

FURNACE FOUNDATIONS

**A perceptive exploration of early blast furnaces
in the Salisbury Ore District where Connecticut,
Massachusetts and New York converge, conducted
in the summer of 1951 by Felicia Doughty Kingsbury,
then working as curator of properties for the Society
for the Preservation of New England Antiquities in Boston**

Editor's foreword

Felicia Doughty Kingsbury was my mother-in-law, whom I knew well in her later years, long after her professional involvement with architecture, or archaeology, or her work with the Society for the Preservation of New England Antiquities (now known as Historic New England). She was an authority on old houses, was curator of SPNEA properties, and she edited its quarterly journal, *Old-Time New England*. Among the tools of her trade was an ice pick she carried to test the integrity of ancient beams. I wish that I had known her in her prime, when she was a strong and self-sufficient independent woman. It was at the bottom of a box of her long-neglected papers and family photographs that I happened recently upon this manuscript that describes her studious tour of the blast furnaces of the Salisbury Ore District in the summer of 1951.

After reading a few of her 191 pages, typed double-spaced in “elite” font on yellow onion-skin paper, carefully marked up with faded red emendations, I decided that this was a story worthy of being told. And so I started entering it into a word document. The text proved smooth and extremely well written, with touches of erudition, thoughtful choices of verbs, and sophisticated avoidance of repetition or ennui. Her introduction is especially instructive about the importance of iron to the New World's earliest settlers and how they produced it. Her narrative becomes a kind of classic quest: where is the next blast furnace, and whom might I ask how to find it? The description of the furnaces is professional and to the non-archeologist somewhat technical. Vermont archaeologist Victor R. Rolando, whose specialty is blast furnaces, has read the first three chapters and acknowledged Felicia's expertise. Even if the reader cares little about the archaeology of furnace ruins, Felicia narrates a stimulating mid-twentieth century tour of the villages of the region where Connecticut, New York, and Massachusetts converge, with knowledgeable and lively commentary on their architecture and she introduces us to a diverse collection of inhabitants.

The author made it quite easy to edit this material, with her own penned editorial amplifications and word changes, so there were few serious editorial decisions I had to make. One consistent style change I did impose was to avoid the “that-which” confusion. I chose to follow “The Elements of Style,” by Strunk and White, who admonish: “*That* is the defining, or restrictive pronoun, *which* the nondefining, or nonrestrictive.” So I changed many commaless *whiches* to *thats*. And for the non-technical reader, I added a glossary of furnace-related terms often used in the text.

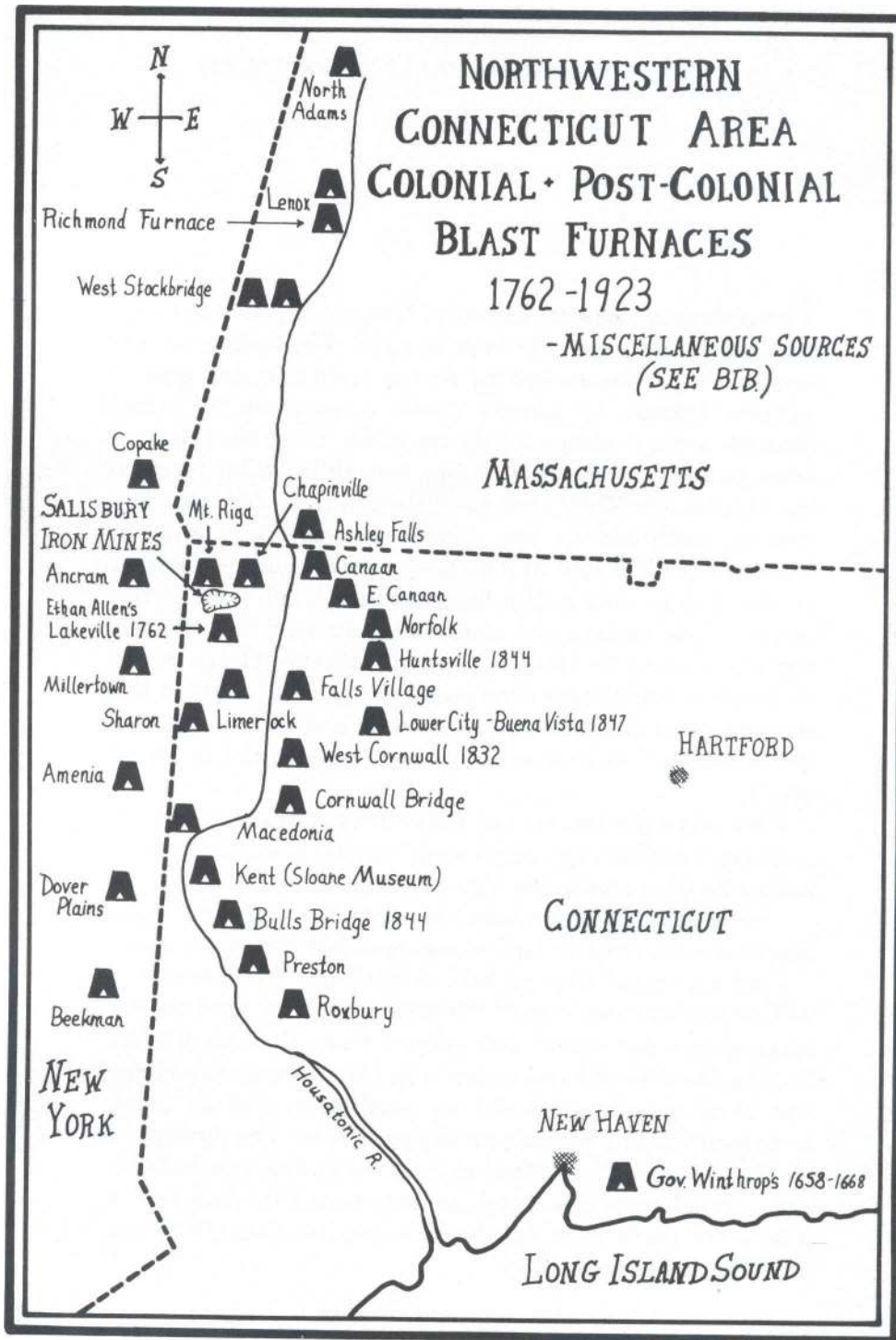
The big mystery that remains is: who sponsored Felicia's expedition? The text offers no clue whatsoever. Two of her three daughters were

elsewhere during the summer of 1951-- in Africa and Alaska, and the third was occupied as a college student with a summer job. The tour of furnaces ends with Felicia rushing to Boston to meet her eldest daughter, who was returning by plane to Boston after two years in Africa. That daughter, Jocelyn Kingsbury Moreland, is now deceased. Middle daughter Ellen Kingsbury Viereck, who was in Alaska in 1951, remembers that her mother's project was sponsored by the architectural firm that reconstructed Williamsburg, Virginia. But a query to that firm's archive has gone unanswered, as have letters to the Early American Industries Association and the Salisbury Historical Society. A phone conversation with Edward Kirby, today's acknowledged authority on Salisbury district furnaces, drew a blank. Felicia's youngest daughter, Ann Jewell Kingsbury Resch, my wife, was living in Cambridge, Mass., with her mother at the time and was working that summer at a temporary job in Boston between her sophomore and junior years at college. She has no particular recollection of the furnace expedition except that her mother must have taken time off from her position with the SPNEA.

Another mystery is where are the photographs, referred to often in the text, which Felicia took during her explorations. They have not turned up in any of several boxes of memorabilia. At least we have included a map of most of the furnaces she inspected, scanned from a book, *America's Valley Forges and Valley Furnaces* by J. Lawrence Pool and Angeline J. Pool, published in 1982. The Pools' book focuses heavily on only one Salisbury region furnace, the so-called Buena Vista, and also discusses other furnaces and forges in the northeastern United States. A booklet that focuses precisely on the furnaces of Felicia's interest, also mentioned in her text, *The Early Iron Industry of Connecticut* by Herbert C. Keith and Charles Rufus Harte, published in 1935, was also consulted as a parallel study, but there seemed no point in seeking permission to scan its poorly reproduced photographs.

So for the time being, *Furnace Foundations* by Felicia Doughty Kingsbury (her title) is being printed, not really published, to send to descendants and to circulate among possible publishers who might see it as a gem of a questing narrative that describes a certain New England region in the very middle of the twentieth century.

Tyler Resch
Shaftsbury, Vermont



From *America's Valley Forges and Valley Furnaces* by J. Lawrence Pool and Angeline J. Pool, published in 1982.

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Introduction

At the beginning of the seventeenth century people in England were beginning to understand that they were the victims of a transitional era. New ideologies were attempting to slough off the restricting and desiccated skin of outgrown medievalisms. Conflicts arose between that which had been good and that which promised good, between those who clung to the protection of accepted ways and those who sought escape from them.

Both good and bad characteristics of guild organization were losing their influence over artisanship, both the good and bad qualities of feudalism were losing control over agriculture and use of land. Catholic and Protestant, courtier and cromwellian by turns had ascendancy, and each new tide of power washed an undertow of the ambitious or the dispossessed to the shores of this continent.

To make such a journey required courage and fatalism, hope and despair. To prepare for it required the same planning needed for any prolonged journey to an unknown and uncharted region, except that this was to be for keeps, and the women and children were going too. Because it took so long to sail across the ocean and the ships were so small and so full of people, most of the storage space was needed for provisions alone. The heavy and cumbersome oak furniture of the age had to be left behind. Chests, cloth, tools, firearms, seeds – enough perhaps for a year – were all that could be brought along. When these were used up, either ships from England would have space for extra cargo or more would have been made in the new settlement or everyone would be dead.

Artists who have painted pictures of the Mayflower floating serenely at anchor in Plymouth Harbor would have shown more sympathy had they painted a Pilgrim's-eye-view of what the shore looked like from the ship. These people had come from the incessant din and bustle of European ports, to the stinging silence of emptiness: a solitude that stretched on and on and on further than they neither knew nor would discover until they peopled it. The land that confronted them beyond the ship's rail was one of trees that had never been cut, streams that had never been dammed, forests that held neither road nor clearing. For them to live, they must accomplish these things themselves, and it was to be a race against time, against storm, sickness, and starvation.

To accomplish these things they brought with them a few of the precious products of the blast furnaces of England. To fell, hew, and dig, to provide fuel, to cook, to build a house, required iron, wrought iron, and steel.

Even to make things of wood required metal tools. Survival depended on iron.

Even before these men set foot on land they wisely drew themselves together into an organization of settlement activities. Law-making, religion, and education were to be the expressions of a way of life and its perpetuation, and were inseparable. Defense was to be maintained by some so that others could go on uninterrupted, with clearing, building, and planting.

After mastery of the first few winters began to promise a future to the settlements, they began to organize larger enterprises. The people needed flour, boards, and iron. The demand for these was too exigent and their raw material too close at hand, to wait for them to be brought from England. Saw pits could be organized and grist mills built, with the help of neighbors, but a blast furnace was too big an undertaking in man-hours, skill, and organization, for the resources of a struggling little settlement where every man already was required to give part of his time to the communal defenses of sentry duty (against Indians) and church going (against the forces of evil).

Throughout the seventeenth century the policy of the crown toward the colonies usually held within it the seeds that were later to sprout into revolution. England sponsored her colonies in the expectation of their supplying her with raw materials and providing a market for her manufactured products. Financiers who subsidized the plantation of settlements watched eagerly, and often with disappointment, for the return of ships full of furs, timber, and fish. They frowned upon any attempt of the colonies to become self-sufficient through the manufacture of products already made in England.

With the manufacture of iron, however, England had literally sawed herself off the end of a limb, for she had used up her forests to make charcoal for the fuel of the furnaces and the latter were being forced to close. Thus she found herself aiding New England to establish the manufacture of iron. The situation must indeed have been exigent.

Only twenty-two years after the landing at Plymouth, England sent Scottish prisoners of war, taken by Cromwell, as laborers, and skilled men from the old furnaces in the Forest of Dean, as overseers. They came to a place near the shore between Salem and Boston, where there was a tiny pond, a thread of stream and a miniature tidal inlet. Raw materials at hand were the oak forests, ponds and marshes full of bog ore, sea shells from the beaches, and a convenient glacial moraine. These became beams and timbers, fuel, ore, flux, and masonry stack. From these materials they produced scythes and kettles, plows, horse shoes, and cannon balls, cast iron

and wrought. Furthermore, the cargoes that left their dock were dispersed to all the colonies and probably carried back to England as well. There was no settlement that was not desperately in need of the products of the blast furnace on the little inlet.

A revelation of stark urgency is disclosed in records of the period in which furnace workers are officially excused from the communal obligations of church going, Indian watching, and Sunday rest. Freed from such interruptions, the manufacture of iron was carried on here from 1646 until 1675. In spite of earlier attempts, it was the first successful blast furnace in the colonies and was to be the stimulus and leader of many to follow.

During the eighteenth century ore veins of various types were discovered in New Jersey, the Highlands of Orange County, New York, and in Dutchess County and in Connecticut, and elsewhere. Because of similarity in the ores this area came to be known as the Salisbury Ore District. As soon as the close of the French and Indian War it was possible to undertake such work in the mountains and wilderness areas, and blast furnaces were built from New Hampshire to Maryland. With the very visible approach of the war with England, blast furnaces worked harder than ever, for the benefit of whichever side could seize their products, and cannon and balls were quietly hoarded away.

In this country, the shortage of charcoal that had paralyzed English production so much earlier, caught up with our forests in the northeast in mid-nineteenth century. But the railroads came, bearing coal. Blast furnaces thus increased in size and number.

Fuel and transportation, however, have always been determining factors in the success of the industry and for this reason the great iron and steel centers of today have moved inland to focus around the sources of coal and the great rail-heads. The furnaces of the eastern seaboard now are silent, solitary, and all but forgotten.

As historical studies, the old blast furnaces demonstrate the gradual development and expansion of industrial knowledge and invention, the successive waves of demand put upon the industry by each war and each subsequent peace, and always throughout their evolution they never fail to move the onlooker by the scale of their heroic enterprise. They represent the very foundations of the industry to which the whole world looks now for products no less desperately needed than were those of the furnace of 1642. As historic sites the old blast furnaces, forgotten in the hills, are monuments to the faith and stamina of our people.

Felicia Doughty Kingsbury

THE FORSAKEN STRONGHOLDS OF IRON'S INFANCY

Preface

During the summer of 1951 I was sent out to gather technical data on the structural character of early blast furnaces. A list had been given to me of the places in which remains of furnaces were believed still to exist. It included their names and the towns they were in, and a very fine collection of photographs of most of them, taken in 1935 and earlier by Charles Rufus Harte. Specific as this information seemed before starting out, it frequently happened that in the towns on my list, it was difficult or even impossible to find anyone who knew of the whereabouts of the furnace. This resulted in the development of techniques and devices that combined the methods of Sherlock Holmes with those of Stanley and Livingston.

Sometimes people had never heard of a furnace in towns that had only come into existence because of it, and where they themselves were unwittingly living in the houses built for the furnace workers and using bridges originally designed to carry its wagons. This was true even in a village called Old Furnace, where everyone was certain that no furnace had even existed, but uncertain of how the town had got its name.

To add to the time lost in finding a furnace after one had arrived in the designated town, the areas about the furnaces were often so grown up to brush or forest that even a successful search would find me stealing warily through the woods, peeking about, and feeling like one of James Fennimore Cooper's most skilled and invisible Indian scouts expecting ambush at every turn of the path.

On the other hand, I also found proud owners of old furnaces, who sought to protect them from vandalism, who realized their significance, and who were intensely interested in their history. Four of the furnaces had been placed under state protection in areas set aside as state parks. One is under the vigilant surveillance of the West Point Military reservation. Everywhere, however, all kinds of people were incredibly willing to help, even dropping their work to act as guides or offering me food and lodging. On many occasions also, it was deeply touching to learn how pleased and grateful were the lonely older people to realize that a stranger had come from a far city to learn from them about their local history. They wanted to tell the stories of the growth or changes in their town or neighborhood and to review their participation in it; to recall the details of struggle or success, lest what had been so important to them should be lost and forgotten. Often they could send me to, or quote from, eyewitnesses of the furnace during its activity. To

all these good citizens and kind hosts I owe a great deal of thanks, and much enjoyment.

A first trip, of eight days, took me from Boston to the Salisbury Ore District in northwestern Connecticut, southwestern Massachusetts, and the eastern part of New York State that is just across the line from them in Dutchess County. This covered about six hundred and fifty miles. The second trip, of nine hundred miles, included much of New Jersey, and “the Highlands” of Orange County, New York.

No two furnaces were alike either in specific structure or in general layout. These differences resulted not only from the long span of more than two hundred years during which they were built, but also from the demands of varying types of ore and from the widely differing economic and cultural backgrounds of their builders. Of these qualifying factors I was only to become aware while I walked carefully along a wooded path, caught glimpses of a furnace’s towering mass of masonry and cavernous dark arches, and finally stood studying its enigmatic silence.

At length it was not the contrast between large and small, old and new, crumbling and whole that held my attention, for with all the contrast, a hard-won and slow evolution in them became perceptible. Even more significant were the features they retained in common. These finally emerged above the differences as the essential requirements of ironmaking, and as unchanging as the nature of the ore itself when found in the hills.

The two trips to study furnaces therefore became trips of exploration – first of human nature conditioned by environment, and second of the tremendous enterprise of men long dead, who could not have guessed, in the midst of their sweat and disasters, that they were creating the great iron and steel industry of today.

Chapter One

The first objective of my trip was Mt. Riga Furnace because it was said to be the most intact and the oldest standing of the Connecticut furnaces. Leaving Cambridge, Massachusetts, at 1:30 p.m. on July 25, I went directly to East Hartford and crossed the Connecticut River to Hartford where the main route for modern traffic is still the old Albany Pike, which for about two hundred years has led westward to the Hudson River. Hartford grew because it was, and still is, a halfway point between New York and Boston, Boston and the Hudson, and formerly for river traffic from Long Island Sound to the New Hampshire Grants.

Seeking my way by means of traffic signals and route numbers through the city, it was borne in upon me, how drastically the cities as well

as the countryside, have been altered by the last thirty years of travel during which we have changed from a sedentary and agricultural people, to a migratory one. The last time I had passed through the center of Hartford the important streets had converged upon a cobbled square surrounded by old brick stagecoach taverns. That was no longer ago than the twenties. Now tangled streams of trucks and buses jostle and compete with passenger cars through a neighborhood filled with diners, saloons, filling stations, and outsize billboards, finally to funnel the traveler onto a wide street with older buildings upon it, which one can again recognize as the old Pike. I relaxed and headed across country, and said to myself, "We're off!"

It was a long though intermittent climb up the west side of the Connecticut Valley, finally leveling off on a plateau. There I offered a ride to a woman waiting for a bus. The road was straight and long, one could see far, and no bus was in sight. I agreed with her that "a watched kettle never boils but is already to boil the minute you step out of the kitchen," and that therefore a bus would come along the minute she stepped into my car. She said she'd be glad to ride with me to the next town anyway. She had worked hard all day for "a new lady" who wasn't like her old one, and she wasn't sure if she'd be able to get on with her or not. Her new lady expected her to loaf on the job and to watch the clock, something she had never done before in her life. Finally she got so nerved up that it had got her corns going, and they had cried out every time the clock rang the hour, and maybe that was why she left the house and was so long standing waiting for the bus, and that was God's punishment to her old corns anyway. So she was glad to be done with that day and to have a ride and a talk and forget about it all. Her ideas were very clear about how a lady could get the most work out of her help: "She should have her mind all made up the day before what she wanted done. She should take an interest in how it was done, and have plenty of nice cleaning rags ready, but she shouldn't be always changing her mind about what she wanted, nor dancing around interrupting the work. And when the work was finished satisfactory, she shouldn't act as if it was of no importance after all, whether it was done or not."

Again we were approaching filling stations and grocery stores, and I set her down at a plain little box of a house by the road. It was bright yellow and had one lilac bush by the door. She was expecting that her children would be home from school, and "already into the icebox."

She had shortened the miles for me, and soon the road led among closely crowding hills that to southward taper away to the coast and northward become the ancient Hoosac Range, and further, the Green Mountains. The country changed from the open and pastoral to what I call

“sawmill country”: swifter streams, narrower and steeper valleys, and less cleared land. In such an area, the towns are full of mills: small and old, or large and new, according to where the hemlock-forested hills fold the mills into a deep crease of valley along the Mad River. Judging from its architecture the town must have had its burst of prosperity about the time of the Civil War and has changed very little since. It is so consistently Victorian and grimy that it is almost a museum piece. The turbulent little river is crossed and re-crossed with bridges and dams. Side streets climb up from it as steep as ski trails and have room for buildings only on one side.

At the east end of the town there are still perceptible traces of its late eighteenth century beginnings as a stopping place on the original stagecoach route. A green, an old graveyard, a tavern, and a wooden hotel with second-story balconies all suggest days before the deluge of the industrial age. The Albany Pike becomes the town’s “Main Street” until it emerges at the northwesterly end on its way to Norfolk. The road, remembered from horse and buggy days as narrow, winding, and sandy, has become almost a super highway. The general character of the country is therefore remembered more clearly from former and more leisurely travel. The steady upward climb toward the Berkshires, however, is ineradicable even to modern engineers. Hills are more rounding, their sweeps and curves are on a larger scale, and again farms appear. Norfolk is an old stagecoach town on the side of a hill where the crossing of Route 49, a north and south highway now little used, once made it an important route junction. White spires, civic buildings, and ponderous maples proclaim its long establishment. Since the turn of the century it has also been the home of musicians, scientists, and others of genuine distinction. It is one of the first summer musical centers, but good taste has protected it from becoming arty.

From now on, the route led through a succession of pastures, meadows and streams, interrupted often by village streets tunneling under maples. Each town seemed more peaceful and prosperous than the last until finally the wide main street of Salisbury presented a picture of storybook perfection.

It was just 6 o’clock when I reached Salisbury, my objective for that day. The old Pike was now garnished with wide turf parking strips along either side, still occasionally provided with hitching posts. Wide close-cropped lawns, white fences, and white houses, which nearly from the first had been ample and well groomed – no signs of factories and few even of stores – at once set one guessing where all the prosperity came from so early and survived so long. A New England village not down-at-heel, not commercialized, and with tree trunks gilded and lawns shadowed by late

sunlight in a way Grandma Moses never dreamed of, Salisbury lies waiting the applause of the traveler.

A neoclassically columned inn, the Ragomont, took me in hospitably and fed me deliciously on a wide terrace overlooking the lawn and street. From near at hand I could study the outmoded craftsmanship of the columns built from long strips of pine, which dove-tailed into the last; and the whole finally hand planed. Perhaps they represented a complete cycle from primitive workmanship: from tree trunks with bark, to fluted stone, and back to wood with its longitudinal facets left by the plane. It was a hot, still evening and one lingered over iced coffee and frozen fruit, wondering what the next day would uncover. Refreshed, I started out after dinner in the car to explore the town and to learn where the road was that would lead me up Mt. Riga the next morning to the furnace.

Mt. Riga is two thousand feet high, well above the Salisbury interval. There are tales told even in distant places of the independence of the settlement made on its top by the furnace workers, and how when the furnace closed down after seventy-six turbulent years of success, the workers stayed on the mountain intermarrying and gradually becoming shyer and more “queer,” eventually to be spoken of in surrounding towns as a separate people – “the Rigies.” There had always been but one road climbing the mountain from Salisbury. It brought the heavily laden wagons of iron down from the furnace. It was this road that I set out to find in the early evening. There was not far to go. On my left stood a handsomely spired meetinghouse of the late eighteenth century, on my right an equally striking mid-eighteenth century town hall, and beside it a large marble watering trough with a huge elm leaning over it. This marked the branching off of the side road, and on the opposite corner behind a ballustered white fence and rich shrubbery could be seen glimpses of a luxurious eighteenth century mansion. An old signboard on the elm said laconically, “Mt. Rige,” so I turned up the road out of curiosity. It soon started to climb steeply enough so that when I passed a little girl of twelve I asked her if she would like a lift. She hopped in the car eagerly and immediately told me that she liked my shoes, they were awful pretty. (She was barefoot and was carrying a heavy bag.) She had been down to town (four miles) to get some beer for her father because it was a hot night. She could hardly believe her luck when I said I would take her home and I wondered whether I had let myself in to perform some miracle over impassable roads. But questioned, she assured me that her brother had a car and drove right in with it to the house. In the dusk, she pointed out where “Mt. Rigy” road led on up the hill and hers branched off. A plank bridge with no side rails and only one car wide led over a rocky

torrent to a steep climb beyond. Hemlocks came down to the miniature gorge and through them beyond the bridge one could see the dim light of a single lamp. In the dusk one could make out streamers of daylilies falling to the road. The child said, "A woman lives in there. She won't talk to nobody. My ma takes her food sometimes and then she talks some. She's real old and she's always lived there. She had a brother once."

To my relief as a chauffeur, a sharp left turn took us down to the little girl's house. She was still full of gratitude for the treat of a ride, and assured me that next morning there would be no difficulty about finding the way to the top of the mountain, "because the road don't go nowhere else." I got the car turned around and returned to the peaceful and affluent town. Mt. Riga Road came down right into the center of it as I might have known it would since the town's wealth had flowed down it for so long.

The next morning, up at 6, I packed photographic and measuring gear and notebooks, into the old straw knapsack, went down and had my lunch box packed and left the inn shortly after 7 while it was still the cool of the morning. The climbing road soon mounted above the valley of white clapboards and spires below. It was willfully guided by the rushing stream, turning and twisting, until with a sudden rise beyond a bridge, it took off up the mountain's flank, leaving the noisy gorge below. It was now a winding and narrow dirt road with a mountain on one side rising in sheer banks and ledges through the underbrush, and on the other, a log rail nailed to trees and beyond, blue space like a signboard. There was never a level spot, merely steeper and less steep pitches. It was just wide enough for two teams to pass, and partway up there was a turnout for resting them. Here a spring was piped into a messy hollowed-out log. It must have been a road full of wagons in the old days, ringing with clanging harness, grinding brakes, shouts, curses, and raillery. The fear of a bolting horse or a shifting load must have been constantly with the drivers as they ground their way tortuously down the mountain. The spring must have been a well-known rendezvous to mounting and descending teams, but this morning there was no one else on the road as it led on and on up the mountain.

A last steep climb and sharp turn brought me on to a level where the road straightened out and followed the brook again. I was to learn many days later, when it was too late to return, from a woman born and brought up on the mountain, that near where the road rejoined the brook was the site of the original eighteenth century forge. The trees were thinner here and an open field appeared on the left. Just as I was thinking that this might be the place, I caught a glimpse through some alder bushes of a great pile of masonry in the field. With excitement as the possibility of having spotted the

first furnace on my left, I looked unavailingly for a place to park, and went on a short distance further to where the road joined another in a T with a long high bank across its top. Taking the right turn I rounded the bank and found myself at the outlet of a lake that stretched away between hills into a far distance.

Hills on top of a mountain may sound strange, but a lake among them was stranger still. The top of the T was the dam that had supplied waterpower for the furnace bellows, and the road following it went due north and south: on the right it went north into Massachusetts over Bear Mountain to Mt. Washington; on the left over the crest of Riga south to Ore Mountain. Tons and tons of ore have been hauled up this road, but it is now impassable, they say, even on foot. Five early nineteenth century houses were spotted about the slopes overlooking the foot of the lake and more cellar holes were later to be found in the fields.

In contrast with the dank and shady forests lower down, this isolated mountaintop settlement seemed to be in a world of its own, of dry hot air and dazzling sun. No wonder the people who lived here had been called after their mountain.

A gap in a stone wall disclosed a path through tall grass toward what I hoped was the furnace. As I approached it across the field, it was disappointing to see only a tumbled pile of round stones, but the south side was standing square and straight and massive. Continuing to the far side, I came upon a sharp drop in the ground of five or six feet, and rounding this I stood still in awe and trepidation. The furnace now towered up above me with the great open mouth of the casting arch gaping at me and looking as if it hadn't had a good meal in a long time and could quite easily swallow me up. It was this monster that I had been sent to measure, and to become intimately familiar with.

Settling down my equipment on a tumbled rock, I thought I had better just stand there and study the monster a while longer. The blinding glare of the forenoon sun on the weathered stones exaggerated the depth and darkness of the inner arch at the base of which my eyes slowly focused upon a tiny opening which, my conscience whispered, would lead right into the crucible of the furnace ("clearly," my conscience said), a great opportunity. By this time it was growing extremely hot, really sizzling, and the old arch was casting the only shade in sight. I was determined that the furnace should see no signs of awe nor timidity so I marched into the shade of the arch and sat down on a stone. "Ah, yes, time for lunch," I told myself, avoiding a glance at my watch, "a little early, perhaps, but still a very sound idea!" I

made a sudden move toward my lunch box and the long sinuous form of a black snake slid through the grass to a crack in the walls.

It was then for the first time, but not the last, that I gave serious consideration to the last few remarks of my briefing in the office, before I had started out. "Of course there may be a few snakes around those furnaces, you know. You're not afraid of them, are you?" It had begun.

"Oh, no!" I had replied gaily. "I've always rather liked them, picked them up and handled them and all that. Why, one time –"

"Yes, but these may be rattlesnakes, they say there are some out there."

"That will be all right," I had assured them, remembering that all my high boots were in Vermont, "I'll just keep my eye out."

Well, this had been a black snake anyway. I was sure of that, but it did seem absurd to eat lunch so soon; I'd much better start taking photographs.

This furnace, I discovered, had two arches: one, the tuyere or bellows arch on the north toward the brook. The larger casting arch was facing me, on the east. The builders of the furnace had used several devices that I was not to find later in any other. In the first place none of the stone used was split. Apparently the only stone available to their means had been native water-worn cobbles. These stones, however, had been carefully sorted for size and shape. Long flat stone had been saved for the corbelling of the so-called arches while large squarish ones were used at the corners of the structure as quoins. The present cement coping is modern so there is no certainty of how the top course was finished off, though it seems definitely to have been somewhat rounded up from the top corners. Oak beams averaging eight to ten inches were set horizontally into each face near the ground. These have survived in a good state of preservation. Tie-rods, which had eyes in them like a needle pierce the beams at the corners of the structure and must have originally held vertical pins through the eye such as were later found at Scoville Furnace in Huntsville. Judging by the distance of the eye from the face of the masonry there must have been an intermediate wood block driven in between the pin and the beam to tense the tie-rod and function like a spring washer. Such an arrangement was found in Ringwood Furnace No. 2, though no other furnace that I have seen has the horizontal beams set into the masonry.

The arches were neither of them true ones but were corbelled. The tuyere arch used the oak beam as an outer lintel and used long flat stones and cast-iron plates as inner ones, while corbels receded downward toward the back interpolated between the stretches of level ceiling formed by plates and flat stones. A cross-section of this opening from back to front would have

been typical of almost all tuyere arches built prior to 1800 and of many built later. It would be similar to the upper half of a funnel bisected longitudinally. It was to become apparent from my subsequent survey that corbelling was used for a longer period for the tuyere arch than it was for casting arches. As the casting arch grew taller and deeper because of the increased size of the furnace, and more workmen were used, and greater access, speed, and convenience were needed, methods of constructing the casting arch evolved more rapidly, showing the impetus of improvisation.

