute that dust or dirt on one of the components could alter disastrously the finished product. This delicate work is done under cases with a glass front. Sterile shields. The operator sits before one of these shields, his hands and lower arms inside. He watches the work he is doing through the glass panel, and filtered air continuously flows into the sterile shield and out of the opening below the work window. The whole plant is to be air-conditioned soon.

Product testing and inspection must be accurate, coldly objective and complete. It is by no means bounded by the limitations of the human eye. As an example, one large machine pressure-tests for leaks using 90% dry nitrogen and 10% dry helium. In this machine a leak so minute that it would take several years for the small amount of testing helium in the machine to pass through it, can be readily detected. In the test laboratory products are subjected to temperatures from 85 below zero to 257 above zero in a special cabinet. Vibration machines test stresses to the point where the plastic shaft of a fuel measuring assembly may become almost a letter S.

Most important of all are the people who make up the Simmonds organization. The Vermont operation is headed by Harrison Edwards; the personnel director is Clifford Austin.

Mr. Edwards took over the Vergennes plant March 1, 1961, at a time when the ’60-’61 recession had cut back drastically the plant’s orders and earnings. There were widespread lay-offs even among high staff members. Since then the work force has come back from a low of about 360, to over 414. New orders have been gratifying. The company planning is (and must be in such a field) extremely modern, forward looking, confident, aggressive. The Edwards family finds time to be active in community affairs, and Mr. Edwards is a ham radio operator, a hobby which for anyone in his field is a busman’s holiday.

“A lot of our people have been with us a very long time. We have very little labor turnover. These people have developed a terrific variety of skills. Our customers who visit the plant are continually amazed at the variety of those skills. Thus when one line of work dries up temporarily, we can shift these men to other work that may be booming at the moment. This ‘product-mix’ point of view of ours keeps us going the whole year even though the business of many of our customers is extremely cyclical.”
The Simmonds Company appears to have no labor problems worthy of the name.

"The wages we pay our men are about average for the type of work. The fringe benefits we give are above average. Our pension plan we are just starting. If at all possible we do not hire for peaks, or lay-off for valleys. When we are forced to lay off we try to cushion the financial blow wherever possible. For instance, we would lay off only one employee in a family where we had multiple employees.

"For their part, we have found Vermont labor wonderful in the matter of changes and in all their labor attitudes. They will work overtime willingly, once we convince them of the need for it. Their grapevine knows when the work is piling up as quickly as we do. They'll work overtime, without pressure from us until the work flow is normal again. When we plan a change in rules and procedures, we explain in advance the need for the changes through foremen and possibly through key employees."

The Simmonds employees grasp the need for changes readily, and once convinced of the need, cooperate.

"They are genuinely interested in their jobs and the company, and want to improve themselves and their skills. When we put on evening courses, a surprisingly large number of the men and women in that field will sign up. And they don't just sign up to impress us, then come to a class or two and drop out. Better than 90 percent of those who sign up, complete the course."

Simmonds employees commute from all the surrounding area, although almost three-quarters of them live in the Vergennes area. In most cases the distance is minor compared, for instance, to the commuting distances into New York City.

Duane Myrick, whom this reporter has known since Duane was a week old, was born in Bridport, and commutes about 12 miles. He works with IBM equipment. Martin Schmidt, a within-stone's-throw neighbor of mine, lives in Middlebury and handles payroll. Doe Prince, who once took my hand and led me through the terminology mazes of an electronics-ham radio story I was writing, lives in Middlebury. He's an electronics expert. The Rose family, my Lake Champlain neighbors in summer, all work for the company and live on a bluff with a ten mile sweep of lake and mountain view toward Westport. Their commuting distance is about ten miles. The employee who has been the longest with the company is Bernard Daigorneau of Vergennes, whose service with the L. F. Benton Company and Simmonds spans 45 years.

You find Simmonds employees in all area activities, the lectures, the concerts, the church choir, the Couples Dance Club, the drama club, the orchestra, the Boy Scout executive board, the school board. You meet the men deer hunting in the fall, or on the golf course. Other men (and a lot of women, too, because the work force is 25 percent women) have camps on Lake Champlain, the river, or Lake Dunmore. They have fish shanties on Lake Champlain ice in winter. I've played baseball with and against a lot of them. So close at hand are the outdoor recreational opportunities in Vergennes, things like fishing and hunting which city plant workers must drive hundreds of miles to do, that Simmonds workers can even take advantage of them before and after work.

Simmonds Precision Products is managed from Tarrytown, New York, where its main offices are located. President is Geoffrey Simmonds, who has strong personal ties with Vermont. There are branch offices in Glendale, San Diego, Tulsa, Dayton, Detroit, Muskegon and Washington, D. C. None of these (with the Glendale exception mentioned above) does any manufacturing. They plan, sell, coordinate, and have their trained engineers available for help in installing and servicing.

The company has a wholly owned subsidiary, Audium, N.V., in Amsterdam, Holland, and an associated Canadian company, Simmonds Aerocessories of Canada, Ltd. in Hamilton, Ontario. They have, too, an associate in London. This is a reversal of the usual, because London is one of the largest cities in the world, and Vergennes at about 2000 is the second smallest.

Simmonds sells a lot in Europe from the Audium plant to the Common Market. The export-import laws are complex always, but are further complicated by special agreements which can be made when no one in a given country manufactures a needed product. By special agreement, Simmonds can sometimes use parts from that country, and if they do that, can assemble and ship the manufactured whole back duty free. Meantime our government will allow the use of up to 15 percent foreign components in government work.