The casting arch of Mt. Riga Furnace showed the same funneled cross-section from the top down two-thirds of the way. But in this case, as at Queensboro, Clinton, and Maltby, the outer arch was corbelled laterally and was set by a screen wall that receded from the perpendicular at a much slighter angle. Free-standing iron rods three inches by three inches extend from side to side of the arch. A mason has told me that these would have been needed during the process of construction, to brace the sides, rather than later. A large stone lintel completed the top, which I judged to be fourteen or fifteen feet above the ground. An iron lintel seven and one half by three inches by eight feet long supported the base of the screen wall approximately six feet six inches above the ground. Eighteen inches below this a similar iron lintel nine feet long carried some corbels at each end but was otherwise free. The purpose of the casting arch, of course, was to give access to the furnace hearth within, and its height and rate of slope were determined by the thickness of the outer wall and by the shape of the stones used. At Oxford, N.J., and at Clinton, Queensboro, and Dover, N.Y., rock of good cleavage being plentiful, the corbelling was done with thin flat pieces and became intricate and precise.

The most unusual feature of Riga Furnace today is that the crucible or hearth, and also the boshes and lining, are complete except for the dam stone. On either side of the opening into the crucible are limestone piers about three feet high. These are slanted outward laterally as they rise. Above the opening, roughly two feet square, is an area of limestone lining covered on the outside with rubble and pebbles. The whole had been burnt red and was fused with glazed by heat. It was very apparent from within the arch that the outer masonry and the inner furnace were separate entities. In case of disaster or redesign the inner furnace could be entirely rebuilt without disturbing the outer part. The latter was in fact only a device for withstanding the expansive forces and tendency to explosion of the gases and burning materials within the furnace.

A consideration of the completely opposite cross-sections of inner and outer masonry will reveal the opposing functions they were designed to

perform. The inside of the furnace was shaped like an old-fashioned lamp chimney. The greatest heat came at the point where the curving sides met the vertical base. Therefore the area of greatest expansion of materials and gases came just above, in the area called the boshes, hence the widening of the furnace at that point to permit the expansion. The charge of ore, fuel, and flux was dumped in at the top. It was a recalcitrant mixture of rough and angular shapes that must ease slowly down without clogging while molten ore with a scum on it of cinder-like slag gradually accumulated in the smaller vertical area at the bottom, known as the crucible. It was to prevent clogging that the lamp chimney sloped inward above the boshes as it ascended through the part known as the shaft.

Material for the construction of this inner part of the furnace must be chosen for its ability to withstand heat. Limestone and slate were first used, and later firebrick. The inner part or furnace proper therefore consisted of a thin wall of non-combustible material built up in a series of convex curves. Opposing this, the outer wall, made of heavy masonry usually having a decided batter or series of setbacks, or both, it was designed by weight and shape to push inward from all sides. In addition to the inward thrust of slanting stone wall eight or more feet thick, tie-rods were used like barrel hoops to hold the whole mass together. It was seldom, however, that the tie-rods went around the outside of the furnace. At Bull's Bridge and at Allaire, where the outer masonry has been removed, and round brick shafts left projecting, these are banded by a series of hoops. It is interesting that these hoops would have been entirely concealed had the outer covering not been removed. Hence it is difficult to guess the layout of the entire tying system in a furnace that is still complete. At Oxford there are tie-rods that surround the outside masonry, which are therefore square in plan, and ingeniously buckled on in a way to create tension. Close inspection of the inner and outer masonry explains why these rods are on the outside, for the furnace has been enlarged and buttressed more than once and the loosely wrapped package needed a lot of string around it. Normally tie-rods were incorporated in the outer masonry, projecting only at the ends. Sometimes these rods lie parallel to the surface, sometimes diagonal to it, but pressure on the outer masonry was always achieved by the ends of the rods being held by pins or plates serving as outside nuts and washers. The whole outer fabric of the furnace was hence designed to withstand and counteract the expansive forces of combustion, while the boshes of the inner surface – the bulge of the lamp chimney – allowed room for them to occur, and the shaft allowed them to be vented at the top.

Curiosity having come to the aid of conscience, I proved by crawling through that the small opening into the crucible just fit, and I went through.

Keith and Harte say of Mt. Riga Furnace in 1935, "The interior of the Mt. Riga stack, another old-timer, is completely filled with rubbish, and could not be reached for examination, but as it is said to have been rebuilt in 1845, and to have been in blast as late as 1856 (Lesley), it is very unlikely either that any of the old lining is left, or that, if present, it could either be identified or correctly dated."

Footnote: "The Early Iron Industry of Connecticut" by Herbert C. Keith and Charles Rufus Harte. Reprinted from the fifty-first Annual Report of the Connecticut Society of Engineers, Inc., New Haven. February 20, Page 36.

Fortunately, the interior had been cleared of most rubbish by the time of my visit, allowing me to answer some of the above queries. The lining is entirely intact and is of shale from the top throughout the shaft and from boshes down, and is of firebrick down to the top of the crucible, from which point down to the floor it is of limestone. As to the age of this lining I am in doubt. I have no information on just what part of the furnace was rebuilt in 1845, but certainly the outside is of an early type of construction undisturbed. Firebrick apparently was absent from seventeenth century furnaces, but seems to have been used in the eighteenth century, as for instance at Oxford and at Franklin, although these could have been later additions. During the nineteenth century very large firebrick was often used: twenty inches by eight by twelve. The earlier and more common size was approximately twelve by six by eight. In both cases the shape and substance were the same: a pale yellowish sandy material, wedge-shaped with the tip cut off. The brick lining the boshes at Riga was slightly smaller, say ten, five, and seven, not wedge-shaped, and it had been used long enough to have become thickly glazed and encrusted in most parts. Each brick was stamped and dated and one brick was quite legible. It gave the maker's name and then said, "Albany, 1791." Now the curious thing about this is that the furnace is supposed to have first gone into blast in 1810 and to have ceased altogether in 1856. If I misread and eight for a seven the brick was made long after the furnace stopped operating, but if as I am certain, the seven is correct, the furnace was in blast earlier or it took nineteen years to get the bricks from Albany and into the lining!

According to my measurements the boshes at widest diameter were ten feet. The crucible, round inside and square outside, was five feet across and six feet deep, while above the crucible, boshes and shaft extended

upward seventeen feet by the five-foot orifice at the top. A narrow crawlway two feet wide led around the crucible on the right, to the tuyere.

After visiting other furnaces I realized that Riga is about the only early one left with inner lining and outer masonry both still intact and accessible. It is therefore the best one from which to study the relationship between inner and outer construction. The outer stack is without batten, is approximately twenty two feet square, and today stands thirteen feet two inches high on the southwest corner. The land falls away at other corners about seven feet, making a total height of the casting side, of twenty feet.

Although spread out over an area of about one-half mile square, the external machinery and dependencies of the furnace must have been of the simplest sort. Little evidence survives of wheelpit, raceway, casting yard, or refinery. A loading platform of the same round fieldstone is built into a bank about fifty feet to the south, and the loading bridge must have been unusually long. On the north or tuyere side the land slopes away perhaps seventy five feet to the brook where there are vague evidences of a small dam. The brook in turn leads back to the lake above where a gravel dam about fifteen feet wide and high impounds the lake for a quarter mile. A piazzed but paintless and weathered house still inhabited but with windows broken, is said to have been the mansion of the ironmaster and included a ballroom. Overlooking the far end of the dam an equally gray little house with pilastered corners may have been the store where ten clerks were kept busy selling imported luxuries.

And there in mountain-top silence lies the Riga of today, baking in summer heat or cracking under the fury of winter.

Two days in succession my car boiled up the narrow road to the treeless glare of the summit, or simmered downward again through cool glens and gorges to the sun-dappled white clapboards of the valley town at its feet: and then it was time to explore further.

Chapter Two

It would be easier to describe the furnaces if they had been so well disciplined as to arrange themselves neatly along the roadsides in the order of their chronology. But the Salisbury Ore District having been active for almost two hundred years, furnaces of at least the last hundred are dotted about without respect to venerability, but according to the availability of ore, charcoal, and limestone required by the charge, and of waterpower required for bellows or other devices for creating "the blast."

As it was, I ran hither and yon a good deal; for using Salisbury as headquarters, I went southeast to Lime Rock, back again and southwest to

Millerton, N.Y., Sharon, Conn., and Copake Falls, then pulled up stakes at Salisbury and started out southwest again into New York State to Amenia, Dover Plains, and Beekman, west to a place called Webatuck, back into Connecticut via Bull's Bridge, northwest up Route 7 to Kent, and over to Macedonia State Park, then eastward to East Canaan and Huntsville.

The next lap led northward once again in New York State up the execrable Route 22 on a false scent to Hillsdale, then again northward and into Massachusetts looking for furnaces in Richmond, Lenoxdale, Lanesboro, and Cheshire.

Every time I crossed between New York State and Connecticut or Massachusetts, the car had boosted me over the high picket fence separating them known as the Taconic Range. In the occasional places where glacial streams had knocked out a picket, I twisted and turned through hill-crowded defiles, climbing way up on one side and way down on the other. For the traveler's guidance in reading a road map, one might explain that the conspicuous blanks without roads, between Pawling, Pine Plains, Millbrook, etc., in New York State, are otherwise occupied – with mountains. The mountains in Dutchess County west of the Taconics seem simply to spring up in one's way, without order, unlike the combed effect of the north and south ridges and valleys to their east – and this resulted in a northward trend that started from the coast and the outlets of rivers at the south and proceeded up the valleys through Connecticut, Massachusetts, and Vermont. (Footnote: see *The Housatonic: Puritan River*, by Chard Powers Smith.)

The effects of geology can be seen on the road map where in Connecticut, towns are much closer together, and their dates of incorporation generally earlier, than they are “to the west.” This priority of settlement shows also in the development of iron manufacture, for in Dutchess County a larger proportion of furnaces were built after 1840, when railroads made the terrain more accessible.

From Salisbury I went next to Lime Rock, not five miles away. There is an old furnace here built into a bank in 1762, but unfortunately I missed finding it and saw only the more easily discoverable one of 1825. The land here was an irregular intervalle or bowl between hills. Lime Rock as a town didn't seem to exist, being a stretch of rolling farms and a small four-corners-gathering of houses. Without a clue as to where the furnace might be or who would know, I began to evolve the Stanley-and-Livingston technique that later flowered into a fine art. While nosing the car down sandy roads from the four corners I would mumble to myself: “Valley! Valley means stream. Stream means water power. Oh, that on the hill looks like a lime quarry. Lime means flux. We need a dam or a waterfall, where would that

be? Well certainly not down here where the stream is meandering through a meadow; let's try this road upstream where the valley narrows in."

Then I would start watching for houses that were lived in all year round, not just by summer folks. Window plants in tin cans, not flower pots, were a strong indication and one could tell much from the clothes on the line, especially children's dresses, but the conspicuous lack of inside plumbing was the most promising of all, though a front piazza with rocking chairs was very helpful. Of course TV antennae proved nothing either way, but strongly negative indications turned out to be provided by a front porch removed and replaced by an outdoor grill or sitting-out place in the back yard. Generally speaking, fixing up the back of the lot rather than the front was a sure sign of city folks who wouldn't know about old landmarks, or local history. I found a house that had conch shells by the front steps and large Boston ferns set out on the front piazza for the summer, and yes, it was a doormat saying "Welcome."

"The old furnace? Sure I can tell you where it is but I don't know if you can get into the place; a lady has taken and sort of fixed it up, a garden-like, you know. Well, you see that brick house up there on the turn? You passed it on the way down. You go back and you'll see a lane takes off that corner. You follow it down, your car'll make it alright, and you'll come out right on the river. Then you stop and look around and you'll see it from where you stand. . . That brick building was the office, and my father often said to me as how he could remember no end of teams passing back and forth and being checked in, and carriages hitched up where gentlemen was inside putting in their orders for the iron. . . Down along the lane you'll come to a one-story house that's got a white picket fence around it now; well, that was the weighing office. They had a big scales beside it like hay scales, and the wagons drove right up onto it to weigh the ore and stuff. . . And down by the river you'll see some more little houses. They was for the foreman, the boss iron maker, and some of the help. Got city folks in them now though, as I told you. You just go right up to the door of the nigh one and ask nice, and I guess they'll let you in so long as you don't want to picnic."

Following his directions I soon came to the foreman's house and to a neat and modern privet hedge blocking the road to the furnace. From the other side of the hedge the furnace was in plain sight, standing on a very level spot by the side of the stream. Among young elms and against the background of a wooded slope, it gleamed conspicuously with the pale blueish white of limestone. At the house door, a puzzled but courteous foreign woman gave me permission to look at the furnace, and I walked

toward it across the level and mown turf. As a lawn ornament it was a bit out of scale, but it was the only graceful furnace I was to see. Although it was thirty-two feet tall and broader than Riga, it gave no effect of heavy massiveness because it was pierced at the base on each side with large gothic arches all the same size, which enframed vistas of the stream beyond. Although the outer stack was built of large rough blocks of limestone, the arches were lined with four or more courses of brick, and the limestone looked older and more worn, possibly by explosion, than did the neat and elaborate brickwork. The arches were deeply splayed outward and upward but gave no effect of tunneling one into the furnace. At the inner crown of each, an iron pipe a foot in diameter extends downward into the opening. Tie-rods are secured on the outside by circular iron flanges twelve inches across, making vertical rows of black disks, conspicuous against the white stone.

Inside, crucible and forehearth were missing, but on the ground in the center, a mass of iron mixed with charcoal was never cleared away after the failure of the last blast. In the boshes, successive layers of firebrick confirm the record of the furnace's having been rebuilt thirty nine years after its original erection in 1825, but even the new lining is glazed and fused by the heat. The crucible was probably square, because an intricate and handsome transition is created by the four piers, from a dome-like bosh and shaft, down to the four square corners in the piers. Although pierced at the top by the loading orifice, this is really a dome on a system of double pendentives.

The upper pendentive is concave, to receive the curve of the boshes, and is supported by a fan-shaped inch-thick iron plate. Eighteen inches lower, another plate, this time convex toward the crucible, allowed for a shelf to support the base of the boshes. The area between the plates tapers down to become the pier between arches. This construction is worthy of a Byzantine chapel.

Outside, a retaining wall about twelve feet high surrounds two sides of the furnace. The wall is built of the same glistening limestone, and beyond a slight setback it continues upward to the same height as that of the furnace. The top of the wall on the side away from the stream must have supported the loading bridge extending to the top of the furnace stack while the ledge formed by the setback evidently held boilers and other machinery required to produce the hot blast used by the late nineteenth century furnace. Whereas older furnaces used direct cold air, or blast, from the bellows, the later hot-blast system adroitly took advantage of the heat of the combustion within, to "bake" air in a series of pipes. The air, thus enormously heated, was then redirected and forced under pressure into the crucible or lowest part, of the

furnace. The loading wall with a setback for such machinery thus became one of the ways to recognize the ruins of a hot blast rather than a cold blast, furnace, and can be noticed among several of the following photographs.

At Lime Rock, the development of the stream was as much more advanced over that of the brook at Mt. Riga, as were the advances shown in the furnace. Both of its banks were walled in for several hundred feet, and in the opposite bank a paved recess had held a gate house to control the water pressure. The near bank overlooked a walled sluiceway about ten feet wide. Upstream there was a wild-looking gorge and waterfall, but I saw no evidences remaining of a dam where it should have been, at the head of the sluiceway.

Part of the purpose of the walled streambank had been to provide means of keeping the area next to the furnace perfectly level. The mowed lawn therefore that was between the furnace and the house had been the casting yard.

Two intersecting relics were still lying near the furnace, and may be seen in the photographs. One lay at the base of the loading all and looked like a large semi-cylindrical iron kettle. Lying on the ground within the furnace was one of the long pokers that had been used to dislodge the charge when it showed a tendency to jam on the way down during combustion.

Back at the weighing office I found that the picket fence had been set upon a pile of slag. This is the refuse of combustion. Although heavy, it floats on the molten iron and is raked off it over the top of the dam, or barrier, at the crucible door. The slag is of two kinds: a porous material similar to the pumice that floats on a stream of lava, and a glassy substance sometimes in crystals, much like obsidian, and very handsome. Man thus produces in blast furnaces waste products similar to those that nature produces in volcanoes. No wonder that a furnace in New Jersey was named Etna.

As was doubtless originally intended, from the little weighing office, I could look over the general layout of the entire Lime Rock Iron Company. The technical refinements of construction and the costliness of so much cut stone were in strong contrast to the character of the work at Mt. Riga. They were characteristic of the period of 1864 when the furnace was rebuilt, for at that time the Salisbury Ore District was being intensively developed. The native ore had produced fine grades of iron, other natural resources needed were available, branch railroads were snaking their way up the valleys overnight, and a flood of immigrant labor was appearing over the Atlantic horizon. The Ore District had proved its success, had aroused great ambitions even in distant places, and was receiving strong financial backing.

And from the Middle Ages or earlier, furnace bellows have always breathed faster in time of war. At Falls Village nearby, stands "The Iron Bank." Not a Victorian toy meant for pennies but one whose wide resources were founded by and for the then-flourishing iron industry of that neighborhood, and where much historical data concerning iron and the furnaces of the neighborhood have been preserved.

The layout of Lime Rock was costly and well-endowed, but compared to the resources of its times both in manpower and skill, the undertaking at Mt. Riga had been on a far larger scale. At Lime Rock the whole concern involved not more than six acres. At Mt. Riga, ore was dragged miles by team up one side of the mountain while iron was carted down equally far on the other. On the mountain top a separate community had been established, a lake had been dammed, and the area of intensive development had covered at least a square mile. At Mt. Riga the furnace was in successful production off and on for at least seventy six years, to cease only when the surrounding forests were gone and charcoal no longer available, while at Lime Rock the period of blast seems to have been much shorter. At Lime Rock, the surrounding community is still somewhat lethargic, semi-agricultural, while at Salisbury an imprint is everywhere evident, of the wealth heralded by the crude and primitive little furnace on the mountain top.

After an hour's stay at Lime Rock, it was time to turn back to Lakeville and then go southwest on Route 44 into New York State to find Maltby Furnace at Millerton. On the way I passed two pretty lakes, each surrounded by summer cottages. A hundred years ago the scenery around them was very different from its present aspect, for they are the sites of once-active mines. One of them is on the flank of Ore Hill, the most famous source of ore in the district. It is said that the quality of this ore is still the best in the world except for that in Sweden. Although other factors have made it more profitable to use ore from mines elsewhere, the question of whether to reopen this mine has cropped up again during the two world wars. One deterrent to such a project is that when Ore Hill was first mined the area was an undeveloped wilderness. Whereas now the lakes formed by seepage into the mines have accumulated such a well-established summer colony that disrupting them would incur incalculable dismay and expense.

The highway, on merging from the wooded Taconic hills, enters a country built upon a broader scale. Farm fields were larger and more intensively worked, valleys were wide and open, the upward curve of hills was less abrupt but more far-reaching. Colors of the land changed from the broken lights and shadows of wooded roads to the ochre and a sienna sweeps of ripening grain. Millerton appeared to have been originally another late

eighteenth century crossroads town established upon a gentle rise of land. Coming to it as usual with no information as to the location of the furnace, I inquired at the first filling station and was promptly directed north a short distance up Route 22, and to the side road going to Spencers Corners. The Corners were easily recognized: hilltop crossroads surrounded by wide fields of corn and hay. Houses at the crossroads were of 1750 or somewhat earlier. On one corner a more elaborate house had a Palladian window over a pedimented front entrance, and a handsome cornice. Maple trees as old as the house surrounded it. Beyond a long sweep of hay field a walled graveyard with slate headstones climbed a hill against the sky, a tall shaft supplying a terminating spearpoint to the vista.

Glad of an excuse to approach a fine piece of architecture, I drove into the yard and stopped at the back. There was no one at home except a caretaker's wife whose total lack of English made it squally impossible for me to do any subtle wheedling to get into the house or to learn the whereabouts of Maltby Furnace. But the road along the ridge past the graveyard was inviting and I was glad to follow.

Beyond the graveyard, the road tunneled under maples whose trunks enframed great stretches of golden grain, which dipped gradually to a valley. Blue-grey in the summer humidity, a mountain range walled in the valley on the far side and dwindled into obscure distance. The scene begged to be painted, but it offered no setting for a blast furnace according to Stanley-and-Livingston standards, so I regretfully returned to a little brick farmhouse whose barn still sheltered cattle. These good people were at least able to direct me to the house, on the road back toward Millerton, of the man who had lived longest in the neighborhood. I found this man's house and also his dog, which was of the rare sort that requires a really diplomatic approach to the front door. The dog was successfully conciliated but there was no one at home, as the dog had been trying to tell me from the start. Leering at me only a little, he accompanied me next door, introducing me to the neighbors without taking responsibility for my character, by wagging his tail only halfway, and pausing occasionally for an introspective growl. The neighbor turned out to be the man I was looking for in the first place, and he knew three things that were useful, and many others. He described the location of the furnace (just at the foot of the hill the other side of the Corners), and made me feel that if I had arrived yesterday I would have seen it in blast, for the superintendent used to live in a house down the hill and the daughter lived there yet. He also told me with great firmness that if I wanted to learn anything about the place I should see the "Our Local Historian," (a title

given with respect) who worked in the package store back in the center of town.

Once more turning my car toward the four corners, I passed them and found the turkey farm sign that was to be my landmark for a right turn. This took me into a narrower valley and half a mile further, a left turn into a one-track road through dense scrub growth. This climbed a slope and around a corner without possibility of retreat, and I found myself in the yard of a bleak, unsheltered, and unpainted nineteenth century house where the washing on the clothesline could have been inspected from the far side of the valley five miles away. From here I could look down into the scrub growth that I had just come through and across sloping fields to right and left. Behind me the narrow road continued to climb with unexplained perseverance up the hill above until it disappeared into a wooded cleft. Later I was to learn that it went to the iron mine nearby.

The head of a boy of ten was watching me from around the back door of the house and when spoken to disappeared suddenly, to be replaced by that of an elderly female, guarded and suspicious. My furnace-hunting costume of blue jeans and blue work shirt, both dirty, hair screwed back severely and bound with a tired bandana, was hardly reassuring and was probably inexplicable to one only accustomed to seeing middle-aged women dressed in cotton wrappers and aprons, even though equally dirty. Donning a neighborly air and tattered remains of dignity, I asked if she had ever heard of Maltby Furnace and could tell me where it was.

I had come right past it at the foot of the slope and all I had to do was turn the car right around and go down to the bottom of the hill and follow some tracks through the bushes (and that pretty promptly, she seemed to feel). I looked about again. On my right a railroad track skirted the hill and just below it, delta-like dumps must be slag heaps of considerable extent. On my left, the undulating field showed evidences of previous function, with roadways and graded areas vaguely defined under the stubble. A second glance at that had looked like old barn foundations showed them to be massive stone platforms, and just beyond the further one the top of the furnace itself was barely visible through the trees below. All solid objects were shimmering in the noon heat and I thought of spring water pouring into a hemlock log in the woods high up on Mt. Riga.

“I’ve got some nice cold spring water here in my thermos bottle, from up on Mt. Riga. I’m going to have some, wouldn’t you like some too?” I said to the old lady.

“Real spring water from Rigy? I do’ know but I’ll take some. I’ll find a glass.” She disappeared into the dark kitchen while the small boy hovered an instant in her place.

“Gramma, Gramma, give me a quarter Gramma, I’m going down to the store and get some sarsaparilla.” His shrill voice suddenly piped up. Quarter in hand, he slunk toward me around the house and hurried down the lane while Gramma emerged with a jelly tumbler, held out toward the thermos.

“Here, you can set down if you want,” she offered. The water seemed deliciously cold, and we sat side by side on a bench by the back door in silence and drank it all up. “This house belonged to them, and that one over there, and down on the flats where you turned in, that little building you passed was their office, like,” she unexpectedly offered.

“Oh, you mean Maltby Furnace.” I answered, slowly wit-gathering, still bemused by the starkness – in the expression of her eyes, by the little house, and by its situation on the bare hillside.

“Ya, only you call it wrong, it was the Phoenix,” she said firmly, while shades and wraiths of the classics slowly drifted upward with the heat waves.

“That’s a good name for a furnace,” I admitted.

“I do’ know,” she said vaguely. Now only goodbyes and thanks remained to the negotiations, and her part was done with a shyly remembered graciousness while a lifetime of impoverishment and uncertain winters looked out from the dark windows of her memory.

The car let itself down the gravelly ravine that was the road and cautiously nosed out the “tracks through the bushes.” Cattail rushes and willow sprouts had been matted down by truck tires, but soon it was time to stop and haul out the old straw knapsack full of paraphernalia, with “the Phoenix” towering over me. Bushes there certainly were, and only one side of the furnace seemed at all accessible. This showed a deeply corbelled arch of an early type similar to the tuyere arch of Mt. Riga, and choked with debris from within. To my left, the stone abutment that I had glimpsed from above revealed itself as the loading platform. Still in its place stood part of the wooden framing for the actual bridge connecting it with the furnace. Above the bridge a segment of brick arch soared against the sky like a flying buttress. This must have been a later addition, for it showed far more sophistication than the stone corbelled tuyere arch before me. The furnace must have been rebuilt and its height increased thirty or forty years or more, after its first building. The arch appeared to have been made to support the

“oven,” or boiler-like collection of pipes through which greater heat had been obtained when it was converted from cold to hot blast.

On the side away from the loading bridge, pushing and peeking through the bushes gave glimpses of the casting arch. This also was a stone corbelled arch with no metal used in it at all. From its inner face toward where the crucible had been, a series of three stone lintels climbed upward and outward, the inner one being four feet long, the next one six, and the top one eight. From the ends of the lintels and from above the top one, corbelling splayed out and up through the remaining thickness of the outer stack, a depth of a good eight feet. Another stone lintel crowned the apex of the outer arch sixteen or eighteen feet above the ground. Both arches showed chinking and patching with brick and mortar. The lintels of the tuyere arch are badly cracked in a continuous fault line.

In front of the casting arch, the sandy ground slopes away only slightly, and represents the original casting yard. Among the bushes now in the casting yard sits an abandoned salamander weighing many tons.

To understand the tragic significance of a salamander, it should be remembered that the charge, as described in connection with Mt. Riga, was put in at the top of the furnace, and during combustion descended at a slow and regular rate while the molten iron and slag accumulated in the crucible. Any irregularity in the rate of descent was a symptom of dangerous obstruction further down. The ore expanded as it grew hot and potentially explosive gases formed throughout the mass, so that in spite of the outward flare in the walls of the shaft designed to allow for the expansion, all too frequently the material jammed up and formed an arch or “bridge,” preventing the charge above it from easing down. If the obstruction was near the top or could be reached quickly enough it could perhaps be broken up by prodding it with a long iron poker such as still lies on the ground at Lime Rock. Further down, it could sometimes be dislodged by stopping and starting the blast. If this did not work, the situation became very dangerous because below the jammed area was a steadily increasing open space filled with gas, and the larger this area grew the more violent became the thrust from the falling mass above, if it were finally dislodged. At the same time the material below, and hence also the highly explosive gases above it, must be kept at a high temperature to prevent solidifying or “freezing.” If the upper mass could not be dislodged from above, various emergency expedients could be tried, although they were all apt to damage the furnace. The first step was to drain off from the crucible any molten material that was in it. The bridge or jammed mass could then be shot down with a small mortar and solid shot, or by 1850 or thereabouts it could be melted down

with a kerosene blow pipe. Sometimes a hole was made in the side of the stack and gunpowder or even dynamite was tried. Although this blasting was a menace to the stack itself it would not be so destructive as the consequences of failure to dislodge the jammed material.

Even success, however, was apt to be costly by the time a large open space had formed, for the sudden drop of the bridge would jar and shake the whole stack or could even burst through the walls of boshes or crucible. It could force the gases, now ignited, through the openings just outside of which the men were so furiously working, or falling into the crucible, could cause without warning a great splash and sudden outflow of molten iron and slag at the hearth and take by surprise the men working around it. (See page 160.)

When the charge did not jam (and during the normal course of the run) waste products infusible at furnace temperature tended to accumulate at the bottom of the crucible. Normally this material was cleaned out after the crucible had been emptied by the casting, but if the sluggish mass collected around the mouths of the funnel-shaped tuyeres, through which the blast came into the crucible, so as to gum them up, or if a large amount of it were suddenly pushed down into the crucible by a slide from above, it would prevent the forced draft of the blast from keeping the fire going and material in the crucible would chill and solidify. The formation of such a heavy and unnegotiable mass in the crucible necessitated the destruction of at least the crucible itself, in order to get it out, and in several instances when other factors such as charcoal shortages, were becoming difficult lest this brought about the abandonment of the entire works.

Obviously all the furnaces I visited had long since been abandoned, and evidence of one or more of the calamities described above could usually be found to explain the reason. The mass that solidified in the crucible was known as a bear or salamander. If it filled the crucible above the tuyere it would be three or four feet high by four or five feet across. Its appearance was that of iron with foreign matter, mostly charcoal, mixed in like raisins in a pudding. Their weight can be guessed when it is realized that four water buckets of molten ore would weight a ton.

It was such a salamander that sat as eloquent testimony before the casting arch of Maltby Furnace, and it was because of the possibility of such emergencies that the inside of the furnaces were built as units separate from the outside. That the occurrence of “freezing” was not always fatal was suggested by the fact that later on at Richmond I came across no less than four salamanders. Here the fourth one had evidently been the straw that broke the camel’s back, for while the others had been dumped into the

brook, this last one still sat in the casting yard with imprints in it of the tuyere it had stopped up.

Apparently as recently as fifteen years ago many more of the appurtenances of Maltby Furnace were still intact than they are today, for Keith and Harte, in their *Early Iron Industry of Connecticut* describe much of the machinery for forcing and heating the blast, still in place, including the blowing engine. The fact that the bridge survived for so long, however, seems to have made the yawning furnace top an inviting repository for bed springs, baby carriages, and tin cans. These and the crumbling masonry of the interior have filled the arches and poured out through them, as a monument to opportunism.

There is plenty of interest still to be seen, however, in the evidence of rebuilding and evolution as demonstrated by the remaining masonry, for the arches are primitive and suggest eighteenth century work while the outer masonry though clumsy is characteristic of a later period. The brick arch or support for the hot blast apparatus shows that skill in brick laying in which builders of the late nineteenth century took just pride. As I studied this furnace I formulated the tentative theory, later strengthened, that the arches are the one part of a furnace that once erected, cannot be changed, and that their character gives a dependable clue to the original date of the furnace.

With this theory turning itself over in my mind, I gathered up my things and drove back to the house occupied by the daughter of Maltby's late superintendent. There a happy scene was presented, for on the lawn sat a galvanized washtub in which a baby of three or four was playing while a child of five splashed water into the tub from the hose. On the long porch more babies and children were capering about or being fed. It was clearly a prolific and busy household and the lady of the house would be too occupied to have time to gossip with me about a defunct blast furnace, so I merely asked her if she knew when it was first built. She replied that her father had always told her that it was "before the Revolution," with the usual implication that the Revolutionary War came upon the heels of The Flood with little happening in between.

Hoping to get information about other furnaces in the neighborhood, I turned back to Millerton to hunt up the gentleman known as local historian. The title is one implying a valid enterprise, and if more towns possessed such guardians our history textbooks would be better reading. It would be a revelation to grammar school students if each town published a reference book of local history showing how its growth and major events, even family histories, had influenced or been affected by national and international affairs. Why wouldn't a local historian be as much needed as a dog warden,

a fence viewer, or a truant officer? Surely Ethan Allen's other activities would become more interesting to the children of Lime Rock when they were told that he was one of the founders of their furnace and that it made cannon balls that helped to decide the fate of the colonies.

Millerton is the miniature metropolis of a larger rural district, and its business center is congested and animated, but I soon located the historian, for everyone knew him. He turned out to be Mr. Chester Eisenhuth, an informed and kindly gentleman who was ready at the drop of a hat to help me with my investigations. He unearthed a sheet of photographs that showed all the old blast furnaces in the neighborhood, and he was able to tell me which ones were still standing and how to find them. He even offered to escort me the next day on a hunt for the one at Sharon Valley. So I thanked him and returned to Salisbury for another night in a familiar bed.

Looking out of the window at 6 the next morning it was disappointing to find everything obscured by a misty drizzle, but it was the sort that might "burn off" or might "turn into something," so I set out promptly for Millerton. As was to be expected, Mr. Eisenhuth's house was a treasury of heirlooms and antiques and it was a temptation to linger and learn their history. He showed and presented to me a photograph of Maltby Furnace during operation. It offered a totally different appearance from that of today and helped me to understand furnaces subsequently studied, for the furnace itself was surrounded and hidden by buildings of all sorts, even having one on top, and would have passed at first glance, for a rock crusher, a mine head, or a grist mill. Today, denuded of frame structures, the solitary masonry stacks look archaic, mysterious, and threatening, like Norman keeps or a setting for Macbeth.

Sharon Valley is in Connecticut off Route 4, but it is so close to the New York line that there was probably doubt in the early days as to which state should claim it. On the map, the road it is on, is shown as a narrow throat unimproved and unimportant. On the spot, however, it assumes dignity by means of a line of interesting old houses and the general look of a once-important highway from here to wherever.

Nosing out a proper site for a furnace, Mr. Eisenhuth and I looked for a stream and found one after turning west at the principal four-corners. At the bridge we parked and inquired for the furnace. During all my searches for furnaces the hardest question to ask was always the simple one of "Could you tell me where to find the blast furnace?" One never knew what kind of an answer would result but it was almost certain to be an astonished negative, and it usually required my Lecture No. 1, on what a blast furnace is. After a description of its probable appearance, persistent questioning of

the local citizen as to how long he had lived there, whether he had roamed the woods as a boy and noticed any large piles of rock, or knew anyone who might have, sometimes the sun of recognition would break through the clouds of discourse and tangible directions would be forthcoming.

Thus it was in this case and we finally ascertained that we had parked at the very spot nearest to the furnace. The misty drizzle of early morning was continuing in a sulky way and the milkweed and poison ivy beside us could not have been wetter. A gravelly path through them gave encouragement and we set out.

We were following along the top of a steep bank that dropped forty or fifty feet on our left to a small meandering stream. The path led through a level area dug out of the slope above. The terrace-like stretch was not more than thirty feet wide but was much longer, perhaps two hundred feet. Above, a road skirted the top of the slope, which became considerably higher as it went upstream. A few cut granite blocks lay on the slope but there was no sign of a furnace anywhere; or so we thought. Beyond the level space the path continued along the crest of a ridge so narrow and steep that we could barely thread our way along it. It was a well trodden path, however, and kept egging us on; in some spots by supplying planks laid across washed-out places. On the left the stream glinted through treetops below us, while on the right a deep dry ditch or gully appeared and gradually descended to stream level.

The first washout in the path revealed that the ridge was all built of slag, thus giving proof that a furnace site was near; and erosion could well have narrowed the ridge from both sides so that it might once have been wide enough to make a cart track from the highway to the meadow just becoming visible below: certainly it was winding down in that direction. I was sure that evidences of the furnace would be found nearer the stream, so we kept on into the meadow but without success because the stream vanished and we were surrounded by a field of breast-high wildflowers. They were mostly household herbs gone wild: mint, catnip, chicory, "butter-and-eggs," vetch and orange tansy, caraway, and butternut, blue, yellow, and orange violets and old rose. The sun was trying to come out, and they were dripping and glistening in a milky light that sharpened their many colors.

Still following the path, we soon came upon the cellar hole that explained the herbs, and not far from it an abandoned house still stood. It had been a poor little house at best, and had known neither paint nor good treatment. Downstairs were three pinched little rooms with insufficient light, dirty plaster, and sooty stovepipe holes. Upstairs were three tiny garret rooms, evidently never heated. Remnants of broken furniture had been left,

and on a corner shelf, a fawn-colored derby. Both upstairs and down the broken and worn-out toys of the five-and-ten-year-old were lying about. This widowed family had almost materialized before us when we remembered suddenly that we had not yet found the blast furnace.

Retracing our steps, we returned all the way to the level area, peering about carefully without success. But unfortunately if one leaves a town without at least ascertaining the exact site of the furnace, one is apt to discover from someone else that a mighty pile of masonry was waiting just around the corner. The consciousness of the possibility was to take a great deal of my time and patience during the next few days. The juxtaposition of slag and stream kept us hunting, although in this area the poison ivy grew like an illustration in a seed catalogue. Mr. Eisenmuth was bravely scrambling around in it when at last he shouted, "I have it. Come over here!"

A low pile of sand and rocks showed emerging from it the apex of a brick-faced gothic arch. Under it a black hole was barely large enough to crawl through, though the gravel at its rim was smoothed down and hard trodden. Peering in with flashlights we made out a brick-vaulted chamber that was all that remained of the furnace. Being about five feet below the crown of the arch, the space must represent the lower boshes and the upper crucible. Apart from good nineteenth century brickwork there were little to see, and it looked as if a sneeze would collapse the whole business, so we did not climb down into it. Somewhat frightening, therefore, were objects in the cave-like place, for it had been adopted by very little girls as a playhouse. Nursery-sized table and chair, a doll's tea set, and a toy stove stood waiting for some little proprietress to crawl through the poison ivy and take charge. We stared at each other with lifted eyebrows and then hitched up our sentiments and climbed back to the level area.

We had found the furnace, and in finding it, all the weedy banks, ditches, and levels suddenly revealed their original purpose in a general pattern of significance. The remainder of the arch we had just seen, must have been the casting arch because the carefully leveled area could only have been the casting yard. The slope above, with the roadway along it, had been the loading platform, but furnace and yard were too high above the brook to make a sluiceway and wheel feasible at that level.

So we peered down through the treetops to the stream banks and could just see foundations of the wheelpit and possible remains of a dam. Power for the blast had been transmitted from the wheel thirty or more feet up the steep artificial bank to the tuyere. To give access between the two levels the slag road had been built down to the stream, and had required a ditch along its uphill side to take drainage from the bank above. The flowery meadow

doubtless had been the site of a small village of workers' houses: the cellar hole belonging to those of the earlier days, and the one still standing dating from the period of rebuilding and expansion of the project. Statistics from Keith and Harte give 1825 as the original date of the furnace, which would lead one to expect a much more primitive setup than that of which we saw the remains. Drastic revision must have taken place in 1863, the date given for its rebuilding. As it was not abandoned until 1898, its operation was carried on from the time of the Mt. Riga type of construction, through that now visible at Lime Rock. This was the period of transition from cold blast to hot, from water power to steam, and from charcoal to anthracite – all resulting in increased capacity and output in the furnace itself. Seventy three dramatic and fruitful years of the industry's development today sheltered a doll's tea set; and now it was time to hurry back to Millerton.

It was impossible to thank "our local historian" adequately for so much generosity of time and information, and I felt very solitary again and without guidance, as I turned north to find the furnace of the Copake Iron Co., now within Taconic State Park.

Another glance at a road map will show that the park covers a large area and is not marked clearly to show access or entrance. I had long heard it said that it is one of our most beautiful and best maintained state parks: a mountainous wilderness made into a playground. In such a place a blast furnace would be as a needle in a haystack, but Copake Falls is shown on the map, and this had been named as the general location of the furnace. I found it also to hold the main entrance to the park, and without difficulty reached the house of the park superintendent near at hand. He was a busy man, for several cars were already parked there arranging for camping privileges. Park activities were much in evidence, for across the road a grove sheltered a small village of cabins and recreational buildings from which issued the clatter of dishes and the strains of community song. Just to the left, a gravel road crossed the main one and was lined with prim little white clapboarded Victorian houses. These apparently were occupied by park rangers and help. At the junction of the two roads the main road was closed off by stone posts with a chain across and a sign saying "Positively No Admittance." Beyond the gateposts the road narrowed but led as straight as could the shortest distance between two points, to Copake Furnace itself.

The superintendent was a shrewd, firm man, hard-pressed with the responsibility of keeping the forest and the tenderfeet from doing each other any harm. Conditioned by summer campers who habitually think themselves the one exception to every rule, it was generous of him to take down the no-admittance sign, to trust me to park by the no=parking sign, and to leave me

alone with his precious park tools and machinery, to study the furnace at will.

The furnace of the Copake Iron Company shows the most modern equipment of any in the Salisbury Ore District, partly because its operation did not cease until 1902, and partly, it is said, because the company was exceptionally progressive in an industry noted for conservatism, and was always ready to adopt a new method. A modern flight of steps led to the top of the loading platform behind the furnace, and from there it was possible to survey the general plan of the works.

A narrow valley hardly more than a pocket is enclosed by steep and heavily wooded slopes. At each end of the furnace area and perhaps a mile apart, ravines block the level stretch of valley floor. Furnace activities occupied the entire stretch of miniature interval and had been laid out in the orderly pattern of functionalism. The stream appeared at the upper ravine where an earth dam had a small gatehouse enclosed in walls of fine ashlar. It then skirted the base of the opposite slope and disappeared behind the barns and outbuildings of the superintendent's house. Directly before me on the streambank a long brick building had probably contained company offices and possibly an engine house. Park officials were using it for much the same purpose now, though tractors and trucks parked near translated it to this century. A small brick building close to the road had the familiar scales outside, such as coal wagons use, and had been the weigher's office. Looking back through the gate it was obvious from its size and location that the present superintendent's house had always served such a use, and that the smaller house on the side road had been built for the furnace workers, probably foremen. The loading platform, on which I was standing, was approached from the woods by a worn old cart track, the ore road, which followed along its top to descend to the lower ground beyond the furnace toward the gate. Immediately behind the furnace, on the platform, an additional foundation a few feet higher but flush with the road had been the abutment for the loading bridge to the furnace top, and just equaled it in height.

Only a few feet away, the furnace itself looked ragged and infirm. The four brick gothic arches rest upon foundations of masonry, the three heavy courses rising about four feet above grade vertically before the spring of the two-centered arch begins. The arches are very deep – eight to ten feet – and in good condition. In fact, the arches are the only part of the furnace visible from outside, which give an indication of its original structural character. The ashlar bases are all that is left, of the fine masonry that covered the exterior prior to its recent removal by the park authorities. The pile of rubble

that the furnace now exposes was originally only the fill between inner lining and outer casing, and its roughness gives a false impression of a furnace belonging to an earlier period.

The furnace interior, however, is striking in its contrast to early ones, and presented several features that I had not heretofore encountered. Most conspicuous of these differences is the greatly increased amount of iron visible within the arches. The crucible is entirely of iron, made of curved plates bolted together to form a short cylinder about three feet high. Inside the crucible a lining of a single thickness of firebrick extends from floor upwards through the shaft. Above the crucible an air space about a foot deep surrounds the brick lining and is enclosed by another layer of brick, this one supported at the boshes, or about five feet six inches above grade, by a system of three iron beams which, in cross section, would look like I-beams. These like the iron crucible held channels that permitted them to be cooled by circulating water. Gauges by which to judge the water level were provided by the short vertical pipes terminated at the top by cups standing at each side of the inner arch. It is probable that many of the furnaces that operated in the latter part of the nineteenth century or later were at one time provided with iron crucibles and water cooling-down devices. The last two wars, however, have stimulated scavenging to such an extent that all blast furnaces in the area are said to have been combed for scrap. This would account for the emptiness of many furnaces visited, and makes Copake unique in still possessing equipment that illustrates the most modern development of the blast furnace achieved in the Salisbury Ore District.

It was not time to start out on some wild goose chases, a sport with which I was to become too familiar. A long list of furnaces awaited me, and there were a few hours of daylight left, so I started southward on Route 22 toward Wassaic and Amenia. I am not fond of this highway, because although it is concrete, it has an endless crevasse down the middle that wanders erratically and is impossible either to straddle or to avoid. The widespreading farms and long vistas of the Millerton region, gave way as I went south, to crowding hills that led the road up and around their shoulders and down their sides, while the weather darkened into a sullen mistiness.

Finally I came to the busy crossroads of Amenia, where a once peaceful town is being stirred by tides of traffic bearing the flotsam of New York City. Inquiry for a blast furnace at the corner filling station sent me confidently down the highway where a repair shop was said to mark the turnoff to a wood road.

All this was easy to find, and the wood road held tire tracks and was occasionally wide enough for two cars to pass, so I turned up it with a fair

degree of cheerfulness. The sides of the valley at this point stepped upwards in a series of shelves that marked prehistoric shores of an immense glacial river. The road therefore climbed by sudden pitches and level intervals. I was of course on the lookout for signs of a furnace, and soon found an ideal site. To the left, the road swung around a long and narrow pond – evidently a dammed gorge – and could be seen climbing rapidly above it up the flank of a steep and overhanging hill. Before me a plank bridge crossed a brook or drainage ditch leading from the pond, and on the right, a trace of road led through the undergrowth to another steep bank forming the right-hand shore. Any conventional furnace, sensitive to what was expected of it, would be sitting waiting for me somewhat below the elevation of the pond outlet. I found a place where cars in turning had beaten down the bushes, and parked there. The woods gave little light but I loaded myself with camera and measuring gear and started out to follow the ditch downstream. The ditch was obviously artificial and led into a paved channel that turned away from the road and cut across a small plateau. This had once been cleared land, and fairly recently, for there was still grass growing between the weeds. The latter, however, when not poison ivy, consisted of every kind of burrbearing giant known to Man. The channel unfortunately led to the edge of the level area without explanation, and a thorough search failed to show any signs of a furnace. It was simply a very carefully drained little plateau.

Clambering back on the road, I followed the trail to the right, which led back to the pond. The area was swampy and the path wet, but in it I was delighted to find firebrick and pieces of slag, or cinder. The shore of the pond was steep and offered no foothold, but peering into the water I could see large masses of firebrick and red tangles of iron pipe. On the left, a conical pile of earth and rocks looked promising, but upon examination, seemed to be just that and nothing more. When one is alone one is apt to argue or converse mentally with a sort of extra self: this time I kept foolishly repeating the words, “Who was him? Who was him? ‘A primrose by the river’s brim, a yellow primrose was to him, and nothing more.’”

A footpath along the edge of the water gave some hope of eventually leading up the steep bank and offering a more general view, but in this optimism I had misjudged human nature. The narrow path led to an excellent inner spring mattress arranged on the bank with a fish pole tied to an overhanging limb in such a way that a touch of the toe from a reclining position would jerk a fish out of the water. The mattress appeared to be an all-season installation, for it was soggy with many rains. Climbing the bank above by grasping bushes and pulling myself up, a fox’s burrow gave welcome toe-hold and had doubtless often provided the somnolent fisherman

with a secret and curious audience. “This was him, this was him: ‘a primrose by a river’s brim—’” my mind went on murmuring.

I returned to the car very much puzzled by having found indications of a furnace site without having seen any remains of masonry. In such a situation I was always nagged by the possibility of there being something further on, so I drove up the mountain cart track to find out where the tire marks led and to ask questions. An extra pair of eyes would be a handy thing on such a road because one has to watch every bump ahead and judge the car’s clearance, while in such places the scenery is always at its best, and the need is paramount for looking everywhere for signs of a furnace. In this case the road climbed so rapidly that the pond seemed literally to fall away until it lay beneath the treetops below like coils of a shiny black ribbon.

Another plank bridge brought me out to cleared land: a mountain hayfield. This had evidently been one of those eighteenth century upland farms of which there are so many remains on the upper slopes of the White and Green Mountain ranges in New England. The early popularity of such locations is an eloquent reminder of the changes that have occurred in our northeastern valleys during the last two hundred years – a metamorphosis that it would be hard to believe except for the testimony of a pasture wall arching over a hilltop and disappearing against the upper skies. During the eighteenth century, valley roads were not popular because forests were still so unbroken that most valleys were swampy. Valley roads were used only locally and in the summer: they were not the well-known through roads that linked the coast settlements with frontier forts. Throughout most of the eighteenth century there was also the ever-present threat of ambush, first from French and Indian, later from Indian and British. Mountain defiles were dangerous, ridges more passable and safer, hence early settlements were placed upon hilltops also. For the same reasons, Indian trails followed ridges and avoided streams, bogs, and lakes; and most of the early roads were merely a widening of the ancient trails. In the autumn, frost followed the streams and brooks upward, striking first in the valley, so that hilltop crops were more apt to ripen, and the upland farms had more hours of sun all year round. It was the industrial revolution which, after 1800, settled the valleys where there was water power and an easy grade for trains. It was deforestation that lowered the level of water tables and dried out the land: a process that is still continuing at an alarming rate. In the twentieth century the hill farms, impoverished, eroded, and forgotten, are buried under third-growth scrub but their stone walls, wells long dry, and apple seedlings grown wild and bitter, persist with a shadowy significance throughout the new woodlands.

Signs of present occupation were increasing as I climbed, for the road led through a gap in another stone wall, and into a field mowed this season, and dotted with tents. Over the brow of the hill stretched many small buildings, the largest of which bore a banner painted with ancient Hebraic symbols. There was great activity and happy shouting of summons, an excursion involving a jeep and a station wagon was being organized, but as I drew up they all turned toward me in instantaneous immobility. I got out of the car and asked my question about the furnace, but I could not tell from the reaction of these young people whether they understood English. After an uncomfortable silence someone pointed to a young man who stood by himself at the door of a tent down by the wall where I had entered the field. He looked like a gatekeeper. All the gaiety had left their faces as I approached, and I felt as if I had been caught in a nightmare of being a Gestapo agent. So I thanked them, and turned the car round awkwardly and hurriedly, and went back down to the gate.

The young man was patient and bored. Ya, there was something like that down by the pond once. It was not there now, no. Not since two years, ya, two years since it was all torn down: big boilers like. Ya, just at the end by the road, but it was no good, nobody knew what it was for. As he talked, I looked back up the field, over his shoulder. The immobility of the young people was melting into small groups, conferring and gossiping. The jeep and station wagon stood waiting, and there were no further summons to them. On either side of the field further forest slopes stretched upward, sheltering this upland vale where troubled people had found peace and reunion, but not yet trust. That it was not too remote a place for the backwash of European conflict to reach, the stone walls testified.

I had found the answer to the tire marks in the road, had been able to turn the car around, and had been confirmed in believing that I had found the site of the furnace, so I was in luck; and going back downhill could see before me somewhat more of the geological drama known as a “hanging valley.”

Later, when *The Early Iron Industry of Connecticut* was available, I found a photograph of the site and learned that it was not that of a furnace but of a battery of three great cylindrical ore roasters, of boiler iron funnel-shaped at the base and lined with firebrick. (The fisherman’s mattress had marked their site.) The pond was referred to in this book as “the great Amenia pit,” meaning mine, so the cart road must have seen busy days, while the drainage ditches to the edge of the plateau, must once have carried off the residue of the nine pumps. Now that the ditches are dry, the mine is a pond.

It was late in the history of this district, and after a long series of disappointments, that the ore of this locality was discovered to be exceedingly rich, but upon smelting to generate dangerously explosive gases. It was for this reason that the ore roasters were evolved, to liberate the gases before the ore was sent to a furnace.

As I emerged again upon the main highway I was suddenly launched again into a stream of hustle and confusion which, as I passed the outskirts of Amenia, was diluted into mist and glimpses of unbroken woodland. Foliage was dripping, and the windshield wiper was busy, as I began to wonder when I would reach Wassaic. I ran past a solitary garage repair shop and filling station with an invitingly large open space before it, and turned back to inquire the whereabouts of Wassaic and the possibility of a furnace there.

Within a wide doorway a man was busy at the vitals of a hoisted car, the long-corded trouble light showing only the intricate motions of his fingers among the machinery. But upon hearing an inquiry for guidance he threw down his tools with a gesture like that of performing a libation, and stepped out to the car while wiping his hands on a piece of cloth.

“Yup, this is Wassaic, sure,” he said. “Sure, I know what you mean, the furnaces, there’s two of them side by side, just up the road. You know where you came over that bridge up there? Well, just beyond on the left, a dirt road takes off, you can’t miss it. Sure you can drive up there but you won’t want to go far in. The furnaces is right near the highway, only they don’t show from below, see? Here, wait a minute. I think I’d better go with you; you wait till I get my father-in-law to come down and tend to the pumps. He lives up above.”

So he ran around to the end of the garage and up some stairs, and father-in-law appeared and took over, while my guide climbed into the car beside me. This man was showing simple unself-conscious and unhesitating concern for the welfare of a passing stranger, and he became a symbol in my mind of the helpfulness that everyone, high and low, gave me the minute they were convinced that my errand was serious. He made me realize that it is the American way of thought, to respect another man’s job, whatever it may be.

Sure enough, the dirt road took off only a little piece up the highway, beyond a deep gulch. A steep slope brought us up to a whitewashed house with a well curb still in use, and a long piazza where a chained dog and a sleepy cat each kept one eye open, hoping for the return of the obviously absent family. Beyond the gravel bank upon which the house stood, the road dipped abruptly out of sight into the woods. There was a place to turn a car

in the field opposite the house, and we returned a bit down the slope toward the highway, where my guide told me to park. Here we got out of the car and entered a vague footpath shoulder-high with weeds. It took us immediately onto an artificially leveled area from which there was a drop of about forty or fifty feet to the highway below. At the uphill edge of the terrace two great steep mounts of earth had been scooped out of the slope with spaces behind them that looked like dry moats. Overlooking these, masonry walls of the same height as the mounts, supported approaches from the field in front of the whitewashed house. The mounts, long out of use, were covered with bushes and with young elms ten inches in diameter at the base. Each mound, on the side facing the terrace, showed a low entranceway to its interior. These were buttressed by finely constructed piers of shale, laid true, and showing traces of pins that had once hinged cast-iron doors.

But the openings themselves at first glance were black, pitch black, and nothing to invite entry into the interior. Suddenly ready to evade the main issue, I set down my paraphernalia a discreet distance in front of the first opening, and started sidling around the mound toward the “dry moat” without comment. “Well, here they are,” said my guide firmly. “I guess you won’t need me, and I’d better be getting back.”

With those yawning holes in front of me I certainly hated to see him go, but I thought of the damp hours I might have spent beating about in the woods, and of the time he had wasted on me, and thanked him as well as I knew how. As he noticed me still edging around the outside of the mound he came back, and in a serious and confiding tone said, “Say, there’s just one thing I want to ask of you.” I thought of the people who had carved their initials upon Mt. Riga furnace since the early eighteen hundreds and asked willingly, “What?”

“Well,” said he in the voice of an adult to a child, “that back in there is well known to be a rattlesnake den, and I just want to ask you, please don’t go off the path into any bushes!” And with that, he was gone.

Peering back to where the car was parked, it seemed to me that we had come through a good many bushes to get where I was now standing, and that this was certainly no golf green.

Going back to my knapsack I fished out my strongest flashlight and stepped slowly up to the portal of darkness. Immediately I was spellbound with the beauty of the place, though it looked like a witch’s cave and I expected a snake to drop on my shoulders at any moment. I was gazing at an interior shaped like the pointed half of an egg. The floor, of black earth, was flat and only very slightly below the level of the terrace outside. Opposite to the entrance, and nearly at the apex of the dome, was an opening that must

have been on the same level as the platform beyond the moat. With the exception of the floor the entire interior was built of thin pieces of shale, none more than six inches thick and many, less. Although this stone was uncut and laid without mortar, the inner face followed as clean a contour as if it had been turned on a lathe. No Turkish dome ever had more subtle curves. The inner surface of the masonry was black and glassy from heat, even appearing on the more horizontal slopes as if it had melted enough to trickle downwards. The apex of the dome was crowned with flat slabs for an area of about eight square feet, but whether this was meant for an opening I doubted. Of particular structural skill and beauty were the facings of the two openings: the high one to the rear, and the low portal through which I had entered. The circle of the dome base was about 30 feet in diameter at the base, and the distance to the apex appeared to be the same. The entrance was about six feet high six feet wide, and four feet in depth.

My guide had called these furnaces, but doubts began to assail me. They appeared to have a loading platform and orifice, a casting arch and casting yard, but where would the molten ore collect? There was no crucible and no way to collect it for the interior spread out at the bottom. Moreover, the enormous charge necessary to fill such an interior would have been bottled up by the curving dome with no outlet for gases. It would have been like a jug of home-brew: the whole thing would have blown up, while this though used, was still intact and perfect.

I had read of the process of charcoal making in the Black Forest, where logs were placed in pits and covered with earth, to smolder slowly. I knew that quantity was the great problem with the charcoal consumption of the Salisbury Ore District. It began to occur to me that these must be great charcoal kilns. But just which furnaces they served, there was no one to ask.

Lingering inside, measuring and taking flashlight photographs, I noticed humming birds' nest in the crevices near the openings, and the remains of a bonfire on the earthen floor. An eerie setting for a boy's adventure of a chilly tramp. It was easy to displace the world outside, to surround this some with a Mycaenae or Knossus, and to imagine a happy archeologist her discovering the tomb of an Aegean king. What had taught the people who built this thing to build after such a pattern?

Once outside again, I realized abruptly that the day was over. The darkness of the interior had an unresponsive echo in the dusk outside: the lack of daylight on my emergence to the outer world landed on my sense of time with a sort of dull thud. Where was my bed to be? The white sheets, the warm lights, the chance to write up notes and reports, the relaxation, the hot bath? I hadn't the slightest idea.

I had the car, and gasoline and a good road ahead leading into more settled districts: I would just keep an eye out. Moreover, I had a tent and a sleeping bag and some canned goods, against getting stuck, so I hurried down the highway in the wet dusk with windshield wiper working like the proverbial eager beaver.

Gradually the valley seemed to broaden out. Hamlets appeared, but none of the inns seems to offer overnight accommodations except to misguided youth or fatalistic traveling salesmen.

At length I came to an open pasture full of cedar trees and began to watch for a place to drive the car in, out of sight so that I could spend the night there undiscovered, when a large billboard confronted me, saying, "Old Drover's Inn. Next left turn." The hypnotic effect of the instruction was too much for me, and I took the next left turn, picturing sanded floors and settles, and a bunch of unwashed characters like myself, raucous before an open fire.

The side road was about a mile long and crossed the valley from west to east. The inn was white-clapboarded and ample and stood under heavy trees dripping in the rainy mist. Lighted windows poked yellow fingers toward me through the fog and an end door in the basement displayed a modest sign that said, "Enter Here." I parked the car and hawled on my battered raincoat for the sake of dignity over the outfit that was dirty way back at Maltby Furnace. The place was quiet and cool. One could sleep here.

The little end door did indeed introduce me to settles and an open hearth, and also to gleaming brass, copper, pewter, silver, and crystal; to a polished bar and a polished host; to an array of bottled that would transcend Volstead's wildest nightmare; to obsequious servants, and a blasé poodle and a bunch of highly sophisticated New Yorkers: "Café Society" having a rustic holiday. Stepping into their midst: an unescorted female, disheveled, middle-aged, and in blue jeans; the only thing to do was to be perfectly at ease like everyone else. The nonchalance with which they weathered the impact of my entrance spoke volumes for their urban experiences.

I was taken to inspect a "Colonial" bedroom with modernistic wallpaper featuring cabbage-sized roses, and succumbing to the seductive promises of an inner-spring mattress, said that I would take it. I was returned to the firelit grillroom in the basement, where the menu was quaintly chalked up on a blackboard. Glancing at the prices with a prickling running up and down my spine, I felt as if I were out on the end of a high diving board with an audience waiting expectantly, and I determined to take the plunge. Nothing would have induced me to order the cheapest item on that list, but the old family retainer at my elbow took my order for the next cheapest,

frogs' legs, with an air of avuncular approval; while mine host behind the bar sent over a cocktail on the house. He was very much of the gentry, and the guests conversed with him as they ate or dropped in for a drink. I had skipped lunch, and the warmth and food seemed equally delicious, and my surroundings entertaining to the utmost. It was a tiny room and conversation passed back and forth, skillfully riposted by the host, with a polished friendliness, which held touches of suppressed evaluation. His poodle was to have puppies in a week, and there was much knowing kennel talk and discussion of their apparently endless pedigree.

After dining it was time to take the ubiquitous service man out into the dripping night to collect my bags from the car, but before doing so and knowing that these good people would not be human if they were not busy with some conjecture concerning so obvious a misfit as myself, I felt that I owed my hospitable host some label by which to place me. So I lingered at the bar long enough to murmur that I was an archeologist studying blast furnaces although my specialty was old houses. "Archeologist" was the perfect word (though I have little right to it), for it conjured up pictures of sun helmets and tall boots, and made my tired old blue jeans as official as a bandleader's uniform. Indeed, my good host's face lit with understanding as I mentioned it! I had helped him out considerably.

While I was out at the car more visitors arrived: the restless who must have somewhere to go in the evening, even in the deep country. As the servant and I returned to the taproom a small crowd had gathered around the bar, and the host was just finishing a speech that wound up, ". . . an archeologist, studying blast furnaces." So amidst laughter and many goodnights, I went up to my room to catch up on notes of what I had seen that day from Millerton to Dover Plains.

Chapter Three

On Sunday, July 29, I was up betimes for the 8 o'clock breakfast, which had been arranged with the host the evening before, accompanied by soft cries of sympathy and distress from the other guests. The host himself was up to wait upon me with a steaming pot of coffee and fresh biscuit while the rest of the household slept. As soon as I had finished he led me over the beautifully groomed old inn to see the original kitchen, to show me old books and other treasures, and to receive my compliments on the carefully disguised restoration of the dining room. The family retainer then handed me the bill on a silver salver with an implication that I was paying for the life membership to an exclusive club. It was then time to settle the account and

be off with an inward resolve to live on air for the rest of the trip, pushing the car from behind when the gas gave out.