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In this country their main competition has been Minneapolis-Honeywell. Simmonds has for years had the jump on competition, especially in fuel injector work. They have built more gasoline fuel injector systems in the United States than any other company. A decade or more ago Simmonds engineers in their planning, gambled that planes, military vehicles and the like, would not go diesel. They haven't, and the gamble has paid off for the company.

As for Simmonds plans for the future, they are breaking ground for a new engineering building at the plant there in Vergennes as this is written. When that building is finished they will move out of the old original L. F. Benton building across the river beside the falls.

"In actual practice we've found that it's almost as difficult to have the two buildings a third of a mile apart as it would be to have them in separate towns. You can't step over there, when you have a problem; you wait till you have a whole list of things and then make a project of going, which doesn't work out very well."

Next spring they will break ground for a new office building. By the end of 1962 they will have this whole Vergennes operation in one place.

"These buildings show that we're planning to be here a long, long time."

In their organization there is a New Products Committee. This meets once a month and examines any idea, no matter how fantastic, that has been submitted. About 99 percent have to be thrown out as impractical, or unsaleable, or some combination of the two. Surveys on market and competition are made on any ideas that seem promising.

Research and Development are very important. The engineering department is constantly experimenting. At the moment they are trying to perfect clamps and other hospital items so that it will be more economically sound for a salesman to call on hospitals with their blood transfusion pump.

In the fuel injection line, they are working on a multifuel system. The Army wants such a system badly; a system with which, without adjustment, they can fill a vehicle's tank with any available hydrocarbon fuel and have the system handle it. That means you could dump gasoline into the vehicle, then if no more gas were available, you could dump in kerosene, or even fuel oil, or in a dire emergency, peanut oil. And your vehicle would take-off equally well on each. Such a system would mean a big jump in contracts. "The Army wants it, and what they want, they get. It might as well be Simmonds that gives it to them."

Incidentally, they had trouble getting their first fuel injection contract with the army. The army was afraid that, in case of attack and with no other company making these systems, Simmonds could be knocked out by enemy action, and our armed forces would then have a lot of vehicles coming off the assembly line with no fuel systems to run them. But the Pentagon took a chance, and by now they have the systems supply-depoted here and there in such a way that there is no longer this danger.

In Canada all planes flying over lonely areas are required by law to be equipped with SARAH or a system like it. N.A.T.O. countries have much the same requirement for all planes. If this country ever decides that plane-accident search problems could be drastically simplified and lives saved by such a law, the sales jump for this product will be impressive.

At the moment about 75 percent of Simmonds production is for planes, the rest for ground vehicles. Top management feels that sooner or later truck manufacturers, perhaps even car manufacturers, may switch from carburetors to fuel injection systems. Tests have shown a fuel saving of about 10 percent.

There isn't an awful lot of hope in the case of cars. Simmonds thought it might come when the horsepower race calmed down for a while. They put injector systems on their own company cars and tried them out exhaustively. But fuel savings in small amounts don't seem to make a lot of difference to car buyers. And the horsepower race seems to have revived again.

In the matter of trucks it's different. To a man owning a fleet of trucks, a ten percent saving in fuel costs is very important; might be the difference between a low bid on a contract and an also-ran bid.

Two of the biggest truck manufacturers have been particularly interested. In fact, one employee told this reporter, "A contract with one company was close enough
at one time so that the whole place was in a dither. Boy, would a contract that size have been a bear-by-the-tail to this outfit! We'd have had to burst the plant at the seams and in addition farm out patents to other companies."

What Simmonds Precision Products hopes for is a gradual acceptance of fuel injection by the truck industry so that it can be handled without bringing in outside companies.

In that case would fairly rapid expansion be possible?

"Oh yes. A small number of highly skilled men can teach small operations to a very large number of unskilled workers. The skilled can break down the processes into as small moves as need be, and each unskilled man learns one of these moves. Putting together a radio kit is an example. You couldn't build the article in question; you wouldn't have the knowledge or skill. But you or anyone else could put together a kit by following directions, and having the pre-machined pieces and parts; you could make the article perfectly. It would boil down with us to method study and engineering study. And we have the men for that."

If the company had to expand drastically, Mr. Edwards feels there would be enough unskilled labor available in the area.

"We've never found any difficulty getting high quality unskilled labor in Vermont. We would, however, have to bring in a small nucleus of highly skilled men."

We asked him if he would anticipate trouble getting these highly skilled men to move from the city to a rural area. Would they be afraid of boredom in the country?

"Possibly with some men, especially young unmarried men. The fear that's expressed to us more often than that is the fear that there might be no other factory jobs nearby. And actually this helps us weed out men we don't want. If an employee doesn't have enough confidence in himself and his ability, and for that matter in us, and feels that other ace-in-the-hole jobs nearby are a must, then probably we don't want him."

This wouldn't prevent them from getting enough skilled men?

"No indeed. For every man who would hesitate to come to the country for any reason, there are maybe two who have experienced the big city rat race, rebel at bringing up their children in that environment, want desperately to get away, and would actually make sacrifices to do so. We have several such men working for us now. No, our main headache would be enough adequate rental housing to attract them."

Mr. Edwards thought a moment and added, "And if we had these jobs coming regularly available we could persuade outstanding local graduates in engineering to stay at home. Many of them would like to, but the illusion has become accepted by all that if you want to live in Vermont, you've got to run a dairy farm. My stud-

ies and my figures show that of late years Vermont is not predominantly an agricultural state. To convince students that there are other-than-agricultural opportunities at home, we tell our story to high school and college groups whenever we're asked to do so. I'm speaking at Vergennes Union High School tomorrow."