It was a clear, clean, hot, cheerful morning, and it was encouraging to know that there were three furnaces right at hand in this same town: the White Furnace, and Dover Furnace, or Sharparoon. The valley floor was about two miles wide and the old main highway wound up and down and roundabout, lined on both sides for miles, with grey-trunked and ancient maples. A field with a small stream running through it made me slow down and look about. The field had a herd of cattle in it, and at the far side the cropped turf sloped upward abruptly and disappeared against a wooded hillside. At the foot of the slope, and conspicuous in the midst of the pasture, stood a structure that looked at first glance like the squat stone tower of an English village church. Hardly believing that it could be a blast furnace, I started looking for a means of getting nearer to it, and found a narrow dirt road that climbed up steeply around the pasture. Above the pasture the road crossed a gorge and entered a narrow upper defile where overhanging hemlocks shut out the light.

This was an abrupt change from the open fields below, and looked like the back roads of Vermont. I managed to turn the car where a muddy lumber road came down off a hill and returned to park on the upper brow of the pasture. There was a barbed-wire fence to cope with, one so robust that it strongly hinted of a bull inside, but the cattle were all down near the valley road and I would be an inconspicuous small object on the far slope. I let the knapsack over the wires and proceeded to undulate myself as cautiously as possible, through the widest gap.

As I picked up my things and started across the field it was necessary to swerve around the cellar hole and lilac bush of an old house site, and near it, a graded cart track began to be perceptible in the turf. The track led rapidly downhill and into a leveled area that had extensive buildings or sheds upon it, the hollows of their foundations outlined by small groves of locust trees. Beyond the level stretch, the road descended steeply along the flank of the slope with remains of a retaining wall supporting the lower side and a hairpin turn at the bottom. Halfway down, the stone tower seen previously from the other side of the fields and from half a mile away, was now immediately in front and beneath me. It stood just at the limit of the level meadow land so that the base next to the bank was several feet above that overlooking the flats. Each of the four sides held an arch. Those on the sides and rear, intended as tuyere arches, were corbelled and extended not more than a third the height of the structure.

I was looking at White's New Furnace and it was built of magnificent stone and with finest workmanship: random ashlar of uncut flat stone, courses of several layers of thin alternating with heavier stones, the largest of all having been saved to be used as quoins. A vertical line of iron rods made an unusual pattern near each corner. These were yard-long pins thrust vertically through the eye of each tie rod. Looking across at the top of the furnace, it was sad to see that it was encumbered with a small forest of birches and hemlocks, some of them twenty feet high. These, like bad fairies, were airily gesturing out the eventual doom of this fine masonry.

Coming at length to the bottom of the road and walking around to the front, or casting side of the furnace, I saw what is from the point of art, probably the finest masonry casting arch on this continent. It is a true arch, not corbelled, each stone course radiating from one of the two centers, which make it a "Gothic" arch characteristic of the nineteenth century's sentimental return to pre-Renaissance forms. It is significant of the scale and challenge of the demands of iron manufacture, that the same romanticism that produced the wooden gingerbread of "revival camp" cottages such as the well known ones at Oak Bluffs on Martha's Vineyard, should, when applied to a blast furnace, be translated into impressive realism. Deeply splayed, the outer corners of large flat stones, and tapered in the splay to shale, every point of strain had been accounted for while the whole had the texture of fine knitting, of something conformable to future stresses. Increasing the impression of early ecclesiastical work, a series of piers seemed to recede into the darkness within the structure. These too are of the same shale-like flat stone.

Although front and rear faces of the furnace had no batter, the sides had, and this added to the effect of the front elevation's being that of a fourteenth century church tower.

After photographing the outside from several angles, I started studying the interior and found it complicated and interesting. I was standing in the middle, gazing upward, when a stern voice said, "Hrrumph, yes, yes, of course!"

This was forbidding. I had never met an authentic Hrrumph before outside of a book, and the "yes, of course" was a withering comment upon the disillusionments provide by human nature. Moreover, the firm, before my departure had most specifically warned me not to trespass but to be careful to obtain proper permission for visiting any furnaces upon private property, and now here I was, caught like a boy stealing apples. I was in the wrong, but was in no position to give into it. What I needed desperately was an opportunity worthy of Horatio Hornblower.

So out I scrambled, exclaiming eagerly, "Are you the owner of this beautiful furnace? Oh, I'm so glad I've found you!" It was the owner, a Mr. Redding, and he turned out to be a most generous and forgiving man. There was indeed a bull in the pasture, and he arranged to have a man watch it while I continued my measurements, and invited me to come over to his house for lunch when I had finished.

I took many photographs and measured with unusual care both because the furnace was in good condition and I could walk around inside and out, and also because its design was elaborate and there were many new features of construction. It took the entire forenoon eventually, but before I began, Mr. Redding took me around the side of the hill, following the stream upward nearly to the point where the upper road had crossed it through a gorge. Looking upstream between big boulders overhanging the gorge, one could see just below the road, a masonry dam, of large stones closely fitted together. Just below the gorge, where the stream broadened out and became more gentle, a large stone abutment may have housed or supported the wheel. This, though tight and sturdy, was of a far cruder workmanship than that of the furnace I had been studying. Further up the slope a crude early furnace, "Old White's," had been built into a bank partly supported by a retaining wall. Of the furnace, all but one low corbelled arch had collapsed. This showed a cave-like entrance, not more than three feet high, yawning downward into the dark interior. (See note from "Dutchess County")

Mr. Redding said that this had been a pre-Revolutionary furnace that had finally exploded, occasioning the building of the newer one at the foot of the hill. Keith and Harte give 1854 as the date that the earlier furnace was built. I do not question their documentary records, but it is curious that a furnace of such a date should have been built according to the methods of a hundred years before, while the later one, also of the third quarter of the nineteenth century, and said not to have been built much later than the first, should show every refinement of the period. The second furnace was never lined nor used, the rising price of charcoal being claimed to have brought about its abandonment. Therefore the acres and acres of slag near it were the product of the earlier furnace, and clearly indicate that it was in operation many years. Cellar holes and grading vaguely delineate a large-scale layout for the earlier furnace, and one long since abandoned and now almost imperceptible. Comparing the size of its slag heap to those of furnaces whose length of operation is definitely known, it would appear that this one had been in blast not less than sixty nor more than eighty years, and since it must have stopped functioning at least by 1870, and probably more nearly 1850 in order for the new one to be built in the style in which it was, a

conservative estimate of the evidence would put the date of building for the old furnace between 1780 and 1800. Its appearance is consistent with these dates.

It is interesting, from the prevalent glassy blue of the slag, that the quality of the iron produced was of an extra high grade white metal.

Another dam, intended apparently for the use of the new furnace, had been built lower in the fields; but this had washed out in recent years. Returning over the slag heap at the foot of the hill I re-entered the crypt-like interior of the new furnace.

The four piers supporting the outer masonry had been pierced by four passageways, each one being in plan a quarter circle about twenty inches wide. Four inner piers, convex on the sides next to the passages and diagonally cornered on the inner sides toward where the crucible was to be, explained my first impression of a crypt. These piers were spanned at the spring of the inner arches with iron bars resting on the squared and projecting corners and intended for the support of a firebrick lining of boshes and shaft. As this lining had never been installed they remain free and clear and the inner face of the outer stack is left exposed. Four complete passages were not met with in any other furnace except at Greenwood, now Arden, N.Y., built in 1811; and the latter were lower and more primitively constructed. Passages were not uncommon even in fairly early days, as that at Mt. Riga testifies, but either they went merely from one arch to another, as at Riga, or part way around as at the two Ringwood furnaces at Hewitt, N.J.

A structural detail of especial interest was the roofing over of the passages with heavy iron plates. These were generally of two-foot-long fan-shaped segments that looked as if they had been waxed to withstand rust. Occasionally other material had been used: flat stones, and in one case, a broad sow bar.

The inspection had taken up the entire morning; it was now one-thirty and time to accept Mr. Redding's kind offer of lunch. Outside the furnace again and scanning the casting arch with a last glance of admiration, I noticed that the return of the arch stones or voussoirs, increased in depth from the spring to the crown or apex, on a curve with a different center from that of the arch itself. This made a graceful and subtle decorative line of the voussoirs, reminiscent of Florentine work.

I found Mr. Redding living in a little house on the corner where the upper road joined the main highway. He had rescued it from the doldrums and restored it with discretion and ingenuity. I sat on a tall stool in his spotless kitchen while he made me a highball and a salad and carved slices

of home-cooked ham. He was pleased to have someone take a serious interest in his furnace and was planning to restore the washed-out dam.

After lunch Mr. Redding showed me another little house he was making into a delightful place, and offered it to me for the night should I be in need of a roof. He then took me to call upon Miss Anne Vincent, an old friend and neighbor of his, who could direct me to another furnace in the vicinity. Miss Vincent turned out to be a most gracious lady, and rather than let me go into the woods alone, looking for the furnace, she insisted upon our getting into her car and upon her driving us. "It would be better for me to take you," she said. "I don't think they'll mind because they know me." This was murmured with an air of thoughtful appraisal, and left me mystified.

She drove us into a sandy cart track that led through a grove of pines, across a cedar spotted meadow, and dipping to cross a brook, climbed through woodland until finally we stopped near a small and forlorn house at the edge of the woods. Upon hearing the car its inmates came out to look us over. Father, children of all sizes, and another with hair streaming down her back, lined up in a defensive phalanx to look us over. I doubt if father was actually leaning on a shotgun, but he certainly gave the impression of doing so. It was these people to whom we obviously needed Miss Vincent's introduction, and I suspected that she had helped them often in the past, for with an indifferent greeting they allowed us to proceed.

On foot now, a wood road once paved with brook cobbles helped us through a thicket of blackberry and cat briar. The woods came down around us abruptly, just as the road began to climb. We paused for breath, and there well above us among the branches but close at hand, towered the furnace. As our eyes traced it downward through the foliage, we perceived part of the black hole that was its casting arch. Shadbush and black alder had grown up thickly in the casting yard, but the latter was still neatly outlined by a low stone wall. This is Sharparoon, the largest furnace ever built in Dutchess County, being forty feet high, and its proportionate slenderness increases its apparent height. Its neat ashlar masonry, of large horizontal blocks of cut granite, looks especially heavy. Now standing in dense forest, the effect of such a structure is of some ancient outrage to nature, oppressive and inhospitable. The scale of the construction is emphasized by a series of tall retaining walls built of the same heavy cut stone, which climbs up the hill behind and disappears among the trees.

The place looked "snakey," too, but I had worked out a system for dealing with the creatures: simply not to brush up against a stone nor take a step forward without first making sure that no snake was there. It was a method that seemed to have worked so far and which later, in New Jersey,

was to prove its efficiency. My second line of defense was the old bandanna around my head, for it would have made a good tourniquet if I had had to drive any distance alone after having been bitten. But as it turned out, throughout the two trips the bandanna continued to keep the hair out of my eyes without further calls to duty. The reader may wonder what constituted a snakey look to a place. Frankly, my ideas on this changed as I went along and discussed the subject with those who had had personal experience. At first any dank-looking glen that was full of poison ivy and mosquitoes, where there was not enough light for photography, and where it was disagreeable to go further, could convey “snakiness.” But unfortunately I began to understand that because reptiles (as remembered at last from an early biology course) are cold-blooded, they don’t like to come out in dark wet places or during rain. But when the sun comes out afterward, or if a ledge, old furnace, or other rocky outcrop, receives sunlight in the midst of an otherwise cool shady woods – ah, that is another matter!

The wood road led to the left around the furnace and along the top of the second retaining wall, and out into the woods at the right. I followed this and got onto the wall above it, not a loading platform, for it was considerably higher than the furnace. It supported a large level area now grown up to brush, whose use I did not ascertain. Most spectacular of all, a ledge towered above the small plateau, and it was rimmed around with what appeared to be ramparts. A rough track led around the end of it and up on top, but other than as a possible pound for animals, I could not guess its use. Months later, in talking to Mr. Harte, he asked casually, “Oh, did you go up onto Rattlesnake Ledge?” Apparently I had, but there was still no answer as to the enigma of the ramparts.

Returning along the road to the level of the furnace top, we stared across from the retaining wall on which we were standing, and from which point the loading bridge had taken off to reach the furnace. Two round black holes about a foot across, were outlets for pipes that gathered the heat of furnace combustion for use in “baking” the blast. As we stood there Miss Vincent described how the furnace had without warning exploded, while a team of ore and drivers were on the bridge. Streaks of flame must have raced through these openings just under the bridge. Nothing recognizable was left of horses or drivers as they hit the ground forty feet below. The furnace never resumed operation, she said.

Without this tragic story one never would have guessed that any explosion had occurred, for the great masonry tower was in a condition that made it look as if it had been used yesterday and could be used again tomorrow. Though no dates of its operation are given by Keith and Harte,

the lack of a conspicuous slag heap hints that its days were short lived in spite of the costly layout. No doubt it was one of those furnaces exemplified by the “New White’s,” which, built at the unpredictable close of prosperity in this area, and provided from the outset with the latest devices and great outlay, were forced to abandonment by the first obstacle that confronted them. Such also was Buena Vista Furnace in Huntsville. The earlier furnaces had weathered many an affliction, such as the four salamanders at Richmond, but the later ones because of increasing fuel shortages and other transitional problems, succumbed more easily. It was a premonitory warning of an eventual abandonment shortly to take place, of the whole Salisbury Ore District.

I found on peering into it that the casting arch was not too forbidding, and after running the flashlight carefully around the masonry, crawled inside up the incline of fallen debris. The lining showed very obvious signs of the explosion, each firebrick being scoured and rounded by the force. Cast iron pipes eight inches to a foot, in diameter, projected into the interior and had had to do with hot blast and water cooling systems. These had been deeply pitted by the scoriation of the exploding charge. Near the top, the two pipes visible from the loading platform outside, were contained in a small brick arch called the tunnel head, which protected them from the weight of the stack above. The casting arch and the tuyere arches were lined with brick, as at Lime Brook and many subsequently visited furnaces.

After taking some flashlight photographs I scrambled outside again to rejoin my kind guides. Without them I never could have found this enormous and solitary furnace, so deep in the woods. It was to linger in my memory, growing in stature and in sinister quality like a bad dream. We returned to Miss Vincent’s house to change cars, and her place, though probably built little earlier than the furnace, was as different from it as black is from white. Built upon the H plan of the late eighteenth century, with large open rooms where light glided from morning till evening from east to west across shiny floors. It was a white house shaded by old trees, surrounded by intimate gardens of vegetables and inherited flowers, and standing in a protective aura of wide green lawns; this place had been blessed by long years of peace and hospitality.

It was Miss Vincent who let me, a stranger, carry off her treasured and long out-of-print copy of *The Early Iron Industry of Connecticut* for further study, and for which I have continued in gratitude. My desire to linger and to listen to the kind urgencies of these people to spend the night was counteracted by my mental image of the map, by the number of furnaces still on my list to be visited, and by the lengthening bronze shafts of sunlight

across the lawn. Goodbyes and thanks were finally said, inadequate as always; and I started toward Beekman.

Beekman was not far away, but apart from going south and then west, and then in a sort of spiral, there seemed to be no direct way of getting there. The valleys broadened out and began to have a look of having been long lived in. occasionally a stone house of early date would make me long to stop and explore it. My road map, which until now had been a faithful friend, betrayed me by covering Beekman with a coat of arms advertising the gasoline company that distributed it. The afternoon grew more golden, and time shorter, as I finally turned up a dirt road running between open fields, and looked about for the furnace.

It stood on my right before a bank garnished with young elm trees. It was of glistening cut limestone, built with a decided batter or slope to its sides and seemed only to emerge shoulder high from a dense tangle of scrub growth. In fact the masonry itself was festooned with well-established vines. Both foliage and shining masonry were gilded by the setting sun and could have been dyed in saffron and milk, like the columns of the Parthenon. Because of the shining surface I was fortunately able to get a few photographs of the exterior so late in the day.

To penetrate the jungle required time and patience. Casting yards if in the sunlight show a characteristic ecology because of their originally sandy floors. This was no exception: sumac, tansy, Queen Anne's lace, grey birch, and eager brambles, began to be so familiar as to look deliberately planted in all casting yards by departing furnace men, and were in truth a sign of the sand that lay out of sight beneath their roots.

Close to the furnace, and to the right of the casting arch, a pit was barely visible under the weeds. The casting arch like the tuyere arch, was corbelled, but the interior was hidden by a delta of debris. The inner tuyere arch on the left was constructed much like the corresponding one at Maltby. A deep break in the masonry extended from the crown of this arch to the top of the furnace, and the work of destruction was being hastened by vines that covered this entire face. Mr. Harte's photographs of 1935 show the same crack, so perhaps destruction is not so imminent as it appears. Not being able to see anything further through the bushes, I began to pick my way back to the car, and on the way came across a sizable salamander in the casting yard. This furnace was operated only for twenty-three years, from 1873 until 1896, years when a salamander could become an insurmountable obstacle.

The Beekman Furnace, which is a milestone in the age of iron, is in a pleasant spot easily accessible from New York City, and is a fine example of nineteenth century construction: A great pile of masonry, which is permitted

slowly but irrevocably to be pulled down stone by stone by vines that could be killed by a few snips of the pruning shears.

The day was over, and with the wings of the sunset reaching up the sky behind me I fled back hastily toward an old crossroad called Webatuck and so into a defile that wiggled me through the Taconics and over to Bull's Bridge, on the southern outskirts of Kent, Connecticut.

Though I was to visit the furnace at Bull's Bridge, it was already dusk and all I could do was to stop at the general store in Kent to ask details of its location. In the past it had been my practice for several years to stop here for gasoline and supplies on my way from Long Island to Vermont. The store is a true emporium and can supply locks, saucepans, food, fish poles -- anything from gas to ice cream cones, It is a favorite place for people from the two schools of the town, the large inn, the townspeople, and the traveler.

When I found the proprietor and asked him about the furnace at Bull's Bridge, he looked at me quizzically and asked, "How did you happen to ask me?"

I was put on the defensive by the question and answered: "Well, I've been through here before, and friends had a son at South Kent, and I just got the impression that you'd be the person to come to for information about anything around here."

"Did you know what my name is?" he asked truculently.

"Why, no. I've just stopped here going through on my way to . . ."

": "Bull!" he exclaimed. I looked at him startled.

"My name's Bull. My grandfather owned the place. What do you want to know about it?"

"Well, for goodness sake!" I answered, flabbergasted at my good luck. I want to know whether I can go visit it tomorrow, and where it is, and all about it."

"My father worked there too when he was a young lad, about fifteen. He drove the ox teams with the ore and the iron. . . They went right over the mountains to New York State -- ore one way, iron the other, clear to the Hudson at Poughkeepsie. Picked up the ore on the way back of course."

I asked him how long the trip took.

"Oh, quite a couple of days,, I guess, but they had a lot of teams on the road. The ore'd be coming in steady."

I wondered if one of their stops had been at Drover's Inn, and thought of what a strenuous rough job such teaming must have been for a boy of fifteen.

He denied stoutly that the furnace, once expanded, had ever been decreased again for lack of water power. He told me where to find it, and

also where to find the one at North Kent, and then I asked him where Macedonia Furnace was. This turned out to be “right at the entrance” of Macedonia Brook State park, which strengthened my resolution to spend the night there. I bought some powdered coffee, a loaf of bread, some jam, and a package of powdered milk -- these all being things that the heat would not spoil -- had my thermos filled with fresh cold milk, and started off in the twilight to find the park.

The long drawn-out village of Kent, strung out along its valley road beside the Housatonic, looked sleepy and cheerful in the dark. Lighted windows silhouetted heavy foliage; groups in wide cotton skirts or shirt sleeves wandered past, and white picket fences, now a shadowy grey, outlined the road for miles.

My way lay to the west again and across the river, where farms swept down across rolling hay fields and an evening mist gathered over the water. A sign on the right saying Macedonia Brook State Park led me off on a side road that immediately went into “back country.” It wound in and out skirting the side of a hill while the brook gurgled along beside it on the right flank. Mr. Bull had said that the superintendent’s house was just outside the gate to the park on the left, and sure enough, my headlights picked up a sign pointing to it up a drive, and I turned in. I immediately found myself launched on a single track path of rolling gravel, climbing a very steep hill where a pause would have meant getting stuck. After a long climb a cabin appeared but it was not occupied. It took careful maneuvering to turn by backing up a bank at tipsy angles so as to avoid going over the edge below, but it was done promptly, lacking an alternative, and I went downhill again with relief and through the park gates.

There seemed to be nothing park-like about the place, just a noisy little stream with a dirt road running along beside it wide enough for two cars to pass. An occasional cottage with lights showing from its windows overhung the brook or sat in a meadow beside the road. It followed an unspectacular little valley lacking all distinction except that it was so quiet and secluded, and seemed to go on indefinitely. The evening was not pitch dark, for the brook mists wove and wavered a greyness throughout the valley.

After about a mile the headlights picked out signs saying “Spring” or “Picnic Area.” After another half mile or more of woods or mowed fields there would be another such sign, and it began to seem as if this would go on forever. I started looking eagerly for a place to pitch my tent but I did not want to be like the king and his viziers in the Arabian Nights who woke in the morning to find their tent pitched in the midst of a city. I tried that once

in what had seemed like a very secluded place in Vermont. Arriving late at night, I spread out my sleeping bag on a friend's front lawn, but when dawn came I learned that no hour is too early for a Vermonter to get up and that I would have to get dressed inside of the bag.

I must have come about five miles up the valley by this time but all the fields looked too conspicuous and the woods too uncertain. Finally there was a field that looked possible and as I was beginning to fear that the road would come to an end, I stopped and got out of the car – and heard men's voices, laughing. With my flashlight I found a footpath, a plank across a little brook, and up a bank, a lighted window. The summer cottages had long since been left behind near the entrance of the park, so I hoped that here I would find the superintendent. A dog barked. The laughter ceased. And after a pause a voice said, "There is somebody out there!" Just as I found the door and knocked, hoping to meet the Lone Ranger.

A man came to the door and I asked if he were the superintendent. "Yup," he replied. "What can I do for you?"

"Could you show me to a tent site?" I asked. "I was looking for one but it's dark and I was afraid I'd come too far."

"Nope. They're a mile up the road." Silence. Then he added as usual, "You can't miss it."

Those words cast a spell over me. If anyone says I can't miss a place I generally manage to prove them wrong, and I still had camp to make, so I said, "I'm sorry to bother you but I wonder if you could guide me up there? My car's down on the road and I could bring you back."

"You found this place, and I don't see how – the tent site's easy – but I'll send Jack along in the truck, that's nothing." He was an accommodating man efficient and good natured as he sent the young man to get out the truck, and said, "Show this lady to a tent site, Jack. Her car's down the road."

As I climbed into the truck, Jack remarked cheerfully, "I'll show you the way, lady. It's just a mile or two. You can put your tent up anywhere up there. You'll have plenty of room, there's nobody up there now. There's a lake on beyond you can swim in in the morning if you want." He had reached the road and I swapped cars.

Suddenly it had grown really dark and the truck's headlights bored a hole in the unknown ahead and let me through, disclosing single trees, clumps of bushes by a stone wall, stretches of forest, on and on up the valley. There was no light or sign of habitation.

Finally Jack showed his brake light and stopped at the side of the road. I drew up, and he said, "It's up there. You just follow that track right

up the field. You can't miss it." Then after a pause, Say, you want any help?"

"No thanks," I answered with sang froid, "if you don't mind my cutting some tent poles."

"Oh that'll be all right, just go way into the woods to cut them so nobody'll see you been doing it. We can't let everybody go chopping around"

"Okay, good night," he shouted in the process of turning around. And then he shot back from where he had come.

The field was open and firm and the track showed that by making an S turn I was able to climb to a level spot at the top and edge of the woods, where I parked and opened the luggage compartment. The night was close and hot. The valley was very still.

I got out axe and flashlight and found a track among the trees. Now looking for tent poles is like looking for a fish pole or any other stick for a special purpose. You can go a mile before you find one that suits your needs. So every little way I would turn off the flashlight and look back to be sure that I could see the dim light of the sky through the trees at the edge of the field, and that I was sure in which direction to look for it. At length I came to an area of thicker undergrowth and found that by holding the flashlight between my legs I could keep its beam on the sapling and chop successfully. I finally gathered up the poles feeling pleased with myself and started up the woodland again. I soon came to a stone wall that had not been there before. Disgusted, I turned about hurriedly and after a little hunting, found the stumps of the saplings I had cut. From there I cast about with the flashlight as I should have done at first, picked up the landmarks I had so carefully spotted on the way in, and got back to the field without further delay. It did seem, though, as if the field were lying calmly mist-swathed in entirely the wrong spot.

I trimmed the poles with the help of the car's headlights and got out the tent. Proudly I say that in half an hour it was up and taut, and I was sitting in it, toes tucked into the sleeping bag, munching bread and jam and drinking milk. Unwillingly I saves some of the milk for morning; I would have given anything for a cold glass of water, but the night air and the quiet were such a luxury that I soon dozed off, thinking with a satisfied grin of the blackboard on the wall at Drover's Inn.

After a sleep of about three hours I woke up hotter and thirstier than ever. It was useless to try to find a spring after dark though there must be one near, probably at the foot of the hill. Finally I succumbed, finished the milk, and dozed off again. Soon I was awake again, still thirsty. "Now I

wonder why those men let me come up here and camp all alone without seeming at all surprised! It doesn't seem queer to me, but why didn't it seem queer to them? I mulled away to myself as I finally relaxed late into a decent night's sleep.

Camping out gives one full measure of the morning hours. The early light coming in the door of my tent made me roll over and lean on my elbow to look about and discover what my surroundings might be. Not far away, silhouettes of low hills showed against the pale sky, but again the valley itself was a river of gently flowing mist. And in the very immediate foreground was a pump! Symbol of frustration. I exploded out of the tent and picked up my pail and hurried over to it. The water was cold and delicious, and every time I thought of the night before, I took another drink.

Breakfast over, tent and sleeping bag rolled up, and tent poles leaned cherishingly against a tree, I was soon rolling down the valley again. My impression of its being a long distance was confirmed in the daylight. There was an unusual quality in the valley's seclusion and pristine upkeep. A Ford truck on the road ahead with a park official in it was stopping at each picnic area and gathering the contents of the trash cans, like any good housekeeper at her morning chores.

Since the last war and probably because of the GI's enforced acquaintance with outdoor life, the public has shown an increasing appreciation of the life offered by such park. I was later to see such land use remarkably developed in Palisades Interstate Park, apparently a playground for all of New York City.

I caught up with the Ford truck and asked the official where the furnace was. He replied that he knew where it was supposed to be, and to follow him. He drew up where a lichened stone wall appeared two deep along the right side of the road, and a cart track took off into the woods above. On the road's downhill side the brook had disappeared in a ravine, and a footpath led down to it past a picnic table. It was a good spot for picnicking: the steep banks were shaded by overhanging hemlocks, and from the top one could see that the path led down to a level area beside the stream, where other tables waited.

Such a setting made it strange as one stood on top of the bank to notice that it seemed to be built up quite solidly from anthracite coal. As I scrambled down, cinders appeared, and finally slag. About two thirds of the way down, of perhaps thirty feet, a large pile of heavy uncut rocks stood between path and stream and sloped steeply downward to the level area. Once upon the level area one could see that a cart track led from it down along the stream and eventually back to the road. With my back to the bank

and the road, the cart track took off to the right, the long axis of the level area was parallel to the bank and roughly so to the stream. Across the stream a rocky and precipitous bank disappeared above among the trees. To the left, stone foundations were visible between the stream and the big pile of rocks with an uncertain footpath winding around the base of the latter.

On the side toward the foundations a pile of rocks had been laid up in courses, and at the base of this ragged façade was a small opening clogged by fallen stones. The outer part of the opening showed careful corbelling of native uncut flat stones. Getting down on hands and knees and using a flashlight one could see that this was a furnace “arch” corbelled all the way in, and that at its inner and lowest point it was blocked by what looked like a wall of red clay. In the center of this the original tuyere was still in place, showing a round orifice about eight inches in diameter.

This was a find, for it was the first time that I had seen a tuyere arch with the tuyere actually in it. The construction of the arch itself, like those at Maltby and Riga, helped to confirm my theory that this is the part of a furnace that is most difficult to alter during conversion of the plant to larger dimensions or later form of fuel or blast. Like Maltby and Riga but to a more marked degree, Macedonia’s arch showed that the unadaptability of uncut stone had been impressively mastered by ingenuity and skill, in its use. The passage was not symmetrical, for on the right a small stone had been used as a pier that rested on a shelf and which in turn supported an inner lintel of the roof. The shelf seemed to have been provided to serve some purpose. The only precedent for it of which I am aware, having been in the seventeenth century furnace at Saugus, Massachusetts. The inner masonry at Macedonia had a character suggestive of an earlier date than 1826, when it was built. This might be accounted for as is often the case in our provincial architecture, by the isolation of the site and its builders.

According to Keith and Harte, the furnace began by following the medieval tradition of using charcoal for fuel and being dependent upon the little stream for the water power that ran the wheel and worked the bellows for a cold blast. In 1847 it was converted to hot blast, and to meet the demand for a greater fuel intake at a time when charcoal was becoming scarcer, used a combination of half charcoal and half anthracite. For Connecticut furnace masters were slow and reluctant to abandon charcoal. This explains my having found coal on what had been the loading platform of a furnace, which in its surroundings, layout, and construction, appeared to be primitive and ancient. The furnace only ran for thirty-nine years, closing down in 1865.

By taking flashlight photographs of the arch it later developed that the camera under such circumstances can see far more than the eye and can make ideal records of inaccessible and dark places. From outside, the arch is a small black hole barely large enough for a dog to crawl into.

The furnace had apparently had only two arches: again like that at Mt. Riga. The casting arch was apparently buried under the debris facing the level area that had been a casting yard. The tuyere arch faced the stream, and immediately below it a narrow pit had housed the wheel at right angles to the stream, which had been forced to curve around it by a square abutment of solid masonry. The pit was perhaps sixteen feet long by eight or ten feet deep and eight feet wide. At the far end of the pit toward the stream a stone channel had been built that ran diagonally across the corner to continue some distance beside the brook. Beside the pit and nearer the casting yard is a square foundation less deep, and probably the site of later apparatus.

On the far side of the furnace from the casting yard the stream became very steep and only the roots of hemlocks made footing possible. This side appeared to have been entirely a solid wall of rough blocks. From it one could look upstream across an outcropping of upturned strata that crossed the stream diagonally where it made a sharp turn. It was this unusual ledge that apparently had been used as the bedrock for the dam, and its existence and character had probably been the deciding factor in the choice of this site for a furnace.