We asked Mr. Edwards what advantages they had found in being in a rural area.

"Taxes are lower. There's the responsible attitude of labor. And we feel that our families in all ages have a fuller life here. There are many others."

Do they find transportation a disadvantage?

"Not at all. The items we manufacture are all light weight—high value, and as a rule we ship only a few at a time. We use parcel post a lot. And air express. We feel that we are working for the aircraft industry, and where possible we should use aircraft services. As for supply, a truckload now and then of material and components handles us nicely."

You look back at the plant as you leave it, its brightly lighted windows shining cheerfully in the late afternoon dusk. You see the fields and the hills nearby. You see the huge parking area full of cars, the horseshoe-pitching courts in the next field which you saw in use during the noon hour. The industrial and the rural, side by side.

You think how typical this company is of the companies which do well in Vermont. Small, as those things go, so that it uses mostly available local labor, pours cash into the local economy, yet does not require huge tax outlays for extra schools, churches, services. It is not handcuffed by distance from market or supply. Its personnel eases, by sharing, the many responsibilities of the area.

Down below the plant, just across and up-river, Commodore Macdonough built the American fleet which engaged the British in the Battle of Plattsburgh; 40 days from standing tree to floating battleship. You think of the astronauts, the recovered space capsules. And you decide that here pioneering in the best Vermont tradition still goes on.

END
In Norwich almost everybody reads *The News*

IN FACT, 13-year-olds Alan Perkins and Leonard Rieser have built their weekly *News* to about 150 circulation since starting it four years ago, and have subscribers now in almost every state and in three foreign countries. Newsstand sales average another 100 copies.

The two editors write the paper themselves, with occasional help in guest editorials and special reporter's features. They do their own comic strip, solicit and lay out ads (75 cents per full page), mimeograph and distribute each issue.

The young newsmen are their own severest critics, conceding one issue's "the grass looks like it was painted with green crayon" really was "too mushy".

Strictly creative writing crops up in *The News* occasionally. Such was THE DEDICATION OF THE NEW MECHANICS STREET BRIDGE. Their report,
complete with ribbon cutting and speeches, was copied by the nearby Hanover Gazette. It was learned only later The News had reported an occasion its editors thought should have taken place—but which didn’t.

The News’ editors have learned a dull front page hurts sales on local newsstands (at left). Publication day finds almost everybody gathered, a happy climax to arduous editorial and press work. Editor Rieser checks copy as he types a late news stencil. Meanwhile Gordon Smith and Editor Perkins run off an early page.

The News, after some initial parental financing, now runs in the black. And when the surplus gets too large, the editors and contributors take care of that: they throw a big party.

END

HANSON CARROLL
BARTÓK, the noted Hungarian composer, born 1881 in Transylvania, began at nine the study of piano and composition, later moving to Budapest. Here, with Zoltán Kodály, he developed a lifelong interest in national folk themes. He retired from piano teaching in 1912 to full-time composition. In 1940 he came to America, already one of the world's greatest living composers. But only at the time of his death in New York five years later was wide public recognition emerging. Bartók composed many chamber and piano works now in the standard repertoire. Other compositions included "Kossoth," "Bluebeard's Castle" and the familiar "Miracle Mandarin."

Vermont's Quiet Valleys and mountain forests have brought solace to many talented men and women in times of weariness and trouble. Surely none of them was closer to the top of his profession than Béla Bartók, the great Hungarian composer who came to Riverton to spend the summer of 1941. Exiled by their own choice from their own country, separated from their teen-age son who was still in Hungary, he and his wife Ditta were invited to stay with Agatha Fassett, who owned the big old white house near the top of the hill above the village. She too was Hungarian, and had bought the place only a couple of years before, but she was far more at home in her new country than were they. She told the story of that summer, and of the following years until Bartók's death in 1945, in her book The Naked Face of Genius.

Riverton is not an especially pretty village, as Vermont villages go. A few miles south of Montpelier, in the valley of the Dog River, it is mostly a huddle of houses around a store—no dignified village green surrounded by white houses, no steepled church. Still, it looks out on green hills, and from its center to the east a steep, winding, well-kept road climbs high up the mountain side. From this upper level the view to north and west is magnificent. That reach of mountains, row on row, was the great attraction, the delight of the Fassett house. Behind the house were a long stretch of woods and untilled fields, where flourished daisies and hardhack and later goldenrod. Nowadays the house stands empty. Neighbors bought it because it was neglected, since Agatha Fassett has long since gone to live elsewhere. It may have to be torn down, being too far gone for repair. If nothing is done, it will soon crumble into the cellar. But there are still people in Riverton who remember well the little, oldish man who spoke in such an odd fashion, and who used to wander along the wood roads, leaning heavily on a stout stick and wearing a limp straw hat in all kinds of weather.

Bartók was already dying of leukemia, though he himself perhaps did not guess that the aches, the weariness that he endured were but forerunners of the deadly cancer in his blood. Yet no one on this earth was ever more intensely alive to all that went on around him; sight and hearing were keen. He heard everything. The first night they arrived, he woke to the far-off wail of a runaway cat caught in a fork of a tree in the woods. He routed out the women and a neighbor, to go after it, scornful of their inability to trace the sound until they were close to the struggling animal. The humming of the diesel that provided current for the house annoyed him; finally it had to be shut down at night, while he enjoyed the light of a
favorite kerosene lamp. He watched intensely all the life of the woods, bringing home with him many things he picked up, such as a single colored leaf or a beetle which he would let go as soon as he had showed it off resting on the back of his hand. He reveled in a pocket of rich soil, or the manure heap on a neighboring farm, which meant life and growth to him. A patch of lichen set him dreaming of the living things that must be swarming within it, the insects and parasites dependent on it. He would sit up all night gazing at the Northern Lights. He loved picking wild berries, finding lost apple trees where long ago some cabin had stood. These were the things he prized in his Vermont surroundings, not the ordinary “withered” roses that someone had set out by the house.

Life with Bartók was certainly not easy. He exhausted himself in his search for “the real,” which often took the form of a longing for his childhood in Hungary, a homesickness for the life he had seen among the peasants. Fortunately for Agatha Fassett, she was herself a musician who worshiped his genius and understood the passion for perfection, the flame that burned in that failing body; she bore with patience his frequent faultfinding. He could not understand why her land was not being tilled, why on such good soil, he considered it, crops were not growing. It did no good for her to protest that in wartime it was impossible to hire men to farm such rough hill country, that it was better to use available manpower where the most food could be grown. Bartók was only happy when he found his way through the woods to the home of a Spanish couple, who were good farmers and who gave him black bread and buttermilk. With them he was delightful, exercising all his charm. But when people came from the city, as visitors or on business, eager to do him kindness, he might refuse to speak while they were there. He was particularly angry and distressed by the way the man who worked for Agatha treated his horses, and he was furious because, as he said, he would have to think of them the next winter, miserable in the cold of their poor shelter. Any animal could command his affection and sympathy, but he often scorned men and women. He preferred to talk to the cats, which he actually could do, imitating the call of a mother cat to her kitten, and he worried desperately if they were ill. But he was contemptuous of Agatha’s household help’s efforts to make bread at home for him. “In the afternoon!” he exclaimed. But no, bread must be started in the early, early morning.

In everything he wanted absolute order and absolute accuracy, standards beyond human attainment.

While he lived in the white house on the hill, he worked long hours over his collections of folk music from many countries, but he found it hard to compose. He suddenly decided to leave, after a disastrous visit to the granite quarries, when a siren reminded him too painfully of the air-raid warnings he knew in Europe. His wife Ditta stayed on a few days, because he wished it. The next summer she came back, distraught over their uncertain prospects and his illness. Then Péter, their son who had reached America, made a visit. But Béla Bartók never returned. At least in New York he gained the recognition he wanted, and best of all heard Menuhin play his solo violin sonata, as he said, “beyond all expectancy.” The third piano concerto was finished and performed after his death, since he had left seventeen bars with only indications. It left its hearers feeling that any sacrifice made to please him had been slight indeed, that genius makes its own rules.

Miriam Chapin

Thanks . . . and Welcome

The editors report with regret the retirement of Elizabeth Kent Gay as editor of these pages. Her Arts in Review has found a wide, appreciative audience the past six years.

Inaugurated in this issue is a new column on the arts. Vermont Life Reports, beginning with Vol. XVII, will be conducted by Samuel R. Ogden of Landgrove, whose close associations with this magazine began in 1946 as one of the official founders.

Mystery Picture 22

The first correct location of this tower, filmed by Howard Bogue, postmarked after midnight, May 21st, will receive one of our special awards. Residents of the town involved, are disqualified, as are those whose entries are stamped May 21st. Please use postal cards.

Winner of our Spring contest, an Indian Face rock by Rte. 30 near Bondville, was Julia Wheelock of Brattleboro.

Summer 1962 • 47
A man, to be a man, must live his life
The way he sees it . . . not as others see it;
And there are men who will not compromise
With progress . . . looking on it as opinion
Rather than truth.

Up on the lost hill farms
Beyond the metal silos and macadam,
Now and again you come upon a man
Who puts his faith in what has gone before him,
Trusting the lone and difficult survival
That served his father and his father's father
To serve him, too.

He reached a crossroads once
Perhaps; a year or season when he wondered
About the towns or where the railroads went
Or how it felt to sleep 'til eight. But that
Was long ago and never might have happened.
Yet – if, indeed, it did – habit is sometimes
Stronger than wonder, and a man sometimes
Stronger than either, when at last he chooses
The road that he must take.

Winters are long
Up in the north, and days begin in darkness.
Mornings, the white snow eddies round the barn
And ice is frozen in the drinking troughs,
Where the few cows and solitary horse
Wait for the sound of footsteps, breathing steam.
After the winter ends, and crows return
To flap and caw behind the sugarhouse
And spring comes late and never all at once . . .
Even when pear trees blossom in the wood
And peepers cry at evening from the river,
A frost can kill the slowly-greening garden
Or kill the apple crop.

Summer will come
This year and next, as always, and will never
Be long enough to mend the roofs and fences
And hoe and harrow; never long enough
To swing the scythe and rake the hay and draw it
Into the mow, between the rainstorms needed
To grow the grain and fill the drying well,
Then suddenly, some wide gold day, the summer
Changes to autumn, with the crops to harvest
And wood to cut and stack inside the woodshed
Against another winter.

Old ways die,
But on the lost hill farms beyond the signboards,
Beyond the metal silos and macadam,
Now and again you come upon a man
Who lives his life as men before him lived it,
Trusting the past the way he trusts the winter
To end in spring . . . spring when the April promise
Of one small blade of grass coming alive
Assures him all dark meadows will survive.
THE McLAMS:  

hill farmers

SO IT IS with Charles and Sheldon McLain, his son, pictured by Hanson Carroll on the preceding, the following and these pages.