Though there is so little left of the furnace stack itself, the general layout is in evidence and is so compact, so accessible and of such interest, that it is worthy of attention. The fact that its setting is such a wild and pleasant little glen also deserves consideration, for the character of the place as well as the furnace construction presents an aspect of a very early type that was adapted during the transitional era to meet the demands of the later nineteenth century. It is therefore a significant example of evolution in the manufacture of iron.

It was not time to leave the quiet of Macedonia Brook Park and take to the highway in search of Kent Furnace, which very helpfully for once is in a place marked on the map: Kent Furnace. I had been told by Mr. Bull that to find it one returned to Route 7 and watched for a road leading across railroad tracks to the town dump. As I again approached the meadows west of the Housatonic, Kent School, hidden in mist the night before, became visible in all its Georgian array of brick. Surrounded by rolling fields and magnificent trees, it looked like an eighteenth century colored engraving of the country seat of a British duke.

A turn to the north on Route 7 soon disclosed the town dump on my left. The lane into it was used apparently only by trucks for halfway across the tracks (an entirely unprotected crossing), the car wheels slumped into the inadequate loose gravel that had been thrown down. To be stranded athwart a busy railroad track is so nerve racking that I crawled the car across, scraping its belly on each rail as it climbed over. The land led downhill nearer the river, leaving a plateau of dump on the left. Once down onto the river meadows it branched, but the choice of turns was quickly made, for there stood the furnace.

Kent Furnace stands on the lower level of river meadows at the foot of an artificially formed bank as tall as itself, which was the loading platform. It impresses the visitor as a typical late nineteenth century furnace structure, being held up in cut stone with a slight batter, and having four gothic arches lined with brick. This, one can see from the lane that passes it, but the furnace is so shadowed by young elms and so engulfed by nettles and poison ivy that it is difficult now to approach near enough for measurements or even photographs. As late as 1935 Keith and Harte speak of the interesting blowing tube and waterwheel still in evidence, but if any of these has survived they are too thoroughly hidden under weeds to be discovered. The description of the Keith and Harte findings is therefore all the more valuable as a record.

It is curious to note that in spite of its appearance, Kent Furnace is said to have been built in 1826, the same year as Macedonia and Bull's Falls. Subsequent alterations in 1846 and 1870 must have changed drastically its size and outward appearances, those of 1870 giving it its present character. Richmond, Canaan #3, Sharparoon,, Limerock as it appears today, and what is left of Sharon Valley Furnace and of Copake, were all rebuilt between 1863 and 1872, and all except Canaan show the brick arch facings so favored during that decade.

Of all the furnaces visited, Kent today reveals the least of its general layout or original plan, partly perhaps because of its proximity to the highway and especially no doubt because of its closeness to the dump, which I suspect covers its slag heap and possibly other remains.

Returning to the railroad tracks I listened for a long time before taking another chance of getting stuck, then slithered across with what caution was possible, only to have the rear of the car in crossing the last rail come down upon it with a real crash. But I have learned to keep going until a stop would not entail further trouble. On the main highway I did draw up and scan the road behind for a trail of oil but did not see it. Everything seemed to be

working, so I returned south to Kent and bought material for lunch at Mr. Bull's emporium, and retraced my way to the canal at Bull's Bridge.

The differences in Connecticut between a north and south route and an east and west one, is nowhere more apparent than at Bull's Bridge. Route 7 goes steadily north from Long Island Sound along the western borders of Connecticut, Massachusetts, and Vermont, clear to Canada. At Bull's Bridge it crosses a dirt road narrow and winding, but ancient, which led from Boston and points in Maine southwest to a crossing of the Housatonic here at Bull's Bridge and so to the ferry between Beacon and Newburgh, on the Hudson. A small stream from the Dover Plains drainage area in New York State breaks through the Taconics and enters the Housatonic at this point. The old road took advantage of this cleft in the mountains to get through to the more open land west of them. At a later date the Housatonic was dammed by means of a convenient island and a canal was built to bring water power further downstream. The village known as Bull's Bridge is merely an inn and a cluster of farms at the four corners. The actual bridge is a wooden covered one spanning the Housatonic at a point where the stream bed is a deep and rocky gorge. The view downstream from a window in the bridge is enough to make a horse shy, and it is no wonder that an entirely enclosed structure was provided for such a dramatic spot against such a contingency. The bridge carries the road to an island with cliff-like sides, from which another bridge, this time a modern one, spans a second gorge to the western bank of the stream. The old stratification of the bare rocks below makes them appear to have writhed in torture before solidifying, and the whole stream bed looks dangerous and forbidding.

The canal that one passes over from the east before reaching the covered bridge presents the opposite picture. Green banks curve too full and smoothly flowing water, trees lean over a path along it, and the canal winds out of sight with a satiny sheen.

The path to Bull's Bridge Furnace takes off from the canal on the downstream side of the road. As soon as it leaves the canal bank it climbs steeply downward and signs of former furnace activity are immediately evident. One first notices that the casual footpath has joined a carefully graded slope that was originally a road. On the right, toward the river, stone walls and foundations appear. The path continues downward through a sort of gully and it begins to be apparent that the right-hand banks of this are supported by heavy retaining walls on the side toward the river. Rounding the lowest of these one comes into an open area that appears to be sort of glen sloping down to the river banks below. Some distance to the right and immediately beneath a tall retaining wall one can see a tumbled and

confused pile of cut stone blocks with an enormous brick stack projecting from its top. This is the furnace.

Entering the glen I came upon an abandoned campsite. A rusty cot and a stove improvised from firebrick and sheet iron scavenged from the furnace had provided someone with a singularly unlovely setup. The place was damp to the point of muddiness, even on this dry day, probably because of moisture oozing from the canal above. The ground was not level, no sunlight could penetrate the branches overhead and the mosquitoes were a constant torment. Nevertheless, an ample but rotting woodpile awaited the proprietor's return. For lack of a more convenient spot I availed myself of his hospitality by sitting on the camper's sawhorse and eating my lunch from his plank table.

Upon closer examination the furnace was most decrepit on the side toward the river, where the fallen stones had poured straight down over the bank. The furnace had been built right on the precipitous edge of the river and it was hard to see why such a location had been chosen for it. Two arches were still intact, one on the upstream side and another on the side away from the river, under the loading wall. These were true semicircular arches but they were so choked by debris that only their tops were visible and it was impossible to ascertain their size. Peering down into them I could see that a drop of five or six feet would lead into ambulatory passages such as had been provided for the unfinished furnace of New White's at Dover Furnace, N.Y. The pits formed under the arches by the height of the debris outside were too deep for me to get into without someone to haul me out, so I left them unexplored, and unhaunted by my possible cries for help.

The totally buried casting arch was on the downstream side of the furnace, as at Macedonia, and a small casting yard lay parallel with the river at its base. The latter is now very lovely, for its low walls enclose a grove of white birches and great clumps of maidenhair fern, and the place overlooks a sweeping view downriver.

I was still very much puzzled as to why such a place had been chosen for a furnace site, and looked about to find out how a river given to freshets and ice jams had been harnessed for water power at the early date of 1826 when the furnace was built. Climbing over the tumbled rocks, I got to the upstream side of the furnace and peered from a retaining wall twenty or more feet down to the water. One could see that a part of the stream had been walled off in a narrow sluiceway. It would not have contained a quarter as much water as did the sluice at Lime Rock nor was it as substantially built. It was a barely traceable ruin and appeared to have run upstream at the base of a wall for a quarter mile. There were no signs of a dam though ice

may easily have scoured it away. It seems more likely, however, with a stream so large that water was funneled into the sluices by means of a diagonally jetty extending partway into the river, or that the dam had been further upstream. The river bank had formed a slight promontory under the furnace and the sluice ended against this. The wheel had probably been set into the bank at this point, but erosion and undermining have erased any further traces of the arrangements. In any case, the few indications of water power that I did find did not look adequate for a furnace with so large a stack as is shown by the exposed brick lining. The reason is still an enigma, for choosing such an awkward site upon the brink of the largest river in the district and then providing so poorly for use of the water.

The loading platform is an interesting one because it is part of very extensive retaining walls. These at the upper end contain two levels, the lower apparently the site of sheds and other buildings, and the upper one enclosing on two sides a long stretch of plateau and roadway.

The general layout of the furnace shows that because of the inconvenience of location the customary distribution of functional areas and structures, was cramped and adapted with resulting loss of efficiency. The rational layout at Copake is in strong contrast to this one and may explain to some extent its longer period of operation. It is also noteworthy that this furnace ceased operating in the fatal year of 1886 -- Mr. Bull said, "She blew" -- when Mt. Riga and Scoville also gave up, but the very year when by modern installations and revision, Copake was able to continue another fifteen years.

Keith and Harte say of Bull's Furnace that its size was greatly increased in 1844 and reduced again in 1857 because "it was found to be 'too large for its water power.'" The remains of the sluiceway look as if more attention to that and less to the furnace, had been needed. At least it confirms the story.

Not many photographs had been possible at this site because of a dense undergrowth and poor light, but I felt in spite of having so little data to carry away that a more thorough exploration of the area would have revealed many details of interest. This was not possible because it was growing late and was time for me to go north up Route 7 and find some place to spend the night nearer Canaan, my next day's hunting ground.

I returned again through Kent and passed over Cornwall Bridge, where the highway takes to the western side of the Housatonic and crawls around the feet of overhanging mountains. Along this stretch of the river the state has set aside camping and picnicking areas, which are both popular and useful. I had in mind staying here for the night, but a sign saying "Tourist

Cabins – Bathing and Fishing” and an inviting dirt road led me on a further trip of exploration.

Dipping downward through woods to the level of the river meadows, the road drew up before an old little house built under a bank, and with a well curb in the yard. In front of it a grove of trees sheltered hammocks and chairs and beyond them the river sparkled in the late afternoon sunlight. Five little overnight cabins were dotted along the bank, each with its own fireplace and porch, on the very edge of the river. Everywhere was fine white sand, an earlier bed of the stream. The place was quiet and clean, the proprietress was genuinely friendly, and I stayed there for two nights.

I was quickly in the river with a cake of soap, washing myself, my hair, and my clothes. The Housatonic is wide at this point and is a series of rapids, with spots deep enough for swimming, between them. Greatly rejuvenated, I returned to the shore and cooked supper under the porch overlooking the stream. A fisherman waded slowly past, occasionally greeted from shore and also occasionally catching a fish, an event that always brought congratulations and comment from his audience. There were other fishermen too, for a green heron stood quietly in the shallows not fifteen feet from me, and flocks of least sandpipers skimmed, dipped, and whistled among the rocks on the shore.

As evening settled over the stream a night heron left a tree branch with a loud quawk and started out on his rounds, startling a pair of chipmunks which had been picking up crumbs at my feet. The cabin was quiet and luxuriously cool. A good night’s sleep was ahead.

Chapter Four

On Tuesday morning it was evident that another steamy hot day was in store, with showers possible later on. I ate breakfast looking out across the river and watching the rapids glitter through the milky whiteness of early morning mist. The sand at my feet was covered with bird and chipmunk tracks and the latter came out to chide me for not abandoning my whole breakfast to them. Another day would have had them tearing my breakfast from me. My early start tempted me into running over to Falls Village to pick up a loose end, for a furnace there was said to have had a stone lining, and the survival of these is rare.

It was a surprise to find Falls Village so short a distance off the familiar Route 7, which I had traveled so many times. Indeed, it is on a parallel branch labeled 126. It follows the river more closely and is a slightly more direct but more hilly way to Canaan than is the better-known route. A dip across the valley between farms and a short rise to the right brings one into the compact village center. Although this village became famous during the heyday of iron production because of two blast furnaces in the district, its main street suggests an earlier activity.

Blocky clapboarded houses with smallish windows, roofs pitched at nearly 45 degrees, their sills set closely to the ground, proclaim this to have been an eighteenth century through highway to the north. Former inns and taverns, a blacksmith shop changed over to automobile repair, crowd around the central crossroads and indicate this bustle and business that focused about the infrequent post towns of a frontier. That this prosperity continued into the nineteenth century is shown by an early neoclassical building, apparently a meeting hall, now in disuse. That the bank has survived and looks prosperous housed in a modern building, and that the highway is being greatly widened and revived, suggests that the tide of wealth brought here during 1840 to 1860 had endowed this old-fashioned Christmas-card village with permanence.

Once through the village center, the highway dips rapidly to a great bend in the Housatonic, where it turns toward the east. The valley floor in this area is flat and brushy, the streambed not more than fifty feet wide, winding, and entirely dry. As one faces east, the southern side of the valley climbs a slope that seems unbelievably steep, and by looking aloft up its flank the reasons for its steepness and the dry streambed are both explained by a canal that runs along high on the valley's upper edge, a hundred feet or so above.

I had been rather vaguely told that the furnace remains could be found by following a dirt road that went straight ahead where the paved road

turned to the left and crossed the river. The dirt road, a single lane of washed gravel, was obvious enough. It led up the side of the slope along its steepest part and halfway up returned upon itself to climb out of sight over my head. The foot of the road started gently with a level stretch of grass at the side, the first slope was no steeper than was reasonable, and the hairpin turn looked negotiable in spots, so I started driving cautiously upward in low gear, with the devil sitting on the rear bumper grinning.

The hairpin turn passed; there was of course no chance to hesitate. Grass on the bank brushed my left cheek through the open window while on the right I could see nothing at all but the other side of the valley. I hastily pushed my coat under me as a prop so that I could see over the engine and stay on the road, and where it straightened out I took one anxious glance ahead. The road led up to the canal and stopped abruptly at the gatehouse with no place to turn. The road leveled off where it came up with the canal, and when I had reached that point I could look ahead again to the gatehouse. There I saw two men sitting, and I drove up to them and stopped with all the casualness and precision of one having been invited for tea.

Two comic masks of astonishment were the faces that watched me. When I spoke, these swiftly resolved themselves again into human countenances with very human frowns. Explaining the obvious, I apologized for the intrusion and said that once on the road I had not found a place to turn. They continued a baleful inspection of the car and myself in silence while I took stock of my situation.

Need I say that the view across the valley was very impressive? The view at our feet was even more so. The gatehouse and the level stretch of road were supported by a retaining wall fifteen or more feet high. The steep bank continued downward below the wall to where the highway was making an all too inviting roadmap of itself a hundred feet below across the valley. A miscellany of hills enclosed the further view, and the highway could be seen disappearing among them. In the middle distance a Victorian metal bridge crossed the dry stream, and just beyond it the road forked, one branch climbing uphill and the other following downstream westward. Facing the river at the fork in the roads could be seen the white columns of a house that looked like a small replica of Mt. Vernon.

Upstream to the east the river climbed rapidly and the valley narrowed. Where it reached the level of my eye in the distance, glimpses of a tall stone dam were just visible.

Close beside the road where the car stood, lay the canal: a large one carrying a whole river -- deep, swift, and smooth -- hurrying to reach the valley floor so far below it. Just beyond the canal a railroad track curved to

the cheek of the hill above and a steel footbridge crossed the canal to reach it. The road on which I stood appeared to have no outlet either across the tracks or elsewhere (though later I found that it led uncertainly back to a main highway).

One of the men before me shifted his weight and spat out a stem of timothy on which he had been chewing. He cleared his throat: "You can turn on the bridge," he stated.

I compared the hazards of backing onto the bridge or from it toward the view, and those the bridge. It appeared to be just wide enough, granted straightened wheels, but there seemed to be no room for straightening them. "Okay, thanks," I said grudgingly, and started backing, one hand on the steering wheel and half of me out of the car window.

"No! Keep her straight! Now, cut sharp; that's right, easy now, you've got it! Now come ahead. When I say cut, you cut sharp. There. That's it. Now you're fine. 'Bye.'"

At the crucial moment the men had been standing squeezed against the cable guard rail of the bridge, one on each side of the car, apparently ready by main strength to hold it from going into the canal, but actually watching the inches by which they were lining up the front wheels with the ends of the plants.

"Just like a couple of Yankees!" I muttered to myself, as the car clawed its way safely downhill, "Make you feel like a fool, even while busy risking their lives for a stranger!"

Once on the paved highway I shot ahead in a spirit of liberation until reaching the other side of the river. There at the fork in the road I stopped and wondered where to go. I had not seen any likely spot for a furnace and the best possibility seemed to lie further upstream where the valley narrowed. Immediately in front of me and closely screened by evergreens stood the columned house previously noted. It appeared to be an eighteenth century structure antedating the days of classic revival, so that its two-story columns had been an unusual feature. Perhaps because of the exigencies of a wilderness site, its columns were whole trees, with the stumps of the branches left on, the bark peeled, and the whole neatly painted white. A similar use of tree trunks exists in North Kent, on Route 7, and in both cases the columns appear to be contemporary with the structure. The Kent building, an inn, seemingly belongs to a slightly later date, and from its location I would judge this one to have been an inn also.

With some hesitation I turned to the right and took a well-paved road that climbed gently upward with the valley toward the dam. For some distance the houses along it were well-groomed and modernized variations

upon the theme of the Connecticut farmhouse, and formed a neighborhood called Amesville, after the furnace that I later discovered had been on this side of the river. The road soon left these behind and came to smaller places that were down at the heel or empty. The dam, which had been glimpsed from a distance, now came into view ahead. It was a high and substantial work of masonry, and the canal took off from it through a gatehouse on the far end. Below it the sheen of water-worn ledges, now dry and bleak in the sunlight, had been the Great Falls of the Housatonic. At their base the stream bed had sunk out of sight into a deep gorge.

A narrow lake had been impounded by the dam and a footpath led to it. Although I knew that the dam was on too large a scale to have any connection with a furnace it would offer an opportunity to look about. The path led to someone's favorite swimming hole, overshadowed by willows and animated by scores of small green frogs that plunked into the water at my approach. The willow branches around me were also quivering from the restlessness of a large flock of little birds, sulphur-yellow Connecticut warblers. These were not nearly as concerned about my instruction as were the frogs. They were all around me twittering and whistling in calls pitched almost too high for my ear. They are the friendliest birds alive and would have come to my hand had there been more time. There was nothing to be seen here except a perfect picture of mid-summer at its hottest and stillest and most lush moment, so I returned to the car and the now-dusty road, while the frogs climbed wearily back into the hummocks behind me.

Scanning every stone wall and ledge for a sign of the furnace, I followed the road, which led me over the brow of a hill and up to an enormous barn. I was lost, and far from the furnace site, and aware from past experience that inquiries must be indirect.

"Can you tell me where to find somebody who has lived around here a long time and knows 'the neighborhood?'" I shouted to the men in the barnyard, who had paused, pitchfork in hand, at my stopping. "I sound like someone looking for a lost heir to an English duchy," I thought to myself.

"Yeah! Mrs. MacPherson," shouted one of the men. The other two nodded affirmation and all three went back to pitching out bedding.

"Where is she?" I yelled.

"Right up the road, name's on the mailbox," came the answer.

The waste of time was beginning to make me impatient but if I talked with someone who knew the neighborhood I might still find the furnace, so I followed the road, which now had dwindled to a single track. There was comfort in the reflection that where the Rural Free Delivery could go, I could follow.

The valley had wound off into the distance far below, and on the right the road was taking me over a mountain, when I came to Mrs. MacPherson's letterbox and her neat, bleak, little house by the roadside. As I drew up at her front gate and looked for signs of her being at home, a woman's profile could be seen drawing away from behind the curtain of the kitchen window. Ahead in the dusty road two moving objects caught my eye. One was a large rabbit tearing up the road as fast as he could go. The other was a half-grown weasel in pursuit of him – no bigger than a squirrel, but a black streak of wickedness, and rapidly overtaking his prey. Across the way from the house, a forested mountain slope began abruptly and climbed upward against the sky.

The house was a little square box with the kitchen all at the side. When I knocked at the front door screen everything was very still for some minutes and then a woman stepped forward who, like her house, was scrubbed to a polish, compact, and in the old sense, homely. Her manner wavered between unwilling courtesy and some kind of rebuttal.

"I don't care for anything today, thanks," she said abruptly. I certainly couldn't have sold anything even with premiums, dressed as I was, I thought ruefully.

"How do you do! Are you Mrs. MacPherson," I began.

"Yes but –"

"I wondered if you could help me find a place that I'm looking for. Down at the big farm below I asked where I could find someone who'd lived here long enough to know the country, and they sent me to you."

"Oh, I don't know as I can help you," she answered diffidently in a beautiful Scottish accent. She relaxed, smiled, and drew up a rocker for me. By the time I had explained what a blast furnace was and where it was supposed to be, she was keenly interested.

"Oh, indeed I don't know about any of that at all now, we haven't been here long enough for a'that! It's my friend Mahgrit you'll be wanting to ask. She'll know, there's some of that in her family, I'm certain. Wait now, till I just talk with her a bit about it on the telephone. Perhaps you'll eat some of my cupcakes while I'm talking with her?"

The smell of her cake-baking was coming from the kitchen in a spicy perfume and had already made me feel suddenly hollow, so I most gratefully subsided into the rocker with a plate of cupcakes beside me while the suddenly kind and friendly woman called up "Mahgrit," translating my words into the clipped consonants, long vowels, and rising inflections of her own tongue.

After she had explained all she could repeat of what I had told her, she said, "Wait now, Mahgrit, I'm going to ask the lady to talk to you herself, I don't explain it at all!" and she handed the telephone to me. "Her name is Mrs. Holcapeck," she whispered. "Pardon?" I asked ineffectually.

The new voice came over the wire with the flat tonelessness of a born and bred New Englander, but the words were precise, civil, and attentive. At length Mrs. Holcapeck said, "You come down to our hose and my husband and I will talk with you, whatever we can, about the furnaces; but it was all a long time ago, you know." She then told me how to find the place: it was back almost to the bridge and then up the road from it on the right.

I was thanking her when Mrs. MacPherson took back the instrument and said, "Mahgrit, it will take her a while you know to get back down the road. Don't be expecting her too soon!" This sounded like Scottish over-caution, but as soon as she hung up she led me out to the kitchen and said, "Now you'll be needing something to eat. I noticed when you came in you had that look, dear, and it's a lucky thing I've just taken a cake from the oven."

My protests were only made with great effort, and carried little conviction.

"We've a cow," she went on eagerly, "and the milk is as good as poured down the drain if it's not drunk, and this cake now, I don't really know why I was baking it except just to get the better of a new recipe and 't will be a great help if you'll just tell me what ails it, but indeed you should have a little cheese first with the milk, just for body."

I was very thankful for the pitcher of cold sweet milk and the cheese, and thin slices of a fine-grained yellow cake which, to my amazement, she insisted upon buttering, contrary to current humor about Scotch parsimony. When I exclaimed that I thought I was the only person who liked butter on cake and that it was a greedy thing and childish, she said, "Well now it certainly does go down better with something to slide it along, like."

While I ate she told me that she and her husband had come here from the mill town of Waterbury twenty years back because the doctor had said he must have mountain air for his health. He had a job now down the valley and was gone all day, but she understood the care of a cow and chickens and they were a help for food. They'd never had any children and it had been a grief to her especially when she was a young married woman, but they'd been lucky other ways, she supposed.

Truly refreshed, and touched by her kindness, I finally started to take my departure. Mrs. MacPherson came lingeringly with me into the little

front yard. I spoke of the lovely country around her and the view down the valley.

“Yes, but you see the mountain? ‘Tis summer now and still there’s that shadow on the road. Come winter it’s right over the house except for an hour or two only, at noon! And few come this way.” There was a pause and she heaved a quick little sigh hastily suppressed, and turning to me suddenly asked, “You’ll be coming back some time?”

I assured her eagerly that I’d like nothing better than to be able to return. Looking out at the road I told her about the big rabbit and the little weasel, and asked if it were possible for such a small thing to prey upon so fleet a bigger one. She considered the question gravely. At length, “Ah weel, that’s the way it goes!” her Celtic philosophy replied.

After what thanks I could express, I started to drive back down the valley to find the Holcapecks, but paused to wave to Mrs. MacPherson. She was still standing in her gateway – a neat, compact, and solitary figure – her little box of a house behind her, the ample mountain leaning over them as it seemed, from above, and casting a shadow that reached slowly toward her across the road. With a hand shielding her eyes she was peering after me into the dusty sunlight.

I drove back down the road as fast as it would permit, thankful when I reached the hard surface and greater width as it approached the town. Everyone knew of the Holcapecks and I soon found their house on a steep side street. The lower side of their lot was held by a lichened retaining wall but the upper side offered a drive that came even with the road. The gable end of the house faced the street and was pedimented, with pilasters at the house corners. A square well-curb with latticed sides stood in the front yard. I drove in and parked. The drive was blocked by a hedge a hundred years old screening an outhouse equally venerable. Flagstones led to a side door, and Mrs. Holcapeck was there, ready to greet me.

“Now we’ll go right in and talk with Mr. Holcapeck,” she said, “and perhaps he can tell you what you want.” Her courtesy was dry, and a little skeptical. She led me into a parlor where the furniture was white with crocheted antimacassars, the linoleum floor spotless and shiny, the walls papered in a delicate large pattern and adorned by calendars with rustic scenes, and framed Bible mottoes. On a marble-topped table sat a family Bible, a postcard album and a photograph of a young man in the uniform of the First World War.

Mr. Holcapeck was a stocky man somewhat older than his wife, and was sitting in an armchair with crutches leaning beside it. He spoke English without an accent, but I gathered that he might have been of Scandinavian

origin. He asked me very directly what I wanted to know about the Falls Village Furnace, and why, and then became interested and relaxed. When I told him about my blunder in driving up to the canal, he nodded his head and put his hand across his mouth as if it had been a mistake indeed. Mrs. Holcapeck sat stiffly prim with hands folded over a white apron – an appraising listener.

“Well, you weren’t so far out of your way, at that,” he remarked.

“How do you mean?” I asked.

“That hairpin turn you keep talking about. Now if you was to go straight ahead like they used to, only you can’t any more of course, instead of making the turn, you understand, why you’d of come right onto it! That was the old road to the furnace!”

“You mean I was right there, and missed it?”

“That’s just what I do mean, Lady, only there’s nothing much left there now I doubt if you’d of found it anyway.”

“How much is there left?” I eagerly demanded.

I don’t rightly know,” he answered, his head cocked and eyes half shut, considering. “You can see I don’t get about much now. Now I consider, I guess it was some years since I was there.”

He told me just where to find it, however, and I was determined to make one more try, this time on foot.

I asked him if he had been connected with the furnace and he replied, “I was too young, but my father worked with them. They used to make guns – for the Civil War, of course, and then they made mostly all car wheels. The white iron, that is, for car wheels. They had tracks so they could be loaded onto flat cars. Then they closed down and sold out to the railroad – the Housatonic that was – and I used to work down there in the yards. The Valley was a different place then, in my father’s time you understand – lights and noise down there all night – well, even when I was young, it was. Now tell me, Miss, please, was you ever up to Mt. Rigby? If you wasn’t, there’s a place you should go!”

I told him I had been there and had not only been impressed by the furnace but by the mountain top, the lake, and the thought of there having been a whole town up there all by itself.

“I was born up there,” Mrs. Holcapeck said softly.

“Do you remember when the furnace was going,” I asked.

“Oh, no. It was all closed down before I was born, not so many years before, but there was still people living there, with the school and the store and everything. I went to school up on the hill above; there was plenty of young folks and good times, but I don’t know as there’s much of anybody

left now. But you know, don't you," she added, "that furnace you saw wasn't the first one that they had?"

"I read that there was an earlier one, but people don't seem to know where it was," I answered, hoping to hear more.

"Well, I can tell you easy enough, I've been to it many times. My husband and I used to go back and picnic by it sometimes after I'd moved away and I'd take desire real strong to make a visit up to the old mountain again."

"Would you be able to describe the place to me?" I demanded.

"Goodness, yes," she answered, "only it wasn't a furnace like the other – more like what a blacksmith would use, you might say, only bigger, and they called it the forge. Well you know, coming up the mountain, where you first come out onto a level at the top, and then pretty soon you see the brook – it used to be all cleared off – well it's right in there right by the side of the brook, a good two miles below the lake. I guess if you was to go in there now you'd find something of it, a heap of stones at least. It was curious."

It was tantalizing to hear this information when there was no longer time to return once more to Mt. Riga. It seemed as if an intimate memory or awareness of Riga lingered in remote and unexpected parts of the countryside.

The conversation trailed off into the difficulties of finding the furnace, and I told how seeing slag and cinder in a roadway would often be the first clue that I was near one. By this time I had thanked them and was on my way to the door. Mr. Holcapeck insisted on getting up and following to the door with the help of his crutches.

"Oh it's a sure thing you'll see plenty of them salamanders on people's front walls around hereabouts!" he sang out, making a salute with his hand, apparently to the iron industry. As I walked out over the flagstones I gathered that he did not refer to the large masses which I had seen abandoned near furnaces but to fragments that served perhaps as mementoes and badges of brotherhood to some of the older generation.

Elderly, staid, and reserved, the two nevertheless were standing at their doorway waving in a final gesture of courtesy while I backed the car out of the yard and started down the steep street to the iron bridge. Later I learned that there had been a furnace at each end of the bridge, but I was headed again for the gravel track that climbed up to the canal.

This time I parked on the short level stretch at the foot of the hill, hauled my knapsack on, and climbed the road on foot. Just at the turn and on the left, where I had not been looking before, a wooden fence emerged from

the bushes. In spite of a heavy growth of weeds it looked quite possible that the road had continued straight, at this point, and I climbed laboriously through the fence with considerable optimism. No sooner through, however, than I was confronted by a ditch which, on close inspection, was just too deep to crawl into and too wide to jump across. I tried compromise tactics and of course slithered suddenly down the clay sides, clambering out with awkward difficulty – but on the far side – and in the process cutting my thumb, praises be, on a glassy fragment of slag.

Weeds rose up like giants around me but the old trace continued ahead, flanking the slope. Occasionally on the downhill side there seemed to be masses that jutted out from the bank like foundations or abutments but the weeds and bushes were a solid tangle six feet and more high, the footing was uncertain and fell away rapidly, and there was not the slightest sign of a path to them. In midsummer it was impossible to find anything that was ruined or overgrown in such an area. With a final sense of frustration and even petulance I returned to the car and headed for Huntsville. My morning at Falls Village had been wasted.

For the time being, at least, I had had a surfeit of country roads and so got back to Route 7 as quickly as possible. Turning north toward Canaan I reached the route junction with 44, where on the corner stands an ultra-modern Roman Catholic church. Its architecture having once aroused my curiosity, I found the interior so beautiful that I have many times since, stopped on my way to show it to whomever was with me. Instead of continuing north as on previous journeys, I turned to the right at this intersection, to reach East Canaan. Again I had no idea where to find the furnace I was seeking except that it was in this town.

I found East Canaan to be mainly an accumulation of modern houses strung out along the older highway once known as the Hartford Pike. I stopped at the tiny post office for directions but without success. I inquired at a filling station and was at least directed to “an oldest inhabitant” who lived up the street.