Here in East Topsham once there were eighty farms, and today Charles McLain, past four score years of age, with his son carries on the old place, one of eight which remain.

Steadily for the past half century, modern equipment and larger herds have come to dominate Vermont farming. Small, family farms by the thousands have slowly disappeared.

This is the logic of American economics, the large and efficient surviving. But with the passing of Vermont’s hill farms so also passes the measured life of self-sufficiency. From these hill farms came Vermont’s great heritage, the character of its people.

The McLam’s 175 acres once carried 24 head of cattle, and today there are three. The demands are small now, and the McLams farm in the old ways. The tools are worn but kept in good repair. The pace is slow but thorough.

In the barn behind the neat brick farmhouse the morning chores begin at five. Milking must be done on time for the truck arrives at seven from the creamery.

Chub the horse is sixteen now. It is he who pulls the plow and harrow, and in the harvest of July, draws the clacking mower, resting while the men...
with slow measured sweeps scythe the fence fringe clean. Chub pulls the hay rake and the wagon later, while in the golden afternoon above the village, the sun-cured forks of fragrant hay are pitched aloft.

Driving the lurching load of hay down at dusk from the west hill, the making of the slow, sure harvest is given to few men now to enjoy. To those who see the scene, it is a reminder that the old ways still count.
appreciate (ā-prē'shē-āt) v.; -ates; -ating.
1. To place a sufficiently high estimate on.
2. To be fully conscious of; be aware of; detect.
3. To raise in value.
4. To increase in value.

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You can never tell about beavers. When the first few sticks appeared in a line across the New Haven River in front of our property, we scratched our heads.

"Beavers, Dad? Do you think beavers are actually trying to dam up the river?"

It didn’t fit. The ends of the sticks plainly showed the work of beavers—chiseled to a point by those four strong rodent teeth. Most of them were jammed in the sand, butt-first, so their branches would catch leaves and floating debris. But our New Haven River was too swift for any beaver pond. It had turned the machinery in a dozen mills, whirled the dynamos for a power plant, and had once gone on a rampage through Lincoln and torn the town in half. Though it appeared mild enough now in the dry season, the first fall flood would wipe out any dam they could ever build.

Where was the fabled beaver engineering genius if they were going to try to tame such a stream?

The dam grew night after night. Heavy branches, cut from the aspens and alders nearby, formed the framework. These were loaded with pats of mud, sod and pebbles until they became watertight. A large rock 6 feet out in the river served as a bulwark. Finished, the dam lay quietly at the lower end of its pool, while the water whispered over the entire 40 feet of its edge.

The rains finally came in November. It drizzled for several days. The river rampaged over its banks. We sloshed down the road to see what was left of the beaver dam. Sure enough, it was gone.

"Now, how are they going to build it back?" the children wanted to know.

"There’ll probably be high water in the river until spring."

And there, of course, was the answer. At last the beavers had the deep water they needed. And, by living in the bank of the river instead of the conventional hut of sticks and mud, they would survive through the winter. They had just built a one-shot dam—merely a summer home.

Our furry neighbors have followed this same routine for three years now. Pioneers in this stretch of river they have, like many another pioneer, learned to "make do" under the conditions at hand. If industry is the first characteristic of the beaver, versatility is the second.

A beaver often tunnels through a river bank to get somewhere, instead of making a laborious trip overland. Other times it creates waterways where none existed before. A beaver pond near us has been in use for years. The choice aspens, willows and alders have long since been cut, and the beavers have to search far afield for their twigs and tender bark. But a beaver out of water is clumsy and helpless, for all its 20 to 50 pounds or more. So they have carried their water with them.

To do this, they built a series of locks in a tiny stream which ran down to the pond. Every few feet they made a little dam of sod, brush and mud. These terraces serve in two ways—as swim-lanes for the beavers to and from woodlands and as waterways for floating branches and logs with little effort. As they forage farther away from the main pond, they just build
another lock in their hillside canal.

At the moment, the system has more than half a dozen locks, each with side branches. They total several hundred feet. No other wild animal on earth, I'm told, purposely so changes the landscape to suit its ends. Dams have been recorded nearly ½ mile long and 14 feet high.

A resourceful beaver pulled an old trick on a friend of mine. "My dog cornered it in some rushes next to shore," he told me. "It was limping badly by the time I arrived. I called off the dog, and you never saw such a change in a beaver. Its limp disappeared, just like that, and it made a rush for the water.

"Then I caught on. Sure enough, a few feet away I saw some little webbed footprints and a patch of muddy water. Old mamma beaver had just been keeping Tippy busy 'til all the kids were safe."

In reality, "old mamma" has a lethal set of buck teeth. Orange, slightly curved, 2½ inches long including roots, they can slice through a 4-inch tree in 20 minutes. The Indians used them for chisels to shape wood and bone. But the beaver would rather seek flight than fight. It swims slowly through the pond, paddling with its large webbed hind feet, steering with its flat scaly tail. Its squared-off nose, near-sighted eyes and round little ears sample the surroundings.

No matter how quietly we steal up, it remains suspicious. Alarmed, it dives, whacking its tail with a ker-plunk like a heavy stone dropped in the water. Sometimes it stays under for 10 minutes. In the winter, it can remain even longer, breathing air that has been trapped beneath the ice.

All summer and fall we can watch our beaver neighbors at work. We often take flashlights to help us, for they don't seem to mind the glare. One after the other, they bring green branches and disappear beneath the surface. Two winters ago I discovered for myself what they did with them. Through the ice I could see dozens of branches in a well-packed pile. So plentiful is the underwater pantry that beavers actually gain weight in winter.