His house was easy to find and was reassuring for although surrounded by ambitious suburban homes, it was humble, long occupied, and uncompromisingly Victorian. It was encouraging to notice that the driveway was solidly built of furnace slag, and that a very aged gentleman was sitting in a rocking chair on the front piazza. My arrival seemed to excite and disturb him; he called repeatedly to someone inside and made gestures toward me. I hurried up the steps to explain myself and to ask about the furnace. He was very deaf, but an expression of reminiscence came over his face when he caught the word furnace. He nodded his head and smiled to

himself. When I asked him if he could tell me where it was, there was a long pause. Finally, with great difficulty he mumbled the words, "I, I, I forget."

A lady had stepped to the screen door and said in gentle dismissal, "He is almost a hundred years old. He cannot tell you."

I apologized for the intrusion and returned to the car, the slag driveway crunching inarticulately under my feet.

I continued to drive easterly along the highway, with an eye scanning the houses, looking for another Victorian one. There had as yet been no definite town center, but now a crossroad entered on the right, the triangular intersection forming a small green. Overlooking this stood a traditional white-spined meetinghouse. To its left stood what should once have been a tavern; to its right, what had long been a general store. It seemed a judicious moment to invest in some groceries for supper, and an ice cream cone against the heavy heat. While I ate the cone, the proprietor, summoned for the purpose from mysterious upper regions by his wife, told me to take the right hand road following the Blackberry River, and that the furnace would be a plain sight. Good news after my wanderings of the forenoon!

True enough, the road soon veered around to the right under a slope and I was alerted by catching sight of a pond and a dam below the road on the left. There was hardly time to slow down before the great tower of the furnace itself was close at hand below the highway. Just beyond it, a gravel road descended abruptly to a bridge that crossed the stream. Going downward toward this, I found that a driveway led from it between the furnace and the river, and here I parked with relief at having found a furnace still standing in such an accessible place. It had taken just one hour to find the furnace known as Canaan No. 3 since first entering the limits of East Canaan.

It was obvious at first glance that this was another riverside site more crowded for space than most, and that its auxiliary areas were of necessity strung out along the bank for a quarter mile. The bridge marked the lower limits of the layout on the near side of the river. It led, however, to extensive slag heaps that formed bluffs up- and down-stream of the other end. These were about fifty feet tall so that they were impressively silhouetted against the sky. The upper limits of the works might be said to be formed by the dam some distance above and just visible through trees. Like the furnace it was built of finely sawn blocks of white marble, and foaming waters of the Blackberry River were still pouring over it in what looked like a ten-foot cascade of milk. Connected with it on the near end were various pit-like foundations. These had sheltered valves controlling the intake of water at the upper end of the three-foot diameter cast-iron flume. Valves and their

appurtenances were now exposed to the elements. A section of flume had been removed, probably to avert the consequences of meddling with the wheel gate at the top of the dam. It was necessary to trespass upon a hen yard to obtain photographs looking up at the dam, and the metal gears and flume looked so modern and workable and so tempting to the mechanically inclined, that the missing section of flume had doubtless more than once saved the hens below the dam from a harrowing surprise. Near the hen yard a pile of mortised-and-tenoned posts hinted that until recently the platform for the blowing machine or other wooden structures of the furnace might have been available for study and that these had now been taken down and laid by for firewood. The iron flume continued along the bank toward the furnace and could be seen entering another pit-like foundation where the water wheel, and above it, the blowing machinery, must have stood. From the cylindrical blowing tube the air would have been forced through a pipe to the oven to be heated for the blast.

On the upstream side of the furnace itself were lighter and more recent looking brick foundations for two cylindrical objects such as boilers. These may have held the “ovens” for heating the blast, though the top of the furnace itself is a more usual and logical place for them. The casting arch and casting yard are on the downstream side of the furnace, as at Bulls Falls, Lakeville, Macedonia, and Scoville, because a narrow shelving streambank only allowed space for such an arrangement. The casting yard, though thick with tansy and Queen Anne’s lace, was in good condition and enclosed by a thirty-inch wall of cut stone. Such walls are commonly found around casting yards and probably served as foundations for the sheds that protected the molten metal from rain.

The entire area of the layout, from bridge to dam, was supported by a substantial retaining wall of cut masonry extending to the river bottom. In a section below the casting yard a large opening, visible from the bridge, might have allowed for the same volume of water as did the flume. It could have been the flume outlet, but its location suggested that it carried off water from within the furnace, probably used for cooling crucible and tuyeres. It also must have helped to drain the sand in the casting yard.

Behind the furnace and only a few feet away, another retaining wall, stepped as at Lime Rock, supported the highway above. An embankment rose steeply from the uphill side of the highway and a curving side lane led to this upper level. It is probable that loading had been done from a bridge crossing the highway itself, and that the upper area had been used for sheds or workers’ houses, because space was so limited at furnace level.

Thirty-six feet high and approximately two-thirds as wide, the furnace itself is as conspicuous as the one at Lime Rock, for it appears to be built of white marble. Its sides are strongly battered and the two centered arches widely splayed, so that in general mass it presents a character of which one thinks as typical of mid-nineteenth century furnaces, but which actually one seldom finds all in one sample. Unlike Lime Rock, the faces of the stones are fairly smooth and finished, in contrast to the weathered and uncut surfaces of the earlier furnaces.

The arches of Canaan No. 3 were all of large, carefully cut and fitted blocks of marble with the exception of the upper or crowning areas of the inner arches. These had been filled in with small slabs of shale in a technique similar to that used at New White's in Dover Plains, N.Y. Although the contrast in color and texture made the shale look like darns in a sock heel, I doubted if it represented any form of repair. If the material of the furnace is marble, the commonest stone in the immediate vicinity, its greatest limitation as a furnace material is its vulnerability to heat, and the heat-resistant shale had been introduced at the points where it would have been most exposed, either to radiation from molten iron or to the scorching from the hot blast at the tuyeres. It would have been difficult if not impossible to rebuild such arches from below.

Although the furnace was unusually empty and clean inside, I was unable to get into it because it was enclosed by a high wire fence.

Another (and unique) indication of the comparatively late period of the furnace is the remains of steel trusses that droop from around the top of the furnace at every crazy angle. These once supported the platform and housing that permitted the workmen to walk around the furnace top. That the trusses are several feet below the summit is another modern development, for it protected the men from flames, heat, and explosion. In earlier days it was feared that any such protection would soften the workers and make them less efficient. Only by slow steps was it discovered that the opposite was true.

While working around the site taking photographs and making sketches, I was surprised to see that the bridge over the stream was used frequently by automobiles. The center of the bridge is supported by a once-noble central pier of cut stone. But the character of the latter has been insidiously undermined by the debasing influence of ice and mud, and its structural integrity has become that of a house of cards. Yielding ever more irrevocably to the forces of nature, this pier is now used not by the sober horse and wagon but by harried and ignorant mothers who entrust to its decrepitude their carloads of laughing and innocent children. A reference to

the accompanying illustration will emphasize my meaning. Since the furnace was in operation until 1923, one wonders why twenty-nine years of being left to itself in such a small stream should have affected the pier so much.

To travelers on Routes 7 or 44 who wish to see a blast furnace that is accessible and in a pretty setting, I recommend this one. Built in 1872, it is typical of the late nineteenth century furnaces and represents the last set in the drama of the iron industry of New England.

Having observed what little one could of Canaan No. 3, I was now eager to return down Route 7 and take the road from South Canaan to Huntsville. Between Canaan and Kent the mountains to the east of Route 7 are full of forgotten roads, grim and hair-raising legends, ghost towns and faded inscriptions originating from the days of the Indian, to the opening of the twentieth century. In my own family there had been a tradition that one of my grandfathers when first married had lived in Cornwall Hollow, and I was eager to see the place. Huntsville was said to contain two furnaces. Scoville built in 1844, used its own mine; the other, Buena Vista, built in 1847, was in operation only nine years, but fifty years later was still held in heartbreaking readiness for a reopening.

The road I was to take, Route 126, which goes from Falls Village and swerving southward becomes successively Routes 45 and 63, passes down through Goshen, Litchfield, and Watertown to Derby and the coast – old towns all of them and hence an old road, probably older than the towns. My whole circuit, however, from Route 7 would not include more than twenty miles, and it started from South Canaan along the steep base of Cobble Hill, following the narrow valley of the Hollenbeck River most of the way. The latter is a circuitous brook not more than ten or fifteen feet wide throughout most of its course. It follows a devious channel for all of fourteen miles from the town of West Torrington northwest until it finally joins the Housatonic above the Great Falls. Its name shows the influence of very early Dutch settlement of the neighborhood and the fact that it is called a river can only be in reference to its length. It looks like a good trout brook and appropriately is stocked and posted by the Hollenbeck Trout Club. It seems always to be running in the wrong direction, and in fact, the valleys through which it passes must originally have held mighty torrents that drained southward to the sea.

There is little to tell one just where Huntsville is. It shows on the map as a neatly printed name, but houses and farms string out along the road

between stretches of field while more unbroken stretches of forest appear in the background. Seeing a boy drive a tractor up a farm lane, I followed and cornered him in his barnyard to ask the way to the old Scovill Furnace. Fortunately he found someone who could tell me, and it was only a mile or so further along the way. He said to watch for a dirt road on the left, with an unpainted house on the further corner, and to turn down that.

The gravelly lane had once been wider but now merged into fields on either side. It was a pleasure to note that the pastures were still being used by handsome-looking cattle. The lane dipped down to a stream (where I parked the car) and across a causewayed plank bridge, from which it rose through bars toward a side-hill pasture beyond, while the stream swung to the right around the foot of the hill and disappeared into woods.

The scene that met the eye as one approached the bridge could have been the original of a Currier and Ives print. The land had been gently sculptured by long years of grazing. Squat stone walls eight and ten feet wide had accumulated as fields were plowed by succeeding generations and stones were tossed to one side, and the walls themselves had sheltered from the plow and the cattle all sorts of seeds that had grown up to form leaning and bushy hedgerows above them. On the brow of the hill a group of enormous old barns and sheds could be seen whose roof lines stepped downward in a repetition of the slope. A grassy lane along the stream led to a little house of pink brick with white trim, peach colored in the afternoon sunlight. Towering oaks and maples stood behind it in a grove that climbed to the barn. As I approached it I found that granite steps with yellow lichens on them led up to the door.

With my experience at Dover Plains in mind, I was determined to make myself known before exploring further for the furnace, but there was no need, for a charming lady was already waiting for me at the door. No sooner had she heard my errand than I was invited in for cookies that she had just been baking. They were for grandchildren there for a summer visit. Her daughter had gone in the car to fetch them from swimming and would be back any minute. She was making sandwiches because they were going on a picnic with the pony cart.

Canary and gold Hitchcock chairs, hand-woven textiles, and pottery the color of pears, persimmons and apples, told one at a glance that the house had been furnished by someone who had made a science and art of the matter, but rarer still, it had been done by someone who was not deliberately putting her skill on display, nor her fine goods and chattels, but who had put her discrimination affectionately at the service of the old house. This was the

owner and the lady's daughter, and while I waited for her grandmother, busy though she was, took me around to see the lower floor.

It had been the house of the furnace master, built probably at the same time as the furnace, in 1844. It had been empty and forlorn when acquired by the present owner. If houses can dream, and I think old ones do, this had sat weathering and bleaching in the sun, waiting to be discovered and loved and garnished. All old houses have a Cinderella potentiality, and this one had finally found its fairy godmother, and in response was sheltering a happy flurry of life and activity.

The owner returned with a squealing and chirruping band of gay children who were herded off to prepare for the picnic. She then turned to me and found time to talk about the furnace. It was the Scovill Furnace and was across the brook from the house, accessible by returning across the bridge and following what is now a cowpath along the foot of the slope.

It had a semicircular stone arch but after the winter of '48-'49 it had shown signs of collapsing, the town after a freshet had needed stone to mend the roads, she had been afraid that the arch might fall and hurt someone, so she had let the town tear it down. Lately various people had come looking for it and she regretted having let it be demolished. It was now nothing but a pile of rubble but I was welcome to look at it.

I thanked the two ladies for all their kindness, and was again gratified and touched by a warm invitation to return. Indeed, the further I went on these trips, the deeper became my cumulative gratitude at people's readiness to open their doors and treat a perfect stranger with warm friendliness. A middle-aged person wandering alone in the hills, unkempt, without introductions, and on a curious errand, from those I had encountered, every word spoken to me had been friendly, frequently people had inconvenienced themselves to be of help. As I covered more and more of the countryside the impression grew that this was a reaction general to people of the United States, or at least to these parts where people have lived for more than one generation. It was easy to imagine the difficulty of pursuing a similar journey in Europe. During the war I had lived at a school in Connecticut that belonged to a member of my family and which had taken in several children from overseas. In three cases out of six, although they were put in my care, and I was a member of the faculty, they never recovered from having first met me when I was digging in the garden. Being very young, even their excellent manners were not enough to conceal their lasting doubts about my true status and so about the attitude that they should hold toward me. Such a consideration would not enter the Yankee mind so long as it was convinced that I had a real reason for my errand. And significantly, the only exception

to friendliness I encountered in fifteen hundred miles was that at the camp in Amenia, already described. In this case, however, it was the pathetic defensiveness of a people who had been for an irrecoverably long time the victims of homelessness and expulsion – they could not share what they had never had. And so I reflected, as I turned away from the sunny brick house, the friendliness of Americans must be a byproduct of Yankee self-reliance resulting in security and trust. Such encounters acquired an increasing significance and were teaching me more about my own country than I had known before. One often hears of people who travel abroad and are surprised to find out glad they are to get home. I was discovering the same by traveling at home. Any reference to patriotism sounds sentimental, but both for its beauty and because of the quality of the people who live there, the rural parts of the land are very moving.

I returned over the plank bridge and climbed through a fence where it was apparent that the valley slope had been leveled off for a breadth of thirty or forty feet adjoining the stream. The path I followed was firm underfoot with packed slag. On my left a bank rose gradually and showed traces of having held an upper road. This extended to a large pile of rock and rubble on the flat ahead of me. The bank and road had been the loading platform, the pile of rubble, the furnace. On my right a stone and earthen mole mound stretched across the river and had been the dam for waterpower. Below it the stream threaded its way through alders and willows and disappeared behind the furnace remains. The furnace itself had stood on the extreme corner of the level area, overhanging the river at the downstream end, so that a retraining wall that supported the terrace was continued to become the lower part of the furnace on the side toward the river. The crop between terrace and streambank was about ten feet. The further side of the furnace was not accessible so that I did not locate the tuyere arch or arches. It was to be assumed, however, that the side facing the leveled area had held the casting arch, that the leveled area had been the casting yard, and that the tuyere arches had been on the downstream sides of the furnace, opposite to where I stood.

In spite of the ruined condition of the pile, or because of it, several interesting features were exposed. The furnace had been demolished in such a way that it now revealed almost an exact cross section of its original construction. It had been built in 1844. Outside, its covering of variously sized blocks of split granite resembled Macedonia, built 18 years earlier. The size of the furnace, the character of location, and the general scale of operation, also resembled those of the earlier one. A two-foot-thick lining of flat stones considerably smaller than those of the outer stack had either been

an inner facing for the outer masonry or had served temporarily as the furnace lining. Within this, and reducing the boshes to an invert diameter of a scant eight feet, was a lining of firebrick about eighteen inches thick. The brick lining rested at the base of the crucible upon large blocks two by three feet square, apparently of limestone. With the record of Scovill's having had a true semicircular arch, both layout and construction of this furnace seemed to have followed an eighteenth century tradition throughout, at least until it was revised to use steam and a hot blast in 1853. It ran until the fatal year of 1886 when like so many of its brethren, it finally was abandoned.

This small and primitive plant, however, in one run of 32 weeks in 1857 had made 1,142 tons of iron [Harte]. Such a statement is in dramatic contrast to the pastoral aspect of the furnace: the tiny gentle stream, the mildly inquisitive cattle, and a pile of rocks that has almost lost its identity. The underlying change in modern methods of manufacture has been in the ratio between elaboration of equipment and quality of labor. In the old days the skill of the men who produced the iron was greater than the elaboration of the pile of rocks where it was made. Nowadays the skill is in the intricacies of the plant's design, there are fewer laborers per square foot of plant, and the majority of them have less training and responsibility. When Scovill was in operation, this hillside was crowded with activity. In the road to the loading platform teams bringing charcoal, ore, and flux, were in continuous procession and from time to time the empty wagons were loaded with pig iron from the casting beds, and started on their way to the Hudson or to Boston. A group of men at the top of the furnace kept dumping in the charge and judging its rate of settling and consumption, others were in charge of the tuyere and whatever machinery controlled the blast, while at the casting arch stood the man who watched the hearth, raked off the slag, or pulled out the seals of the crucible allowing the molten iron to flow into triangular channels hoed in the sand of casting beds where sow and pigs would gradually congeal into hard iron.

At Sterling Furnace in Orange County, New York, an exemption from military duty was granted the workers in April 1777. The petition for this exemption listed the necessary employees as follows:

- 20 men, wood cutters
- 4 Master colers, each 4 men – is
- 3 Men for raising Oar, 2 Men for carting dirt.
- 7 Men Carters for Hauling Coles,
- 2 Men for Stocking Coles, 1 Banks man,
- 2 Men Burning Oar, 2 Mine Pounders,
- 2 Fillers of furnace, 2 Founders,

1 Gutter man, 1 Black smith, 1 Carpenter,
1 Manager, 1 Clark, 68 men.

In addition, the Sterling works had a forge for casting anchors and one for making steel. For these, 114 more men were required, and because of the war they were undoubtedly “shorthanded.” [from Orange County Ironmaking, by E. C. Kreutzberg. The Iron Review, Vol. 75, p. 157; from the archives of Charles Rufus Harte]

The entire plant with the exception of the mine probably did not cover more than three acres, and the Scovill plant, having no forge nor refinery, would have covered less than an acre.

Leaving the scene to cows and yellow daisies, I climbed back into the car and proceeded on my way to the Buena Vista Furnace, which is about three miles further south, off the same highway. One of the unique characteristics of Buena Vista, and not the least important to one seeking it, is that its location can easily be surmised from the geodetic survey map, for the Hollenbeck, at a place labeled Lower City, shows a pond and a dam. This was certainly the place to look for the furnace.

At the end of three miles, however, no city met my eye. With the straightness of an old turnpike the road ran through a swampy valley where the common vegetation was locust trees and poison ivy. For quite a stretch no houses had appeared, but finally I saw two late nineteenth century houses side by side – the tall angular kind, with grandstand piazza and tricky dormers at unpredictable places. A man was mowing the lawn. This is a welcome sight to a traveler because (a) he is a permanent resident, and (b) he will be more than willing to pause and answer questions.

His answer in this case was the advice to leave my car in his driveway, and walk right across the road and go in where a path led to some bars. I would find the furnace “in there.” This was Lower City.

I knew that this furnace, so poetically named Buena Vista, had been build comparatively early, 1847, and abandoned only nine years later. I did not expect to find much left, probably not as much as has survived from the 1886 remains of Scovill. Nor would one expect the layout to have been on a large scale if one could judge by Macedonia, which was rebuilt the same year that Buena Vista first went into blast. Nevertheless, the name Lower City suggested that during the earlier of those nine years at least, there had been dreams for the future: a vague vision of a Pittsburgh or a Bethlehem, Pennsylvania, perhaps. I was curious to find the foundations on which the dram of Lower City had been based. To this I began to perceive a slight club.

The west side of the road, which I now approached, unlike the east side, rose in an easy bank or slope twenty feet high and fifth or seventy-five feet broad. On the right side of the entrance bars the slope was covered with runaway day lilies, a sure sign of a cellar hole. And on second glance the bushes also turned out to be planted ones, not native. At the top of the slope one could see through them the collapsed frame of a house roof sinking gradually into its cellar hole. Beyond it were vestiges of similar remains, and on the left were hints that a row of houses had stretched along the highway. Glancing back at the other side of the road, what I had mistaken for a driveway turned out to be a dirt lane that took off through the woods eastward.

As I went through the bars, the entrance lane instead of petering out became more clearly defined as a road. It led between stone abutments ten feet high, and once on the other side of these it could be seen that they were the ends of retaining walls that enclosed a park-like area, perfectly level, of four or five acres. It was canopied with locust trees that had seeded in, and carpeted with fine grass knee deep. The road, still rutted and apparently in occasional use, wound its way diagonally across the flat into the distance. Wherever the ruts cut through the turf I could feel the crunch of slag underfoot. Evidently the whole area had been paved with slag and cinders, thus accounting for the lack of weeds and the prevalence of the gravel-loving locusts. The wall must have been at least seventy-five feet long on each side of the entrance and parallel to the highway. At the north end, which was on my right as I proceeded, it continued with a right-angle corner to a retaining wall, free-standing, which seemed to have been foundations for a building. On my left, cart-wide openings in the wall revealed further foundations going back as if for barns and wagon sheds. These walls had been laid out on a large scale, and differed from those of other iron works in their appearance of having been built all at one time without the confusion of subsequent adaptation or enlargement of the scheme. I was in the amphitheatre but had not yet found the stage where the drama had been played. The road seemed to come out into a clearing beyond older trees ahead, and I hurried forward. It was four-thirty and clouding over; photographs would be difficult.

Passing beyond the returning walls on the right, I saw that they contained other breaks and foundations but that the main wall continued westward to enclose more of the flat. Much of this wall was not choked in shrubby undergrowth and its termination was hidden. On the south, the wall had disappeared and the level flowed off naturally into woodland. Ahead of me the road swerved to the south or left, and I saw that what had looked like

a clearing was actually a small lake made from the Hollenbeck River by a dam that showed at its north end. This was promising. As in playing Hunt the Thimble, I was “getting warmer.” The furnace would have to be below the dam.

The dam was in good condition and still in use. It must be a boon to the Hollenbeck Trout Club, and probably is the inspiration for their existence. It is thirty to forty feet long, ten to fifteen feet high, and build of neatly cut blocks of stone. On the bank at its near end a gate wheel is still apparently in working order to control the spillway and the water level above. The end of the dam containing the gate wheel formed an elevated platform overlooking a tangle of briars on the river bank below it. At first there seemed no way to follow down the stream, but from the lower edge I finally noticed steps formed from protruding blocks of stone, and when I had reached the lower level, there was enough of a path to make it possible to force a way through the blackberry canes. Blackberries prefer open sun, and once I had reached a thicket of young trees, the path was slightly more open and passable. I was encouraged by the fact that the stream bank, visible occasionally through the bushes, was entirely walled as at Canaan and Lime Rock – surely I was getting closer to the furnace – even though at the same time, the place was growing darker and danker with every step.

The thicket ended abruptly to leave me on the edge of a walled pit into which water trickled over mossy rocks. A colorful blue jay, surprised in the middle of his bath, flew off shrieking his customary profanities, and I glanced up to see the furnace confronting me, not twenty feet ahead. The great structure stood in the pit, somewhat veiled by saplings that had taken advantage of the muck and were already twenty to thirty feet high. As I stood studying the grim mass of masonry, a slight motion in one of the saplings caught my eye. There, hunched up on a branch, and darkly silhouetted against the stone, was a bird that looked like a medieval carving. It could easily have been a griffin, it looked so fabulous, though I saw no lion’s tail or hind legs, and finally decided to stick to the front of the legend and call it an eagle all over. It must have weighed twenty pounds, was a sooty gunmetal color, and its feathers were coarse and shaggy. It had the round head, short neck, and beak of an eagle, but it must have been a young bird, and if so the nest could not be far away. There was no cliff, mountain top, or tall tree in the vicinity, and it was not until later that it occurred to me that the top of an abandoned furnace would be an ideal site for an eagle’s nest. I reached down carefully for the camera, but the motion was observed, and with a sort of prehistoric heaviness, it lumbered off, seeming to clamber

through the still air. Neither wings nor tail showed bars or patches of color in flight. With an effort, I refocused my attention to the rocks before me.

The pit into which I was looking was roughly forty feet long and eight feet deep. On my right its south end included a higher retaining wall that must have adjoined or been part of the wall seen when I was looking north from the level area above. The overgrown foundations noticed in this vicinity from their other side, must have enclosed some control for water supply, for it was from some such remains in the retaining wall that the water was still trickling. Rotted wooden beams and pieces of iron pipe protruded from the mud but there was nothing that would support my weight and help me to get out again should I climb down into the pit.

The furnace sat in this cellar-like place, about eight feet away and appeared to be little ruined. It is the only furnace I have seen that is thus placed, all the others being on level areas or on a side hill slope. Its base seemed to be about thirty feet or more square, its top perhaps twenty feet above me, which adding the depth of the pit would have made it just under thirty feet tall. This made the elevation more nearly square than in slightly later furnaces, and it seemed to be generally true that the evolution of their design from early times was a gradual trend toward the vertical.

Showing a neighborly kinship to Scoville, built only three years earlier, Buena Vista had for its casting a true arch almost semicircular. It was about eight feet wide and twelve feet high. All arches were unsplayed, meaning that they did not slant inward funnel-like, but made a straight cut through the outer walls. The casting arch faced the stream, while the tuyere arches were in the conventional locations at sides and back. These, though true arches on the outside like the casting arch with tapered voussoirs, showed inside the stone lintels and corbelling that survived so long as a means of diminishing the opening down and inward toward the tuyere itself. Like the retaining walls in the areas above, the masonry of the furnace seemed unusually heavy and coarse in scale. But unlike the layout above, the furnace gave me the impression of being of an earlier type of construction than surrounding masonry, as if the plant at some time in its short nine years had been enlarged and adapted, probably from charcoal to anthracite, perhaps from water to steam.

Slightly downstream and nearer to the banks, I came upon another pit, this one parallel to the stream twenty by thirty and about eight feet deep. This pit or cellar contained a second pit, long and narrow, about eight feet by sixteen, by six to eight feet deep. It was near one side of the larger sunken space and was easy to see down into. It had been a wheelpit and still contained the remnants of the axle tree. This was eight feet long and looked

to be thirty inches in diameter. It was found on the two ends with iron hoops of the same diameter, three inches wide and at least three quarters of an inch thick. No other machinery or apparatus could be discovered at this season among the thick bushes and saplings that had overgrown this part of the works.

With the exception of the pits, the space around me had been leveled off at a height intermediate between the stream and the upper enclosed areas. A ten-foot retaining wall bounded the narrow stream, making it look like an empty canal. Thirty or forty feet back on the uphill side of the terrace the retaining wall, which stretched from the dam to the furnace and beyond, had dwindled off to be replaced by tumbled and overgrown banks. Somewhere above them must have been the first cellar that I had notice from the highway, for I had made almost a complete return along the stream. Faint traces of a once-hard-used wagon road could be seen paralleling the stream and going from the furnace toward the highway on the lower level, which it would have found a continuation of the wood road leading east.

Unfortunately, this most significant part of the works was so overgrown and shaded that none of my photographs came out. The place seemed strangely dank and lonely and as I retreated toward the dam I felt uncomfortably that much more might have been seen on a sunny spring morning before all the leaves were out. The two outstanding surprises that Buena Vista had offered were the scale of the whole layout as well as the furnace itself, for one built in 1847, and the fact that so much had remained intact, for one abandoned at a time when many furnaces were being rebuilt and enlarged. Indeed, eight furnaces in the Salisbury District were enlarged after Buena Vista was abandoned.

I never heard what the cause of abandonment was nor saw physical evidences of disaster, but weeks after my visit I came across a lady who had seen the place back in horse-and-buggy days and had spend a day and a night there. She and her husband had been on a sort of itinerant camping trip, and he being an engineer and curious about the almost legendary furnaces and mines of the neighborhood, the old horse had just naturally turned up at this remote place in the woods, about dusk. The lady involved was not too pleased with the look of the place, she told me, and was glad to see a light in a window.

It was apparently the same house where now the fallen roof rafters are gradually sinking into the cellar hole. She knocked at the door and an old, old woman came to it who could hardly speak English but who was very glad to have company. Though the couple had a tent with them they succumbed to hospitality and spent the night in the house while the horse,

equally lucky, was put in the empty but intact “company stables” of which I had seen the foundations. The lady who told me this said that all she remembered about the house was that it was very old-fashioned and that she sank comfortably into a feather bed and stared for a minute at an intricate patchwork quilt before the lamp was put out.

The next morning, at breakfast with their ancient host and hostess, their surroundings took on a more cheerful aspect and differences in language did not prevent the older couple from explaining their life work at the furnace, nor the younger ones from listening with wonder. It seems that when the furnace was first closed down it was considered even by the owners to be a very temporary lapse. A new steam engine had just been installed, of the very latest kind, and it was the pride and pet of the whole company as well as a curiosity for miles around. The old man had been the young engineer in charge of it and when the other workers were sent away from the row of company houses along the highway, he and his wife were retained as caretakers. Moreover, he had been given strict orders to keep the engine oiled and greased and polished, and to keep a fire laid in it so that it could be started without delay.

The owners came frequently to look at it, and then their visits grew more seldom. The two lonely caretakers had trouble with tramps in the empty workers’ houses and barns and when they finally reported this anxiety the owners came with men and had the unused buildings dynamited; but still the fire must be kept laid in the engine. And so the years wore on with slowly dwindling hopes for the day when the weeds would again be trampled down and the valley full of the noise and glow of the furnace. It had been many years since the owners had been seen, but the engine still shone in the sun, the fire was still laid.

The old man proudly took his guests to see that one touch of a match would light it up. The lady who told me the story said that with some anxiety she noticed her husband fingering his silver matchesafe, but that he eventually turned from the waiting bundle of faggots under the boiler, to inspect the rest of the obsolete but magnificently shiny engine. And she herself couldn’t bear any of it any longer but turned back with the old lady toward the house. She was very fond of flowers and commented on the many kinds that surrounded the doorstep. Whereupon the old woman took her to the cellar holes of the other houses. As each doorstep flowers were spreading among weeds or succumbing to them, and my narrator spent the rest of the morning digging up all she could and packing them in the back of the buggy.

When I tried to question her further about the furnace, she answered, “I was too busy to notice. I was always more interested in people than machinery, and I was running back and forth trying to rescue the flowers that all those poor women had wanted to have grow.”

That is a true story, as far as it goes. But it might have fitted many furnaces. Buena Vista shows no record of ever having used steam, but all the other details that I could check seemed to fit, and that afternoon I was unwittingly retracing part of the route of the horse and buggy through Cornwall Hollow and a short distance along the road toward Norfolk. Like them, I left the shades and shadows of Lower City and started a long steady climb toward the south.

I was still following the tiny Hollenbeck upstream. The valley was many sizes too large for it and it meandered along the silted valley floor as erratically as a lost kitten while mountains rose six hundred and more feet above it with cliff-like sides scoured by the passing of a vaster area. Within a few miles the valley rounded out into a basin rimmed by hilltops. This was Cornwall Hollow, a place of gentle slopes, cultivated fields, and of many brooks. There was little except the size and age of its cemetery to show that this had once been an active town center. Two crossroads entered from each side of the highway, focusing upon a settlement that had long since vanished. A gravel road started a mountain climb and at its foot a weathered and unpainted farmhouse had children playing in the yard. I stopped here to ask the way to West Cornwall and found that the old house had just been tenanted by second-generation foreigners who had come up from a manufacturing town in the Naugatuck Valley with a longing to get back to the soil. It was to start all over again, I thought, the worried young husband trying to find a paying crop, the young wife with no neighbors, a doctor miles away, and the children having difficulty getting to school in the winter.