Once, while I was kneeling on the ice and peering down, a great sleek body swept past—one of my friends on his way to the winter storehouse. The dense fur, trapping a coat of air as insulation against the freezing water, seemed cloaked in silver. It almost hid the dark brownish-black which is the normal color.

A good-sized beaver lodge may be 15 feet or more in diameter. Made of sticks, mud and turf, it looks like a strange mounded island in the pond, or built out from shore. Inside is a hollow room, high enough in record specimens to accommodate a standing man. An abandoned one I looked into was 3½ feet high, with a raised floor of dry wood chips.

It's here, in the spring after a mid-winter mating, that up to five kits are born. Helpless at first, they depend on their wet-furred mother as she comes through the underwater entrance to the lodge to nurse them. They yip and whine like puppies, though I've never heard a beaver give voice outside the lodge. By summer they are out snipping vegetation with their mother, chasing each other and spattering the water with their flat little tails, whether there's danger around or not.

The male leaves the family chores to his mate. He finds a den of his own for a while. But he may be back with her while the kits are still growing. The entire family often winters over in a single lodge, sometimes with last year's grown children as well. The older children leave for good in the spring. They set out to establish families of their own. It's this wanderlust that keeps the beavers spreading.

A winter family may produce enough heat in the lodge to send up a thin wisp of steam, which rises through a flue to the outside air like smoke from a tepee. In fact, the Indians, looking at the lives of their beaver neighbors, concluded that they were really people who had been changed into animals. The beavers' little handlike front feet heightened this illusion, as did their habit of tucking the ten-inch tail under their bodies as a cushion when they sat down.

One autumn day I came across a beaver post office. This was a spot along a beaver post line. This was a spot along a bank with a dozen little mud patties on it.
About as common in Vermont as anywhere, the beaver is also known throughout almost all of North America. Pursuit of the lustrous fur sped the settlement of Canada enormously and opened a great part of our own West. The Astor fortune was built on beaver pelts, and they were long a medium of exchange over thousands of square miles. A friend of mine has a Hudson Bay blanket in his trunk, marked with four stripes: value, four waddling baby beavers. Abandoned farmland supplies less than its share of troublesome dogs and inquisitive farm boys. Although a waddling baby beaver is easy prey on land for a host of predators, the adults have little to fear except for an occasional otter. Hence the beavers who make it to maturity find that the odds are in their favor.

But there's another side, too. Eager beavers sometimes get out of hand. A friend of mine watched his meadow hayfield disappear under a foot of water. It backed clear up under his fence and on to his neighbor's land.

When he finally dynamited the dam, he also blasted his neighbor's friendship. The neighbor, it turned out, had quietly released a load of trout into the pond. Now he saw his money go, literally and figuratively, down the drain.

My neighbor down-river lost her choice French lilac to a beaver gourmet. And many a road commissioner will reach white heat about how a country road was flooded in spite of his best efforts. For a colony of beavers can easily outstrip a highway engineer.

"The problem," one warden told me, "is that a given piece of land can support just so many animals of any species. They're all part of a complicated natural balance. If we go ahead and kill off their enemies or tinker with the balance in some other way, they may increase faster than the land can hold them. Then, like some of our Vermont beavers, they over-run the place. You might say the land could become super-saturated with beavers—in more ways than one."

In some states, such as Massachusetts, beavers have been live-trapped and moved to areas where they can frolic all they wish. In the west they are even flown to inaccessible spots and dropped in self-opening cages. But here in Vermont, such action has little effect, according to George W. Davis, Fish and Game Commissioner. Most of the spots have already been picked over by the beavers themselves. If it's not good beaver country, they travel on.

Starting somewhat more than a decade ago they moved from the saturated area around Groton and gradually spread out, somewhat as an ice-cube tray will fill to the farthest corners as water is poured into one section. In 1961 more than 3,500 of them were taken over all of Vermont's 14 counties during the late winter trapping season—nearly three times as many as were taken ten years before.

An acquaintance of mine is an officer of a youth camp. The staff was delighted when a pair of beavers moved in at the lower end of the little lake. "The campers used to watch them at dusk," he said. "One evening we saw one nibbling at something on the ground. Nobody bothered to figure what it was until we tried to get water the next morning. He had gnawed right through the 3-inch plastic pipe that went out into the lake."

"This was just the start of our troubles. A week later our prize weeping willow lay on the ground. It was cut into stove-length pieces. Several canoe paddles disappeared. The beavers were starting on the pilings of the dock when we finally got them live-trapped."

"Another camp heard about our visitors and asked us if they could have them. So we wet them down good to keep their foot-pads from cracking and shipped 'em out. So far, we're still good friends with the folks in the other camp, but I haven't dared to ask about their beavers."

An old-timer told a group of us about a beaver family that caused a lot of trouble where a crew was trying to lay out a road. Each night the beavers would build up the dam and flood the area; each day the crew would tear it down.

"It got to be pretty tiresome to the crew," he said. "And I guess the beavers got tired, too. One morning the men couldn't believe their eyes. The dam was in place once again, but there was no water behind it."

"The crew went to look things over. They found that the beavers had put a piece of stovepipe right through the dam with a shut-off damper in it. They'd used the water all night and then opened the valve in the morning to let it out."

He stared at us, daring anyone to question such a whopper. But nobody even cracked a smile.

After all, you can never tell about beavers.

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"IT IS ABOUT TIME," Mrs. Appleyard said, "that someone repaired the staff of life. Imagine trying to lean on this!"

She was looking at a loaf of commercial bread made apparently of kapok flavored with plaster of Paris with a large amount of air beaten into it. Mrs. Appleyard felt sure it was not Vermont air, which is bracing and which gives a certain amount of backbone to practically anything. Of course, as proclaimed on the wrapper, the bread contained preservatives to keep it just as limp and tasteless as it was when first baked.

"If I had needed a poultice and not bread and butter for afternoon tea, I would have bought it." Mrs. Appleyard announced.

By one of the happiest of accidents Andrea Morini, one of the neighborhood’s best bread makers, came into the shop at that moment. She looked like a Renaissance princess, and she was carrying two loaves of bread, her donation to the P.T.A. Food Sale. Mrs. Appleyard bought them before they hit the red and white checked tablecloth. Home baked bread, she notices, always vanishes first at a food sale. Cakes with fluffy frosting cannot compete with it.

"I think this looks like an especially good batch, even for you," she told Andrea.

"That," Andrea told her, "if so, is because your daughter Cicely was with me while I was kneading it. Bread making goes much better if you have congenial company than if you thump it morosely alone."

Mrs. Appleyard cannot imagine Andrea doing anything morosely but she agrees that bread making is an emotional experience and, as an invention, is more remarkable than anything electronic, as a process magical and mysterious. However she also thinks a little practical advice does no harm and as Andrea has generously described her method, Mrs. Appleyard takes pleasure in passing on the directions. Her own contribution is the suggestion that beginning bakers had better start with white bread rather than with whole wheat which, under the hands of amateur kneaders, often results in quite a challenge to the family teeth. Use stone ground flour if possible, or anyway unbleached, enriched flour.

**Andrea Morini’s WHITE BREAD**

**(FOUR LOAVES)**

Scald 3 1/2 c. milk and cool to lukewarm.

Measure 1 c. warm water into a warm mixing bowl.

Add 3 pkgs. active dry yeast, stir to dissolve.

Stir in the lukewarm milk in which you have dissolved 4 Tbsp. of butter.

Add half of 14 to 15 cups of flour sifted with 6 Tbsp. granulated sugar, 2 Tbsp. salt.

Beat with a wooden spoon until smooth. Batter should fall in sheets from the spoon. Mix in enough of the remaining flour with your hand until dough leaves the sides of the bowl. Turn onto a lightly floured board. (I use a marble slab, which requires less flour.) Cover. Let dough rest 10-15 minutes. Knead until smooth, pulling dough away from you with the heel of the hand, pulling it back with your fingers. (A cool kitchen makes kneading harder and the grain of the bread finer than a warm one does.) Knead until dough is smooth—(10-12 minutes.) Make into a ball. Put it into a buttered bowl. Turn the ball over so that the whole surface is slightly buttered. Cover with a clean dish towel moistened a little with warm water. Let rise in a warm place (about 85 degrees) until double in bulk (about one hour.) If your oven has a pilot light it will be warm enough. If it hasn’t, put a pan of warm water in the bottom of the oven. Use a thermometer. Add more hot water occasionally to keep it about 85 degrees. When the dough has risen enough, two fingers pressed into it will leave an indentation. Punch it down with your fist. Let it rise till double again (about 30 minutes.)

Divide in 4 parts. Cover. Let it rest 10 minutes. Shape each part into a loaf. Thus: flatten dough into an oblong 9 x 12 inches, pressing out air with your knuckles. Fold dough in half, lengthwise. Flatten to an oblong 15 x 5 inches. Again press out air. Fold in thirds by overlapping the ends, keeping dough the same width as the pan. Press out air. Roll toward you, a third at a time, scaling well with heel of hand, and seal each end by pressing with the edge of hands. Smooth loaf lightly and place sealed side down in well buttered 9 x 5 x 3 tin loaf pan. Brush top with melted butter. Cover. Let rise till dough reaches side of pan and top is rounded. (50-65 minutes.)

Bake at 425 degrees for 25-30 minutes. If it browns too quickly reduce heat to 350 degrees. Total baking time may be 45 minutes or more according to number of loaves, kind of pans used. When bread shrinks from pan and sounds hollow when tapped, it is done. Take it out of the pans and place on rack to cool. Brush with butter. Cover with a towel briefly so it can finish cooling out of a draft.

Perhaps the most important piece of equipment is a musical ear, sensitive to the right resonance of a tapped loaf. Andrea does not trust herself. She calls her husband to tap and listen and pronounce that the bread is done.

Mrs. Appleyard says that it satisfies all five senses: sight with its golden brown crustiness, touch with its fine firm texture, smell with the fragrance that makes everyone hungry, hearing with that note of a distant drum, and—last of all—taste.

"And," she adds, "if you can get some loaves into the freezer before the neighbors smell it and come for hot buttered slices, you will be lucky enough to have a staff of life you can lean upon with confidence. I’d better get some yeast myself."

END
Summer Events

NOTE: All dates are inclusive. This data was compiled last winter, so is subject to change, and not complete. Write Publicity Director, Vermont Department of Development.

CONTINUING EVENTS


Apr. 28–Sept. 30: Trout Season
Apr. 28–Mar. 15: Perch, Pike, Pickerel, Muskellunge Seasons
May 26–Mar. 15: Smelt Season
Lake Champlain Ferries–Burlington-Port Kent, N.Y., Grand Isle-Plattsburg, N.Y., Charlotte-Essex, N.Y.