But Cornwall Hollow was a lovely place sheltered by the surrounding hills, with high clear air, and uninterrupted serenity.

I took a sandy crossroad to the southwest, which climbed steadily up a sidehill toward Cream Hill Pond, near which it leveled off. This was an upland plateau above the original glacial river and the county looked more like Vermont than Connecticut. The wooded slopes were carpeted with cinnamon fern, grey trunks of maple and beech were frequent, and sugarhouses appeared from time to time. Stone walls, those monuments to fortitude, straggled everywhere along the road and across the hills. Coming to isolated farms it was evident that this was hold hill country because the

buildings were weathered grey and, though so much a part of the picture in valley towns, here white paint was a rarity.

The Cornwall area roughly spans the quadrangle between Routes 44 on the north, 8 on the east, 4 to the south, and on the west, Route 7. This is a wild and unspoiled district easily accessible from such cities as Boston, New York, Providence, and Springfield. To study it in detail, obtain geodetic survey maps titled South Canaan and Cornwall. To follow the southwesterly trend of the Housatonic, which makes the western boundary of the district, arrange survey maps with the following titles, thus: Dover Plains, Ellsworth, New Preston, South Canaan, and Cornwall.

In the Cornwall quadrangle mentioned above, tangles of dotted lines, symbols of trails, can be seen on some of the mountain tops or upper slopes. A few of these have retained their names: Yelping Hill, Emmons Corners, Dudleytown, West Goshen. They are frequently punctuated by black dots or tiny hollow squares, symbols for cellar holes or ruins, and in most cases these sites have all become ruins since the surveys were made. Such tangles of trails mark former roads and sites of old villages. They often were settled long before the valleys were habitable and were only abandoned when industry changed the trend of population.

Place names call forth images of a vanished era: Keep Swamp, Stony Batter Road, Baldwin Cave, Black Spruce Bog, Dark Entry Road (famous as climbing a ravine of bitter memories), Bloody Brook, Headquarters (Revolutionary?), Purple Rim Road, Undermountain Cemetery, and Forge Brook appropriately run down Mine Mountain west of the Housatonic. A glance at these maps will show how little of the territory is populated and how much of it is high and mountainous. There is so much in this district that is beautiful and forgotten, that another generation will find here more that is unfamiliar and worthy of exploration than they will in the far corners of the earth, where air travel will carry them more habitually.

My road led over Cogswell Street around Rattlesnake Hill, and down along Beaver Brook, a long, long descent to the Housatonic, and West Cornwall. The latter center was a concentration of buildings adjoining a once-important crossing of the river. At the east end of the bridge a dirt road leads north along the river bank and is rejoined by Route 7 just beyond the great Regional High School. It was the original valley road along this stretch of the river and still serves homes of an earlier day. Toward its north end the survey map shows a brook with a dam. I did not visit this site but plan to do so.

It was with a sense of homecoming that I turned north on Route 7 in the early dusk and hastened toward my cabin on the river's edge. It was a

pleasure to turn down the wood road, knowing what was ahead, and to park the car in its familiar place. As I climbed out, voiced from the chairs in the grove greeted me like an old friend, and asked how the day had gone. Without much understanding of what I was about, they hoped for my success in an undertaking. A pitcher of cold spring water was brought me, which I drank eagerly. I quickly changed into a bathing suit and was out in the river trying to steal among the darting sandpipers.

There was a long stretch of shallows before reaching the channel and on my way out there my hostess called to ask if I was accustomed to currents. I explained that I was, and kept on, my eye caught by the strangely familiar aspect of masonry on the opposite shore. Of course this may be all a hallucination, but as I drew nearer, the old pattern seemed to emerge, of stone embankment, roadway, and unexplained masses of masonry beyond. Looking upstream, I thought that a particularly defined riffle might be the remains of a dam. Could this be another blast furnace just across the stream? I plowed on until details of the bank came into focus. I treaded water furiously looking it over. A steep bank covered by a mass of cat briar, blackberries, and poison ivy was a discouragement to one in a bathing suit and bare feet. I turned back, and slowly swam the quarter mile to shore while evening mists rose from the water around me. The geodetic survey showed that the dammed brook was just opposite.

Again I ate supper in a wet bathing suit enjoying the luxury of being slightly chilly. The sand floor of the little back porch was newly patterned with the tracks of birds and chipmunks, and the latter vigilantes came out to shelter warnings while I ate. In the last dusk, the fisherman from next door waded downstream slowly, greeting his neighbors, and occasionally startling the twilight with the flash of a fish pulled from the water. He was a carpenter, I had learned, and for three years had taken the last cabin in the row. This was his way of coming home after his day's work.

Chapter Five

The morning of August first was overcast and threatening. I made a hurried departure from the river at West Cornwall because there was a long run ahead of me, and I wanted to see as much as possible before it began to rain. I was to seek furnaces in Richmond, Lenox, and Lanesboro, Massachusetts, and on the way I hope to find one at Hillsdale, where rumor had it that there was still a furnace in operation.

To explain how one could go so far afield and still be within the Salisbury Ore District, I quote from *The Early Iron Industry of Connecticut*:

“The deposit of ore similar to that at Salisbury is of large extent, reaching from southern Vermont through western Massachusetts and Connecticut and that part of New York between those two states and the Hudson River, and thence down into New Jersey. Though varying slightly in different parts of this area, the composition of the ore was nearly the same throughout the whole territory, and similar in general high character. In common parlance all was known as Salisbury ore, taking its name from the town where it was mined first. On account of the uniformity of the ore in this large area, and because the furnaces using it followed approximately the same practices, and often interchanged ores, the statistics gathered came to be grouped together as the Salisbury District, instead of dividing along state lines, as was customary elsewhere; this applied both to the mines and to the furnaces and forges.”

Therefore I traveled north on Route 7 through the ancient mill village of Ashley Falls and the more aristocratic Sheffield, where I turned northwest to Hillsdale. The latter town is over the line in New York State, at the crossing of Route 23 from Springfield, Mass., to Hudson, on the Hudson River, and Route 22, the previously described north and south highway that follows the western base of the Taconics. The valley of the Housatonic broadens out abruptly above Ashley Falls, entering what must have been the flat basin on a glacial lake. The river takes to tortuous meandering, losing itself in its own meadows and swamps, and leaving behind it a confusion of oxbows, small islands, and encircling creeks. The long escarpments of mountains either side of the river, familiar from this point south, here recede into the distance, and the town of Sheffield spreads itself along the highway in the midst of a rich alluvial plain.

Not more than five miles east or west of the center of town, however, a climb begins; this time again through the Taconics. There was the familiar transition from rolling farmland to steep forested slopes, and ever more insistent upward pitches in the road. Though one part of the highway is probably traveled as much as another, one feels as if one were reaching a more remote district when the road tunnels through the uncut forest with its accompaniment of moss-covered ledged and cascading brooks. But the Taconics are deceptive, for although their eastern face is steep and wooded and kept moist by winds from the Atlantic, their western slopes are gentle, shaley, and often the heights look barren. From the west one would never recognize them as the same mountains. As with the broader scale of the slopes, the cultivated fields also are larger, the farms more sweeping, and the views open to more distant horizons. By almost imperceptible degrees one comes down off the mountains to rolling plains beyond. It was after passing

open fields that I came to Hillsdale on such a rise of land clustered about a four-corners. The customary filling station occupied one of these, and there a large red truck was drawn up, emblazoned with the words “Hillsdale Ironworks.”

The driver directed me to keep west on Route 23 until I came to the center of town where there was a square, and there to turn south and cross the railroad tracks, when I would see the works in plain sight. This was easy to do. The old town center faced the highway west, which shortly beyond, disappeared over another mountain. The “square” was shaped like half of a hexagon, the arc of which was the highway, and the street to the ironworks took off through the center of it at right angles to the highway with the two slanting sides of the hexagon making an approach to it.

A small triangle of a park survived on my left, with one or two tired old trees standing aslant it. The buildings facing the square were generally of late eighteenth century: the stagecoach era. Behind the little park stretched an old tavern, still in use – humble, practical, and little changed. Around the corner from it on the street to the ironworks were what appeared to have been blacksmith shops. The whole group of buildings surrounding the square had a picture-book look, but the skies were now about to burst with evil intent and photography was out of the question.

Two blocks further south, the railroad tracks crossed the street without apologies. Not seeing any signs of a blast furnace, I turned to the right beyond the tracks on a road that went to a freight station and offered ample space for turning around and looking things over. Adjoining the roadway was a pond with a dam, and overlooking this was a large plain wooden house built early in the nineteenth century. A path passed it along an abandoned roadway going toward the area below the dam. This looked like an ideal site for a furnace, but certainly not an active one, and I could see nothing further, for the glade was densely overgrown, and just at that moment rain came down in sheets, discouraging bushwhacking.

I turned back and followed the line of storehouses and sheds that lined the road, looking for some kind of office where questions could be answered. Finding a sort of gateway, I drove into a large open space paved with slag, cinders, scrap iron, and black grease. On my right was an office, where everyone had gone to lunch except a young boy who told me vaguely and without interest or concern that I could go into “that building over across the yard” and I’d see the furnace. It was plain that he thought anyone who wanted to look at them was an idiot, especially a woman.

The buildings across the yard were products of the early nineteenth century. They were clapboarded and had small double-hung windows like a

house, of six panes over six. A concession to fireproofing had been made in the old-fashioned sheet iron covering the roofs. A traditional arrangement could be perceived in that the further building, barnlike in size and of two stories high, showed two metal furnace stacks four or five feet in diameter and perhaps six feet high, projecting through the roof, one on each side of the ridgepole, while attached to the furnace house, a long one-storied shed with a louvered cupola for ventilation, covered the casting yard. Any of the furnaces I had seen might have looked like this in operation except that the higher roof would have had towering superstructures above it because of the greater height of the old furnace stacks. In the rear of the yard were piles of pig iron but there was no knowing whether they were product or raw material of the activity inside.

I went in the only door visible and found myself close beside the nearest furnace. It was curious but not impressive, and looked like a cast-iron boiler set up vertically on legs. Water dripped from a faucet at its side and made an inky puddle in the cinders. The shed was dark and cluttered and at first it was difficult to see anything. It was bewildering to try to make out resemblances between these and the furnaces I had seen. They were about six feet in diameter and tapered toward the top like inverted funnels. Fuel was burning in them but apparently only in a bed at the lower part. They had doors much like the doors of our house heaters. Nests of gauges and valves were attached to them. I looked around for someone who would answer questions.

Down the long shed the grimy eastern windows were letting in more light, and in the distance I made out a group of men eating their lunch and of course, watching me with curiosity. They sat motionless while I picked my way cautiously toward them. There were four or five of them, mostly negroes and all of them a rough, sullen-looking lot.

“The man in the office said I could come in and look around,” I began . . . Silence . . . “You are making castings here, aren’t you?”

“Yuh.”

“What kind of furnaces are these?” . . . Silence . . .

Finally a yellow-haired Scandinavian got up and ambled over to me. “That fella, he no feel good. What ya want?”

“I came in to see the furnaces and the work,” I answered. “What are you making in the molds?”

“Oh, I dunno, some kinda thing. Da machine maybe.” He helpfully replied.

“Do you use sand in the molds or a mixture of sand and loam?”

“That’s right, da mix, sand and da grey powder some kind of earth.”

I thanked him, and retreated. As I returned down the now endless shed I saw filled molds in their wooden cases laid out in careful rows. Long-handled ladles like those in medieval block print lay about. Nearer the furnaces a sand bed caught my eye. In it had been hoed the triangular channels in which pig iron is cast. But even these were apparently fed by ladles, although the bed was close to the lefthand furnace. Unfortunately, I never did find out anything more about the place. But the conservatism of iron making was self-evident. The molds were little changed from those described by [Keith and Harte].

I went out through another sudden shower and climbed into the car to eat my own lunch. Beyond the buildings and the yard a great hill rolled upward against the sky, its upper slopes forested and its base cropped smooth, and running down to the upper edge of the pond. The rain was behaving as it does in the mountains: descending in sudden opaque sheets interrupted by pauses when a pale sunlight would strike through. During one of these intervals I took some snapshots of the buildings and the hill beyond. I was beginning to realize that I was a long way from the places I wanted to see before nightfall and that it was time to get back onto Route 22.

The Taconics must have bulged westward at this point, for the highway climbed up their flanks, leveled off, and climbed again. The places where I was going were mere names on a map and I had no idea where I would be at the end of the day. The rain was blinding and was slowing my driving. But thanks to the comfort of the modern automobile (well, fairly modern), the car and I made a mobile entity as isolated as a planet and as cozy as the cabin of a boat. Having left my last night's camp and not having visualized the next, I reflected that I was very well off rolling along the highway warm and dry.

Having thus summoned a philosophy with which to combat the bad weather, the highway came down off the mountains, the clouds sailed away full-rigged before the wind, and the sun came out with a whiter glare than it had shown for days. A sign telling me that I was approaching Austerlitz set me wondering about the circumstances that had brought such a famous name across the ocean. Had the people, as in so many cases, simply transplanted the name of their home town in the Old World? A glare of white on the left caught my eye. It was a bleak and bare little one-story wooden church with a cupola-like steeple. It looked courageous and uncompromising in its sandy field surrounded by hummocked grass and scrub cedar and pine. A sign by the entrance read: "Austerlitz Lutheran Church." In imagination I saw the audience as a portfolio of Durer portraits.

Just beyond this point Route 22 veered eastward, and the map showed a dirt road that would be a decided shortcut to West Stockbridge and Richmond. The road turned up just where it ought to be and optimistically identified itself by a sign saying “Stockbridge.” But a glance down it was not reassuring; it was the sort of road that many generations of farmers had used without question except perhaps during a spring thaw. It obviously would lead through a ravine in the Taconics and get me over the hills and out the other side somehow, but it made no promises as to how it was going to do it.

I followed the dirt road and though it seemed to narrow beyond every curve ahead, and though it dipped and climbed and climbed again, made a sweeping gesture of open view, and then descended erratically to the east, with a final spew of loose gravel it did deliver me on Route 102 and the highway to Stockbridge. At West Stockbridge, however, I turned north to the straggling town called Richmond Furnace and stopped in at a garage to ask the familiar question.

The answer was, “Go back half a mile, turn left past a couple of houses, and you’ll see the road to the furnace going in on the right, through some bushes. You can’t miss it.”

I did as told up to the fatal last phrase: turning left, passing the two houses, seeing no sign of a road to the right, going over a bridge, realizing that I was on someone’s private drive, and landing in the rear of a modern brick house. The house was on a rise of land, which gave it a view of the rolling fields and bits of woodland surrounding it.

The driveway arrived at a convenient brick platform, and when I stepped onto it I noticed that it was paved with the familiar yellow brick used for lining furnaces. As I started toward the back door a gentleman emerged from it to whom I explained my search. He was very cordial, with the accent and loquacity of an Italian.

“Da furnace? Sure, me I own it! You see my house here? I get all da brick for my house from it. You see da walk you standing on? Da yellow brick come from da furnace too!”

“Is the furnace near here, and can I go see it?” I asked.

“Oh sure, she’s near here. Right. Just da other side da house. Only you can’t go dat way. You drive you car back over da dam, you see da road and you drive you car good all de way to da furnace, see?”

“What dam?” I asked in confusion.

“Da dam you come over just now!”

“I came over a bridge but I didn’t see any dam,” I replied firmly, sure of that much.

“Sure you no see da dam. Da dam she under da bridge. You stop da car, you see da dam. She’s pretty! Den you go see da furnace. She’s big!” Then he suddenly looked at me anxiously. “Say, Lady, you tink I done all right when I take da brick from da furnace to build my house?”

“Why, if you own it I guess you have a right to.” I was unprepared for the question and hesitated to comment on what was an accomplished fact.

“You see, Lady,” he went on. “When I come here to live nobody want da furnace, she no good. Lotta brick, lotta stone. I buy. I work. Pretty soon I build da house, da garage, make everyting nice. I gotta fine home here don’t you say?”

“Yes it’s a lovely home!” I answered sincerely.

“Well now you see, Lady, bymeby after I got da house built people come: ‘where’s da furnace?’ Dey want to know. Me I own it, sure, but what can I tell dese peoples? Part is down dere, de stone, part is up here, da brick and da timbers? No, dat don’t sound good. I don’t say nodding.” He paused, staring at the smoothly mown lawn at his feet, and then looked up at me again. “But whaddaya say, she’s alla time big yet. You go look, Lady.”

Not knowing all the answers, I thanked him and departed, taking his advice to pause on the bridge and look at the dam.

The brook, though a rapid one, was not more than twenty feet across, the bridge hardly more. The dam was a masonry one surprisingly deep. On the downhill side a white ribbon of water fell thirty feet into the miniature ravine at its base. It *was* pretty. From there it rushed off out of sight between overhanging willows and alders.

Beyond the bridge, a field on the left showed a track across it, so I parked the car in the field, got out my pack, and started to explore. The tracks entered a thicket of scrub where they became a descending roadway hard paved with glistening black slag. The road improved but went on and on, and it was a temptation to go back for the car. I stood and pondered the matter looking first in one direction and then the other. At each end the road dwindled to a pinpoint in the distance before any curve cut it from view, but it would already be quite a distance back to the car; the road was too narrow and its objective too unknown. My own two feet would lead to few complications, so I continued trudging down the gradual incline.

Little by little I could hear the brook, and realized that I was getting down to its level. The road finally brought me around the sun-flooded curve at its lower end, and there before me stretched a panorama of all that is left today of the Richmond Iron Company.

The dates of this project are significant: built in 1830, a year that seems to have been a promising one to the industry, for Sharon Valley and Clove Spring furnaces were built the same year. It nevertheless antedated all but a very few of the furnaces built in New England, and of these it was longer in operation than any except Canaan #3, which closed in 1923, the same year as did Richmond.

The sixties seem to have been a highly competitive decade and one of adaptation to new methods, for only one, Macedonia, closed during those years, while four – Lime Rock, Sharon Valley, Maltby, and Richmond – were being enlarged and modernized. Though in '64 the latter changed from water power to steam and was enlarged by a foot in height, it did not go all the way in changing from cold blast to hot, but adopted a conservative warm blast process. This represented the first step in the evolution toward hot blast: the air that was being pumped by the blowing tubes was forced by them through pipes that were exposed to the heat of the burning gases from the furnace top, bringing the air temperature from that of the outdoor air at the intake, to nine hundred degrees or slightly over when thus “baked” for a hot blast. The warm blast, however, did not do so thorough a job and in this case the blast was heated to two hundred fifty degrees. As many types of casting, particularly cannon, were thought to require a cold blast, some installations were provided with dampers that permitted the use of either method at will. Of course, the hotter the blast the faster the ore melted and the greater in volume was the resulting output of the plant. But the old cold blast method produced a tougher metal, although one not as hard and brittle.

The change to steam was particularly welcome where water power was limited or subject to seasonal fluctuation, for the steam also was produced by heat from the burning gases, and was employed in running the blowing cylinders or tubes. Thus the old combination of stream, waterwheel, and bellows, which had been in use since the middle ages and probably far earlier, was generally abandoned during the sixties. With the advent of the increased and heated blast, the advent of the Bessemer process was only twenty years ahead.

Richmond Furnace stood before me in the sun, with stepped and bastioned retaining walls behind it, which had held the loading platform, the sheds, and probably engines, oven and machinery. It stood on a leveled area of several acres that had been created by digging away a side of the small hill on whose crest now stood the house of the present owner. In the distance at the right the hillside curved down to a shallow valley and stretches of woodland. To the immediate right of the retaining wall, the roadway led off to distant houses that looked as if they had belonged to iron workers or

superintendent. To the left of the furnace the level field soon gave way to woods that were not scrub growth but probably had been standing during many years of the furnace's activity. At my feet the almost ditch-like stream passed noisily, and a plank bridge crossed it. Beyond the bridge and along the stream banks were piles and piles of slag, enough to fill many freight trains.

Characteristic of its comparatively early date, the furnace was squat and had only a slight batter. The arch facing me on the side away from the retaining wall was broad and low: pointed at the top and curved at the sides, almost pear-shaped. The curve of the arch did not reach the ground, but rested on stone benches of considerable size and undiscerned purpose.

After this preliminary study of the view before me, I hitched up my straw pack and started forward again. In crossing the bridge I glanced down at the water ten feet or less below. There, just as they has been dumped down the bank sat three salamanders, each as large as two bushel baskets.

Marching up to the furnace, I deposited my pack on a dislodged stone and peered into the nearest arch. It was a relief to see that in spite of a great pile of debris in the center of the furnace, it would be possible to crawl inside and look at the interior. This was seldom the case, for as a rule the furnaces visited were either too far collapsed to have an inside left, or also were choked entirely with the remains of their own lining.

And this might be a good moment to mention that these old furnaces have two common ways of going to pieces – either from the outside first, or from the inside. When the outside starts to go first, a great crack or fault will run vertically from some weak point in an arch, to the top. Or else the coping will have given way, leaving the top irregular and ruinous as at Riga. Sometimes the cracks will stand for years, as at Clove Valley and Kent, or again they may have brought about the collapse of one whole face, as at Old White's, Macedonia, Bull's Bridge, and others. When the lining of such furnaces is visible it is found to be in excellent condition unless tampered with. The majority of later furnaces, however, look stable on the outside but are more likely to be filled with debris resulting from a lining that has disintegrated from exposure to rain and frost.

One might suppose that these two processes resulted from the comparative ages of the furnaces, but on checking my notes I found that it did not. The explanation is a simple one. In the old cold blast furnace the linings have become glazed over and fused together from the heat in a slow process that produced a lasting glassy surface, whether the material was brick or stone. The linings of the hot blast furnace, on the other hand, had been so changed by the heat that they seemed to have become calcified, and

so to disintegrate more easily when exposed to rain. Furnaces that have exploded have been exposed on the inside to tremendous heat while being subjected throughout to the expanding forces of the explosion. The amount of resulting collapse of course depends upon the strength of outer masonry and its rods, and here the age of the furnace has an influence, because the whole evolution of its exterior design was aimed at improving its ability to meet such a test. The older rubble furnaces were less successful than later ones built with cut stone and a more developed system of tie rods. An example of a later furnace, which outwardly withstood explosion without damage, is Sharparoon, previously described.

It was therefore becoming apparent that even without studying details of layout and structure, the present condition of a furnace and the character taken by its disintegration, reveal much of its history at a glance.

On close examination Richmond Furnace, however, would have appeared to be an exception to those conclusions had I not been lucky enough to talk with its owner. Probably because this had been a warm but not a hot blast furnace, the debris heaped in the center was not the plasterly disintegration of burnt-out brick, it consisted mostly of great chunks and lumps of firebrick in excellent condition, still mortared together. Whatever the method the owner had used to dislodge the firebrick must have been violent and dangerous. Possibly he used dynamite or perhaps even prying at it with crowbars had been enough, but at any rate it was easy to visualize the volcanic showers of stone and brick that had resulted. From close at hand one could see that the arches had been brick faced as at Kent and Lime Rock: the bricks had left their imprint in mortar that still clung to the stone. The stone benches at the base of the arches also explained themselves, for they were the thickness of the brick facing and had served as foundations for it. It was evidently the hard-burned plum-colored and rather small brick from the deep arches that had supplied the owner's house.

Looking up at the throat of the furnace from inside, its history was further revealed. When the change was made from cold to warm blast, some two or three feet of the inner masonry at the top had been removed to allow the insertion of a cast-iron pipe eight inches in diameter on the east side toward the loading platform. Still on the east side but slightly further down and a little to the left the masonry itself had been pierced, this time for a pipe a foot in diameter. In both cases the irregular openings thus made by the roughness and size of the original stones, had been neatly filled in and arched over around the pipes with brick. The entire throat of the stack above the smaller pipe had been finished off in brick, and it was probably at this time that the outer masonry had received an additional fifteen inches of

height. These added stones being considerably set back from the outer faces of the structure, I suspect that they represent the then radical experiment of protecting the charging men at the furnace top from exposure to flames and gases.

As the gases contained nitrogen, carbon dioxide, and a dangerously large proportion of carbon monoxide, they were a hazard on many counts and were therefore drawn off in such flues or tunnels leading into chimneys, at the top of which they were allowed to burn. They made beacons visible for miles around and with the shrieking and groaning of bellows were an unforgettable characteristic of furnace territory. It was about 1842 that it was realized that this wasted flame could be used to generate steam to operate wind tubs, replacing waterwheel and bellows, and that it also could be led into a chamber or oven where the steam-forced air could be heated. It is therefore logical that these pipes and openings, or tunnels, are found in the later or the remodeled furnaces such as Richmond, Sharparoon, Bull's Falls, and Allaire, and that they were on the side toward the loading bridge, for the oven needed a location near the furnace top, and where else was so feasible as under or above the bridge? At Maltby, remains of a brick oven still survive, and at Greenwood in New York, an elaborate and fairly complete bridge and oven combination, are still in evidence, and will be described later.

Richmond shows pipes in the furnace throat, not an integral part of the original construction, but inserted and patched around, revealing the transitional era during which the furnace was adapted to the demands of its day with such success that it stayed in operation until 1923.

The brickwork discussed above had nothing to do with the lining as far as I could tell; it was red brick, not the yellow firebrick used to withstand the high temperatures to which a lining was exposed. Indeed, the face of the enormous uncut rubble forming the stack, projected inwards further than the brick just described, was so rough and irregular that the finished boshes must have been at least thirty inches less in invert diameter, than the stone. But with a beautiful intricacy of plan typical of this period and also of Byzantine and Carolingian construction, the concave surfaces above the arches led down to four projecting piers between them. Upon these had probably rested a cast-iron ring the diameter of the crucible below. The function of the four piers was thus to support the weight of the entire furnace lining above. At New White's in Dover, N.Y., the cast iron resting on similar piers had been square; at Copake, where the iron was hollow and water-cooled, it had been round. It was only the shape of these piers that suggested an inner circle, but

since the iron was now without doubt incorporated with the owner's house, the details were left to guesswork.

And here is another piece of guesswork, this time pertaining to the disputed prevalence of iron used in the casting arch between the crucible and the casting bed. At Riga and Scoville we see the medieval limestone piers supporting crucible and filled in with clay and other masonry. They were the gates through which the molten iron flowed to the casting bed. In most other places we see nothing. The absence is significant, however, for in Kent, Mr. Bull told me that during World War I his uncle had sent the latter's son around to furnaces in the neighborhood to collect scrap iron and that he took out tons. I doubt if the Bull cousin was the only youngster employed in what was such a patriotic enterprise, therefore the absence of a hearth probably is an indication that it was an iron one. The stone ones stand or fall unmolested.

The arches on close inspection presented a structural enigma: I could not at first understand what prevented their falling down. They were corbelled arches of a sort – each stone horizontal and projecting slightly beyond the one beneath it until half the space had been spanned, where it was met at the apex by stones that had approached from the other side. The basic difference between a true and a corbelled arch is that in the former, stone is only subjected to compressive forces and these it has the most strength to withstand, while in the latter the weight of that which is above attempts to bend the piece that supports it like a bracket, and stone has little tensile strength. Therefore a corbelled arch should not permit one stone to project beyond another for more than a sixth of its length and height combined, as a general rule. These arches had been corbelled and perhaps at a later date when the brick facing was added, or possibly at their completion, the lower corners of the stones had been chipped away to form neat pointed arches with smooth faces to receive the brick lining. Moreover, the arches had been laid out with two centers to a side, that is, the curve lower down just above the spring was a segment of a semicircle, while above it flattened into a more nearly horizontal pitch. In this area where the stones are supporting the greatest load, they project one half of their total length and in some cases all that remained after the chipping was a triangular piece resting on its apex, not its base. Within the arch there were stones that seemed to stay in place merely from habit, and yet there was not a crack in the face of the structure.

After going back and forth several times from one arch to another, and staring up in wonder at what looked like stones in a state of perpetual suspension, I noticed a touch of rust color at the apex of an arch. Closer

examination verified the fact that these arches did not altogether depend upon the corbelling for their support but were supported by iron lintels that crossed just at the apex. Thus in actual fact the most primitive of all forms of construction, that of the post and lintel, had been used to support these so-called arches.

This is the only furnace that I know of in which the masonry arches were not expected to do their own honest work of support. It was built at a time when semicircular arches were still in use, as at Bull's Falls, Scoville, and Buena Vista. But with the onslaught of Romanticism the gothic arch grew fashionable architecturally at just the time when ironsmiths were beginning to realize that they needed more height at their casting arches to accommodate a greater number of workers. The gothic arch offered more height for span and had the added advantage of being fashionable, so was quickly adopted for furnaces in the nineteenth century.

The proportion and curve of the Richmond arches, added to the fact that the corbelling is so inefficient, leads me to suspect that these started as semicircular arches entirely of stone, that the upper half of each was raised and reinforced, the stone voussiors were removed and replaced by a brick facing. More guesswork; and I have already said further back that the arch was the one part that could not be altered. But how else to explain what I saw?

There was another unique feature at this furnace, for it had two casting arches. It must have been a very busy place. Perhaps one was used for pig iron and the other for casting in molds. (Chard Powers Smith's history of the Housatonic River, p. 364, says the Richmond Iron Co. made cannon and so much of the iron plating for the navy's monitors that it became known at the Monitor Mine.) At any rate this meant that the casting yards were parallel, not opposite, to the loading wall, and that the two tuyere arches separated them, one facing the loading wall and the other being on the side away from it. As far as I could deduce, each tuyere arch held two tuyeres. They were not in place as at Macedonia -- I did not see them -- but out in the north casting yard sat the straw that broke the camel's back: an enormous salamander that must have filled up most of the crucible. If the ironmaster as a small boy had ever been disgusted and disheartened by the sight of cold porridge, how must he as a man have doubly hated the sight of that salamander slowly cooling and congealing in the crucible -- at length by breaking the inner furnace apart -- extracted and heaved into the casting yard as a monument to defeat. Its weight is beyond belief, its substance iron, and therefore hard. As an inscribed tablet it promises to endure for some time. Its inscription is that of the four tuyeres whose impress in the solid iron shows

why the draft stopped, the fire died, and the iron cooled. Three salamanders had already been heaved in the brook; was this last one, left in the casting yard, one too many?

Another relic, and possibly an even more sinister one, lies among the tall grass of the north casting yard. This is a black puddle eight feet long, which rings with hardness when a stone is tossed upon it, for this is also Man's friend, iron. Now casting yards, as has been said before, held sand in which channels were raked. Down these at carefully regulated intervals the molten iron was allowed to flow. Even so, the men shielded their faces when the crucible was opened and stood back from the cherry tide that was as liquid as paint and which carried with it a surge of heat as it rippled down the narrow sand channels. What unforeseen splash of molten iron carried this incandescent sheet far out into the casting yard with the men scattering in all directions? Did they all get away?