May 22–Oct. 15: Orwell–Daniels Museum
May 22–Oct. 30: Barre–Maple Museum, 8–5
May 22–Oct. 31: Barre–Granite Craftsman Ctr. (Mon.–Fri.) 8:30–4
May 30–Sept. 3: Vernon–Mus. (Fri., Sun., Holidays)

May 31–Aug. 30: Barre–Granite Mus. (Thurs.) 3–5
May 31-Aug. 21: Morgan–Sugar-On-Snow Supper, 5

May 24–26: Hardwick–Tulip Festival
June 1–3: S. Woodstock–GMHA Ride
June 2: Enosburg Falls–Daisy Fest. W. Townsend–Food Sale
June 2–3: Woodstock–State Pistol Tournament
June 5: Brandon–Flower Show, 2
June 7: Ryegate Corner–Wellington Lee Conc.
June 11: Middlebury–Commencement
June 15–22: Woodstock–American Jersey Cattle Club Convention
June 17–19: Fairlee–St. Open Golf Tour
June 19: Shaftsbury–House, Garden Tour, 2–7
June 21: Londonderry–Strawberry Fest.
June 22–5: Burlington–Bird, Botanical Clubs Field Trips
June 24–25: Hinesburg–Bi-Centennial
June 27: Tyson–Strawby. Fest., Concert, 6:30–9
June 28: Dorset–Strawby. Fest., Supper 6
June 28–29: Weathersfield Ctr.–Turkey Dinners (Reserv., Perkinsville 263–2255) 6
June 28–30: Weathersfield Ctr.–Antique Show, Sale
June 30: Chester–Art Exhibit, 2:30
July 2: Norwich–Hist. Soc. Meeting
July 2–4: Brittany–Countryside A-Fair
July 5: Georgia Ctr.–Chicken Barbeque,
Vermont Life has been romancing—in distant Alaska. A Burlington soldier at Fort Richardson could not convince his intended's rents that remote Vermont was a fitting one for their daughter. But a timely display of Vermont Life copies did the trick.

The centennial Celebrations of the land grant alleges took the Post Boy recently to the raafold home of the great land grant initiator, Senator Justin S. Morrill. If the use, which Morrill himself designed, is a joy to the man, the Senator was a fascinating contradiction of interests and tastes. But, affecting the Senator's interests in Pompei d The Gothic, it has real charm.

Picture of the Red Mill in Chester was seen for this magazine's editors by J. Stottawson, prominent New York architect and tech-of-the-year resident of Chester, to use in a story (VL, Winter '59-60) about Chester's unique Dr. Jekyll. Mr. Dawson got so interested in the mill and its colorful history that he bought it and, with Eugene O'Neill and other Chester residents, inaugurated the Chester Art Center. It is open again this year, and well worth a visit.

Last of the Wasp—Harry Dodge of Toledo (at the wheel) built this classic vehicle, which he values at $10,000 from parts left over after the last Wasp was built in Bennington in 1925, (see VL Autumn, '59).

Swanton's Swans, a white cob and pen which were presented to the town by Queen Elizabeth, will be on hand in their pool for the Annual Swanton Festival (July 27, 28, 29). They spent a quiet winter we're told, under the care of Poultryman Fred Bell.

Vermon't—The Antiques Show Aug. 1-3: Newbury—Cracker Barrel Bazaar
Aug. 2: Craftsbury Common—Playhouse Peamach-Bazaar, Supper, 3 & 6
Aug. 3: Cana-an Band Concert, Sugar-On-Snow, 7:30, Greensboro—Shakespeare Play
Aug. 3-5: Stowe—Visitors' Golf Tournament
Aug. 4: Weathersfield Ctr.—Hist. Exhibit, Silver Tea, 2-5.
Aug. 16-18: Manchester—Rotary Carnival
Aug. 17-18: Lake Dunmore—Earljack Roundup
Aug. 21: Arlington—Flower Show, 2-9
Aug. 22: Bristol—Flower Show, Bazaar, 2-9
Addison—DAAR Pilgrimage. Putney—Church Fair. S. Hero—Turkey Supper
Aug. 23: Ludlow—Smorgasbord, 5:30. Chester Smorgasbord, 5:30
Aug. 23-25: Lyndonville—Caledonia Fair
Aug. 29: Barnet Ctr.—Turkey Supper, Sale, 5 Aug. 29-Sept. 1: S. Woodstock—GMHA 100-Mile Ride
Aug. 30: S. Hero—Chicken Pie Supper
Aug. 31-Sept. 1: Hardwick—Beagle Trials
Aug. 31: E. Corinth—Church Fair. S. Hero—Turkey Supper
Aug. 9-11: Weybridge—Farm, Field Days
Aug. 11-12: Stowe—Horse Show
Aug. 12: Weathersfield Ctr.—Pilgrimage Sun., 3. Manchester—Flower Festival
Aug. 12-18: S. Woodstock—Western Horsemanship Clinic
Aug. 13-21: Stowe—Invitational Tennis Tour

Green Mountain POST-BOY

ROBERT HAGERMAN
8,500 GIRLS . . . AND . . .

- 1,756 counselors and staff
- 250,000 pieces of baggage
- 6,000 tents
- 458,000 pieces of mail
- 3,500,000 gallons of water

- 40,000 visitors and 30-acre parking lot
- 297,000 cafeteria meals involving:
  70,000 eggs; 57,000 pounds of meats, fish & poultry;
  34,000 loaves of bread; 3 1/2 tons of butter; 151,000 quarts of milk.
- 53 tons of campfire charcoal