A photograph in Keith and Harte, taken about 1870, shows Richmond Furnace in operation. The masonry now so conspicuous is hidden behind wooden buildings that more than quadruple the total mass of structures in evidence, and doubtless there were many lesser ones outside of the picture. On top of the furnace itself is a building that more than doubles its height. Through the roof of this project the two chimneys that finally gave vent to the fiery gases of combustion below. Over the loading bridge is another shed pierced by a chimney, at the further end of which more sheds disappear into the distance on the upper level now occupied by the present owner's house. On the lower level a large building covers each casting yard, making the general plan T-shaped, while a horse and dumpcart and smaller sheds occupy the foreground. All unroofed space between furnace and onlooker is occupied by what looks like cord wood, but which on closer inspection appears to be pig iron. A submerged gable end on the building over the furnace looks as if its height had at some time been doubled. This building probably held engine and blowing tubs. The loading bridge housed the arriving charge as well as the ovens. The structure on the upper bank looks like an office: it held a small cupola for a bell. The function of the casting sheds is obvious from their position. They were generously louvered to let out steam from the damp sand. The smaller buildings below were probably for weighing and tallying the output. But what a fortune in pig iron the photograph shows lying in the yard!

Local belief holds that the Richmond Furnace stopped in 1925 and that it was "over a hundred years old then." Also that the surrounding land contains five miles of mining tunnels. That this ore was of high quality is evidenced by the glassy blackness of the slag, which is heaped in such

profusion along the brook and which forms a glittering roadbed for the long lane to the highway.

To me it seemed that day as if Richmond's long and successful operation was owing to its location in an open, sunny, and accessible place. The bleached stone of the furnace stood out like silver against the deep blue of the sky while clouds whirled away over the distant rim of hills. All the hot damp and murky breathlessness of summer was being blown out of the picture, and a dry and exhilarating autumn was being announced. It was a cheerful place, encouraging activity. The washed clarity of the sunlight made the day seem endless, and although it was already four o'clock I started out hopefully to find another furnace and to reach a place north of Pittsfield before nightfall.

In this southwestern corner of Massachusetts, Keith and Harte had listed several blast furnaces built during the first half of the nineteenth century. Often their comments upon these were "not visited" or "not located," and because such a compendium of information had been collected by these authors about those in Connecticut and New York, I was eager to uncover further data here. One of these was listed as having been built in 1765 in Lenox, and as having run until 1881. Chard Powers Smith in *The Housatonic*, page 266, in speaking of the mining craze of the early part of the century, refers to furnaces as, "one or more each in Great Barrington, Stockbridge, West Stockbridge, Lenox, Richmond, and Lanesboro . . ." and mentions three mines in West Stockbridge, two in Lenox, six in Richmond, and two in Lanesboro. This looked like promising territory.

The road map showed a dirt road going straight over from Richmond to Lenox and it would have saved miles, but being impatient of slow travel at this hour in the afternoon, I hurried south to Route 183, passing through West Stockbridge. This village has a character altogether different from the somnolent hauteur of Stockbridge. Today it is an unimportant, somewhat down-at-heel little town, busy with small everyday activities. But its crossroads were once the main highways of its district: that going north and south is now Route 41, that east and west is Route 20 from Springfield, and it passed through South Lee, Stockbridge, West Stockbridge, and went on to Albany, the jumping-off place for the unknown Northwest. In New York State the old route, no longer used, can still be traced through Flatbrook, Chatham, Malden Bridge, and Nassau. There is something in the way the buildings cluster about the four corners at West Stockbridge that still suggests the commotion and importance of a post town in the days when highways were rare and the country between them all but impenetrable.

Turning north again to Lenox I was surrounded by the Berkshires, those great surging hills that have loaned their beauty and even their name to serve as the stage set to the exotic social era of the tally-ho, the Tweed Ring, and the European culture of the Edwardian novelist. In the enormous summer inns at Great Barrington, Stockbridge, and Lenox, the vestiges of the glamour cling like tinsel to a faded Christmas tree. But age shall not wither nor custom stale, the beauty of the hills, and to them has now come a new romance -- that of music -- they again lend grandeur to Man's art as the hungry-eared from the whole nation swarm to the Berkshire Festival.

Lenox, as befits an old country seat, displays stately buildings along the highway that uncompromisingly climbs a hill and disappears northwards. Wide lawns, white houses, somber purple beech and Norway spruces, seem to hold the row of shops at bay. From the hilltop at the head of the street a handsome meetinghouse, ample but empty, looks down upon groups of underdressed young people with the same disdain that it held for their great-great-great grandmothers. With that combination of the substantial and the intricate that characterizes architecture of the late eighteenth century, the old courthouse seems to invest the dignity of law with a lace frill, a pinch of snuff, and perhaps the roll of a drum. This building is now used as a library, and to it I directed my steps because of all people in the world, librarians are the most generous and usually the most well-informed guardians of local history.

These ladies were no exception, and they hunted in closets intended for the many caped surtouts of their ancestors, producing packets of old newspaper clippings that told about the iron industry in Lenox. The clippings gave an account of the mine that honeycombed the town in days when the promise of iron knew no rebuttal. On the surface, it was a tranquil town, but underground the shafts had burrowed everywhere under the highway, under lawns, under houses. One morning, at one of the houses a maid was sent out as usual to fetch a bucket of water from the well. She lowered the bucket down further and further but there was no splash nor slackening of the rope to tell her that the bucket had reached the water. The rope was all played out; where had it gone? She peeked over the well curb, mystified. While she stared into the shadows at the bottom of the well, she saw a glimmer of light down there, not a reflection, for it was a yellow glowing lantern moving across the darkness. And horror of all horrors, it was carried by a man walking dryshod across the bottom of the well! The girl ran shrieking into the house and probably her mind was never the same again.

Hardly sooner, apparently, had the town been thoroughly and quite literally undermined, than enthusiasm faded and the mines were finally abandoned. But no one had kept any records or maps of where the old shafts had been cut, and their whereabouts were soon forgotten. Then in the days of a succeeding generation a very dignified white house by the wayside started to settle. While the neighbors looked on with an anxious glance over their shoulders at their own houses, it kept on sinking with the slow dignity of a coffin, until the lawn came up around the second-story windows.

Today there are still vacant lots in commercially valuable sites along the main street, where efforts to erect any building have finally though unwillingly been abandoned. Real estate agents have been heard to mutter in their sleep, "If only I had a map!"

The newspaper clippings contained a photograph of the furnace, though it was not at Lenox but in Lenoxdale, a few miles southeast, where the Housatonic bypasses the larger town. Memorizing bridges and other landmarks shown in the picture, I thanked the librarian, took a lingering look at the cornices and columns of the courthouse interior, and started out for Lenoxdale.

This is the gravelly rolling country where white pine thrives; every uncultivated stretch was a pine wood, and the road to Lenoxdale frequently seemed to cut a swath through the tall trunks. This road lay straight north and south and on the map could be seen passing the western outskirts of Pittsfield, where it seemed to continue to Adams as the modern Route 8. It appeared to have been a predecessor to Route 7 from Lenox to Pittsfield. This would suggest that it was laid out prior to the 1760s when Pittsfield first started to become an important stopping place. Certainly the farms, stone walls, and trees had an appearance of weathered antiquity. With an abrupt descent and a swerve leftward the road brought me to the river, the bridge, and to Lenoxdale.

It was obvious as I looked down upon the village, that Lenoxdale would never have existed without the river and the bridge. The bridge, or perhaps an earlier ford, had brought the old highway, which was there long before the village. The river had brought water power and a wise location for the furnace, built in 1765. Around the furnace the village had grown with subsidiary activities: the foundry, the blacksmith's shop, inn, church, graveyard, and a cluster of workers' houses.

All this, however, was apparent only from the lay of the land and the nature of the old highway that I had come over. The village, as one looks down at it today, is a late nineteenth-century mill town, mostly of dingy brick. But the roads and unoccupied lots have not changed their location,

they still crowd down around the bridge, and the bridge crosses at what in the old days would have been one feasible point in the river for many a mile. In addition to the Victorian mills, the further side of the streambank has been gouged out and taken over by the sorting, sifting, piling, and loading of gravel -- a huge enterprise of its sort, and very active. A railroad follows the river also, making a further congestion of bridges and crossings in the little hollow, rightly called a dale. A dam spans the river just above the bridge but it looked too new to have belonged to an eighteenth-century furnace. I crossed the river and drove down to the gravel quarry to get a better look upstream. The morning showers must here have been more recent, for sheets of puddles still lay reflecting the delphinium-colored sky. In one, a flock of Connecticut warblers were taking baths, their yellow bodies splashing in the blue water. Again they seemed entirely unabashed at my presence and it was to be deplored that I had no color film in my camera.

I could see more of the river from this point, and became convinced that below the bridge, the river banks showed differences of grade not explained by present structures -- that part of the stream had an old look to it. I drove to the mill below the bridge and looked about. The buildings had been added to and revised, and were of all ages. At the lower end the stream was narrow, choked with stray stones, and a sluice emptied into it. This could have been a furnace site but there was no proof that it had been. At the mill I was directed to a man at the garage back across the river. This gentleman turned out to be affable and informed, and from where we stood, looking back at the bridge, the dam, and the mill, he was able to point out where each unit of the furnace had been. A ruinous blacksmith shop now marks the site. It is in a pie-shaped corner of land between a road and the river, just opposite the mill, which I believe he said was at one time a foundry connected with the furnace. The furnace itself, he said, had been demolished soon after its closing in the '80s, and the blacksmith shop set up. I imagine, however, that a clever smith could have used much of the setup for his own trade: certainly an old bellows and water wheel would have provided a blacksmith's dream. At my right stood a small brick building conspicuously placed in the corner between two roads that approached the bridge. It was now used as a chapel. This, he said, had been the company office. It would have conveniently overlooked the ironworks. My new friend knew a lady who has a photograph of the furnace and offered to direct me to her, but I could not linger. It was after five by then and I was anxious to get to Lanesboro in time to find a cabin for the night. I thanked him and turned north again to Route 7.

Pittsfield, as usual, was a madhouse of traffic, made more so by a new rotary installation that throws all through travelers irretrievably out of their lane. After dutifully going around the circle twice, I played dumb, got blandly in everyone's way to a chorus of squealing brakes, and was off once more on my northward journey.

One emerges abruptly from this dreary, mediocre city, to the lovely open country that flanks the Greylock Range. I was headed for Lanesboro, where some cabins had been recommended as especially fine. Pittsfield is lucky; in spite of its avowed preference for the nondescript and the undistinguished, it almost overlaps two lakes, Onota and Pontoosuc. Route 7 runs along the shore of the latter and in doing so becomes a miniature beach resort where strollers in bathing suits cross the highway unpredictably and at their leisure, munching frankfurters and calling to the children and dogs that trail after them. But it is only the shore toward the city that is thus overrun. The lake is about four miles in circumference, and is complete with islands, wooded shores, summer cottages, and a backdrop of mountains, offering considerable recreational facility for a city to possess free of charge.

Slightly beyond the lake I found the cabins that had been so highly recommended. They stood in a straight row about fifty feet back from the main highway. They were shiny and new, clean and efficient, but they looked hot and noisy. I therefore learned with relief that they were all full. Great are the powers of advertisement. In the back of my mind was the memory of cabins where I had spent a night twenty years before. I found the side road discovered so long ago, drove up a hill, and there they were, greatly multiplied and refurbished. In fact from humble beginnings they had become stylish. But the good German couple who are the present owners gave me a kind welcome and the same cabin I had occupied before. The wife even ironed for me two of the blue shirts that had been washed in the river at West Cornwall the previous evening.

These people had turned a hayfield into a lawn, and it stretched in a broad sweep down to the lake. They had wisely kept the cabins in a descending row each side of the lawn, and to their main building at the entrance, had added a dining room. The place was away from the main highway but convenient to it, and had the great advantage of being airy, spacious, and quiet.

While she was ironing my shirts the proprietress told me that for some time it had been hard for them to make the improvements they had wanted because their relatives in Germany so desperately needed all the food and clothes they could send. She said that the hardest part about leaving Germany had been not knowing what was happening to the people left

behind. But she added that perhaps it was worse, when they found out. It was sunset, and through the screen door I could watch her husband take down the American flag that had been flying from a tall pole in the front lawn.

When I went outside toward my cabin, the sweep of view made me pause. The skyline made a complete circle of distant mountains, and their color varied according to whether they were silhouetted against the sunset or were facing it. To the west, clouds behind the mountains were still radiant, while against them, the mountains had deepened to inky blues and purples. Toward the south the lake and its islands were brilliant blue while the hills beyond faded into a pale sapphire. Toward the east the closer Greylock foothills loomed up in all the majesty of emerald-colored velvet, shot with streamers of mist tinted pinkish by the sky opposite, while behind them the evening sky of the east receded in foggy depths of wine color.

A high wind had come up that promised a cool evening, but I had been too saturated with heat during the past week to forgo a swim in the lake. It was already dusk when I went down the lane to the lake, and full dark under the trees that overhung the lapping water. I swam for about an hour, loath to turn in. Distance lent enchantment to the voices of young people whizzing about with an outboard motor and singing love songs at the top of their lungs. Two or three quiet and patient fishermen sat in anchored rowboats along the shore, smoking pipes and vainly fending off gnats. Cottage lights blinked behind wind-tossed branches on the far shore. At last in a mood for sleep, I climbed the hill again and got to bed, feeling the hilltop wind to be a luxury after the nights where valleys had sealed in the misty heat.

Sleep escaped me, however. The luxurious chilliness turned to real cold. Soon I arose and closed the door and windows without success; it was a long cold night with the wind roaring outside. At dawn I was still cold and awake, glad to get up and dress, and eager for a cup of hot coffee, which I soon made over my Sterno. Breakfast was not to be served until eight, but I wrote letters and packed and drove up to the main building where by my looking hungry, a steaming platter of bacon and eggs, fresh rolls, and a pot of coffee were encouraged to appear a little early.

It was another sparkling day, with excitement in every gust of wind, and luckily so, for there were three more furnace sites to find, and a hundred and fifty miles to go before reaching home that night. I had an unbreakable rendezvous in Boston the next morning, for somewhere out over the Atlantic a great plane was already in the air bringing home a daughter who had been two years in Africa.

As soon as I returned to the main highway, being already within the outskirts of Lanesboro, I started looking about for a house containing residents who were old-timers. Apparently people who work in Pittsfield like commuting the short distance to Lanesboro, for new little shoebox houses stood like interpolated exclamation points, among the old ones. Most of the old ones had been “fixed up” and “done over” in a futile effort to make them resemble the new ones.

But at length I spotted a promising place on a high bank above the road. It was an eighteenth-century farmhouse and no new paint had touched it since a small porch was added to the front door in Victoria’s day. A washed and rutted drive heaved one directly into the rear yard, where abandoned hen coops and pig sties linked the rambling ells of the house to an enormous but lopsided barn. The barnyard, opposite the back door, was richly endowed with piles of manure and stable bedding, while beyond it a paddock held ponies, and a pasture stretched off over a hill. The ponies offered a slightly inconsistent and suspicious element, but perhaps the farmer was looking after them for someone else.

At the back door I received a greeting with no welcome in it from a young woman who was setting out breakfast for two on a big table in the kitchen. Without listening to my questions she had me come in and wait for her father-in-law to return from the barn. She was a discontented girl, too exotic for her surroundings. There was a flash of resentment in her eye and her clothes were an echo of Vogue’s last winter’s notes on what was worn in the Caribbean. Piles of harness lay in a corner and a kitchen stove blocked a cooking fireplace. The whole interior was painted the color of old-fashioned glue.

My hostess was diddling with her hair at the mirror over the kitchen sink and by means of the reflection, looking me over carefully. I commented upon the fine proportions of the house and upon its age. She started apologizing for it: they hadn’t been there long; they were going to fix it up. They had bought it for the barn. They raised the ponies to sell and to give rides to children but it hadn’t been a good season, and her husband worked daytimes in Pittsfield. His father helped out with the work but wasn’t much used to a farm; besides, he was lame. Abruptly she whirled around and faced me: “What’s that you were asking about furnaces? We got a furnace last year; we wouldn’t be interested.”

During the pause while I was gulping down her remark, the father-in-law deposited two buckets on the back porch and came slowly into the room, stiff and lame, ignoring my presence. I stood up to go but lingered long enough to make it clear that I was not selling heaters. I tried to explain in

one sentence what a blast furnace is, and asked him if he had heard of any in the neighborhood. He shook his head several times in negation and slumped down into a chair at the table. "No, no I haven't. That's sure, but then I wouldn't anyhow." He mumbled as he started to stir his coffee.

The young woman came to the door with me and wished me luck in my search. Since I was not trying to sell her anything she was no longer on the defensive.

Whatever center Lanesboro may claim lay a short distance north on Route 7. Looking about, it seemed to consist of a church, school, general store (very general, a real old-timer), and a new brick town hall that had neatly packaged the whole town's government. The main entrance showed small signs saying "Town Offices" and "Police Station," while the basement held garages for the fire station and road equipment.

But as a town, Lanesboro was no cluster of houses, for its farms were spread about over the countryside in all directions.

As a source of information I chose the general store, and after waiting for a customer to be served while I marveled at the range of goods, I was at length told that there had been a furnace but that the new town hall had been put right spang on where it used to stand. This seemed pretty final, but I drove down around the fire station and parked the car next to the road scraper and climbed out to look around. After all, I had only asked two people so far.

The rear of the building stood on a rounding bank about fifteen feet high. A brook ran along at its base, and beyond it there was a wide stretch of meadows and hay fields. As a site for a blast furnace the scene presented a noncommittal aspect. Walking along the bank beside the building foundation, I came to an old stone platform. This was of the right size and composition to have been the base of an early blast furnace. I poked in the weeds to see if I could find slag or firebrick, but there was no further evidence.

I thought that someone in the building might know what had been observed during construction, but there was no one about. All phases of the town's government seemed to be having a recess.

It was time to have oil, water, and tires checked, and take the back road over the mountain to Cheshire. At the filling station it was automatic to ask once more about the furnace. The attendant told me to go around behind the roadside restaurant in the next lot and ask the man I would find painting there. I followed his instructions, and sure enough, a recent addition to the kitchen was being painted by a man on a scaffolding. When he spoke to me

it was apparent that he was a Yankee and was accustomed to being consulted by the neighborhood's newcomers, about things concerning the town.

He was definite in saying that the furnace had stood where the Town Hall now is. He must have been right, but somehow the site did not carry conviction, and I still felt as if a furnace, intact, lurked in a rugged glen somewhere near.

The Greylock Range lies between Pittsfield and North Adams in the oblong bounded by Routes 7 and 8. It is shaped somewhat like a right shoe with the toe ending about at Lanesboro, and climbs with various peaks toward the highest one at the north, which is Mt. Greylock itself. The northern end of this mass descends steeply to the valley of the Hoosic River, which here runs west, eventually finding its way to the Hudson. At a bend in the river below Greylock lies a meadow, which is the site of Fort Massachusetts. This fort was in its day the northwestern outpost of the colonies and the only protection of neighboring settlements from French and Indian marauders. It was so vital and so exposed that it was maintained and manned by all the northern colonies, especially by Connecticut and Massachusetts. As in so many isolated outposts, however, pleas for reinforcements sounded but faintly in the ears of distant governments, and the fort was eventually the scene of a pathetically avertable massacre.

It was because of the presence of this fort and the necessity for patrolling regions further north toward Lake Champlain that so many of the oldest highways from the south and east focused upon the fort and the valley between North Adams and Williamstown. Routes 7 and 8, 116 and 2, are examples, and hence the road up from Lenoxdale also. Of the two north and south routes, 8 seems to have been the elder, though the oldest of all, avoiding either valley, followed the Greylock crests and clambered straight down the northern escarpment, to hit Fort Massachusetts without delay. I have heard that this old road has recently been reopened and is now a "scenic drive" and a favorite with hikers and skiers.

The road over the toe of the boot (and down along the instep), which I was to take today, was an ancient shortcut between Lanesboro and the Hoosic Valley. It is still locally popular for this purpose but it is an unimportant looking gravel road that climbs up around the Lanesboro meetinghouse and takes off over a hill. It had to be pointed out to me and I started out with some doubt as to how it would hold out. It carried me circumspectly through a residential district a few blocks in extent and then took off in earnest across the hills. The farms soon began to look dry, bleak, and gravelly, trees combed into streamers by the wind, farmhouses weathered and despondent. Living was certainly being wrung from the soil.

On the eastern slopes there was a more prosperous look: the farms faced toward the coast and the rain. Further down, brooks and swamps appeared. Finally I came to a rougher entering road with a faded sign that said Cheshire, and turned north along it. It was a road designed for hay wagons, with level stretches, steep pitches, and thank-you-ma'ams, which it still retained. As it approached Route 8 there were fine glimpses of the Hoosic mountains forming the eastern wall of this valley, and of a stretch of blue water below, Cheshire Reservoir.

Cheshire must be a fairly old town because it was built on the road to Fort Massachusetts and was located on a defensible hill. That it was a town devoted to travelers in stagecoach and carryall days is indicated by its wide main street with inns and summer hotels of various ages. That it is enjoying a renaissance of such catering is shown by signs pointing to ski trails and winter accommodations, as well as the ubiquitous roadside restaurant, filling station, and repair shop. At the latter I stopped and asked a mechanic whether he knew where the old ironworks had been. He passed my question to another, who at once showed interest. He had me drive around to the rear and pointed out a shop where his father worked as a painter and carpenter. The father had stepped down the road a minute to see about somebody's screen door but would return immediately, and would know about any thing old in the town.

I waited for a long time while the mechanic wondered what could be keeping his father, but finally he showed up. The old gentleman blinked at me in a kindly way and listened carefully. He then straightened, and taking a deep breath, said, "Well now I tell you – what you want to do is to go over and see Mr. Spencer. Yes, he's the man you should see. His house is full of historical things, and he knows more about this town than anybody else. Now it's only a mile away and I'll tell you just how to get there." Which he proceeded to do in the most fatherly manner.

It turned out that Mr. Spencer's house was a comfortable looking one, perhaps eighty years old, deeply shaded by lawn trees. A piazza led to a side door, the one obviously in use, for two bottles of milk and a newspaper still waited by the door mat. I therefore knocked without much hope of an answer, but a man's voice soon called out, "Wait a minute. I'm coming!" So I waited with milk and newspaper in my hands.

Mr. Spencer was a courtly and charming man, living alone in a house that had long been occupied by his family. Their well-worn goods and chattels were all around him. He looked pale and weak and he had only one leg. He was patient and slow in getting about and managing his crutches. He

apologized for the disorder: miscellaneous objects had accumulated within reach of his armchair.

He led me into a little parlor and showed me carefully, one by one, books, letters, faded photographs and watercolors, and finally a cane made of glass. These were all things that had to do with the great events or vanished scenes of the neighborhood. There had been a glassworks here of distinction and the cane was a souvenir product of it, a beautiful piece of glass it was, too, lead white and perfectly clear except for a decorative spiral of bubbles running down it. It had belonged to his grandfather and looked as if made for a Regency dandy.

The furnace, he said, had stood on a high bank overlooking the river not far from his house. A housing development was being built where it had stood, but I might be able to locate some traces of it. The ironworks had covered the whole hillside in his father's day, and the railroad had brought ore and taken away the iron. He took great pains to impress it upon me that the road to it was just beyond the track and didn't look like much. He refrained from telling me that I couldn't miss it. The interview had taken an hour, but how could one hurry it? He had been so very gracious.

Climbing the road beyond the tracks, I was confronted by a row of three very new and uncompromising "Cape Cod" houses. They stood, however, on a platform of filled land that would have been out of scale in cost, with so modest a development. Seeing a child at play I drove into the back yard and found her mother. For once, there was immediate acknowledgment of the furnace's previous existence there. Her husband and his two friends who had built houses there had had an awful time trying to get anything to grow because the level land was nothing but solid charcoal. I looked at the slope on the far side of the road and the one below, and judging that the fill might be fifteen feet deep at the edge, I wondered what would eventually happen to houses built on such a base; plenty of drainage for the time, anyhow. And in fact, I soon found that her cellar was as dry as a parlor, for she accommodatingly took me down to look for a piece of iron that her husband had found when digging a trench for garage foundations. She described it as a rod with a plate at the end, a sort of branding iron that they used for printing the company's name on the pig iron while it was warm. It had said Cheshire Iron Co. She was never able to find it, though she searched assiduously.

I climbed a way down the bank, hunting for any further signs of the furnace. Heaps of heavy uncut stone were strewn here and there and at one side a slight ravine showed traces of foundations and a road, but there was nothing definitive. The road on which the houses stood turned into a single

track and led into the woods up Woodchuck Hill, apparently to infinity, for I followed it half the way myself, hoping to see a mine. In a field overlooking the newer houses sat a gingerbread house with the steep-pitched Gothic revival gables, which in Vermont are called “lightn’ splitters.” Pear trees and Norway spruces around it asserted that the planting was also of the period. If this was the ironmaster’s house overlooking the works, he must have been a man of self-importance, probably with a romantically inclined wife.

Harte and Keith record that this ironworks began in 1848 and had fourteen stone charcoal kilns. It seems very strange that so little should be left of them in an area that is still not much built over, but at least I had found charcoal witnessing their existence. The mountains must have grown very bare in those days from the rapacity of so many kilns.

It was now more than time to be on the way to Boston, and I could have gone down to Dalton and taken the much-used Route 9, but because it looked nearer and more direct I outsmarted myself by taking Route 116. This is a road that hasn’t had the kinks taken out of it since the last Indian walked around a tree trunk. On the map it is shown in a broad black line as heavy as that going from Pittsfield to North Adams, but in actual fact it is barely, just barely, wide enough for two cars to pass, and it winds up through the Hoosac Mountains like a gimlet, straightening out at the crest of the divide near Plainfield. Just west of here there is a pond on each side of the road not far from each other. From one the waters run north, from the other, south, while at the next town, in Ashfield, the river runs directly east.

Plainfield itself, however, was a worthwhile discovery. One comes upon it from the west, after a tiresome and seemingly endless climb. The town apparently came into existence because the road levels slightly and for a short distance, just enough for a few houses to cling to the slopes around it. Or perhaps weary horses paused here of their own accord. The crossroads that would have been a more likely place for a settlement is at the top of the hill above. Whatever its origins, the town as seen from the road holds not more than a dozen houses, and of these, meetinghouse, town hall, inn, and general store, face each other in the center. They appear to have been built about 1830, and all but the inn are painted white. They were built without flourish or ornament simply to fulfill their function. These buildings were felt to be necessary: meetinghouse, town hall, inn, and general store. One looks up at them as one climbs the hill. The meetinghouse and the town hall, small as they are, bleak and without ingratiating, stand out against the sky with unadulterated significance. Plainfield is a self-sufficient place, tiny, enduring stubbornly. The traveler comes to it from either side after a long climb and faces a long descent.

This descent now commenced, with the road again twisting and turning. Shortly below Plainfield, however, I came to a road marked Route 9 and took it gladly in hope of reaching a highway. The names of the towns sounded unfamiliar: Cummington, Swift River, Lithia. The latter was a comely place with rows of old houses along a turnpike. The eighteenth century inn was still offering hospitality, and I ate a belated lunch in the old front parlor. From this point on the highway grew broader and straighter, and with only two more towns to pass through, I was in Northampton. The Connecticut River always seems like a halfway mark, although in this case it was hardly a third of the distance to go. From Northampton up to Amherst and down around Quabbin Reservoir, I followed Route 9 to Ware, where the whole town was paralyzed for an hour by the passing of an endless military convoy. I was lucky to be turning north shortly after on a side road to Gilbertville and Hardwick.

It was now late in the afternoon, and I was searching out the town of Old Furnace deviously by unmarked back roads. Oak trees and juniper made the country look more like eastern Massachusetts again, but it was remote and rural country. At each crossroads I had to pause and peer at faded signs or study the map.

At length I reached a town built where five roads met. My first impression of the place was that the houses were all of the same age and belonged to a pre-Victorian era. The main street formed the base of a Y, but at the base of the triangle it was confronted by a nondescript lunch room with a gasoline pump outside. By this time I wasn't even sure where I was, so I asked some young people who appeared at the door licking ice cream cones if this were Old Furnace. One of them replied, "Yuh, this is Furnace, sure." He wasn't going to have anything around his town called old, although road maps show it both ways. I then ventured to ask him if he knew anything of the whereabouts of a blast furnace in the town.

"A what?" he asked incredulously.

"A place where they used to make iron," I answered. I would not become involved with Lecture 1 with this chap.

"You're thinkin' of some other place, lady. There's nothing like that around here." By this time the pump attendant had come out to see what was wanted, and the conversation was repeated with him, almost verbatim. I then asked him to direct me to some old person who had lived here all his life. It took him some time to think of anyone but finally he gave me the foreign name of an old gentleman who lived up the hill behind the brook.

I drove over a small bridge where the brook behind the gas pump passed under the concrete highway, and turned in at the left to park on a

convenient lane. I was looking about intently all the time, for the small stream, called Moose Brook, was just the right size to run a furnace, and the triangle of land between the brook and the V formed by joining roads was in a tumbled-down, built-over condition that suggested a past put to another use. It was a hilly town, the slopes, like the roads, all converging toward this small triangle.

The old gentleman's house was the uppermost of a group of three or four built along a cindery driveway that climbed the hill beyond the brook. These houses were set apart on their own lane and probably were not older than 1830. Granite posts marked off the corners of front yards filled with myrtle, and there were barns just large enough for one horse and a buggy. On the left, a gravel road ascended beside the lane from the brook and climbed the hill above. The house where I was going was a more substantial and older one than those below. Its front door led to the road above, and an ell in the rear terminated the lane and had a door at a slightly lower level. To the right, it shambled down the slope in a sequence of sheds and barns. The whole comfortable group was painted a soft pumpkin yellow.

Through the screen door ahead of me the light from western windows silhouetted a woman who was setting an early supper on a kitchen table. An old gentleman, seen in profile, was drawing up his chair and savoring the fresh biscuit set before him. He needn't have leaned over to sniff them, for their fragrance hastened me greedily to the door.

I knocked at the door, explained my errand, and was ushered in to the old gentleman, to whom I explained all over again. He listened with great care, but as if I were describing life on another planet.

When I was done, he said, "You're right, Miss. I guess I'm the oldest man in town now. I'll be eighty come fall, and sixty of them years I've lived in this town. I guess I know all about it. But there was never here anything like what you tell about. No, there was never any such thing at all." He was absolutely final.

"Well, when I came over the bridge I noticed a building on the right that looked as if it had been a little town hall, or an office or something. What was that for?"

"That, oh that was a mill, Lady. I know, because I worked there."

"Wasn't it something else before?"

"No, it was always a mill since I was here. The Scouts use it now. A grist mill, it was."

He had finished the biscuit, and a dish of blackberries and cream was set before him. A sense of angry frustration was stealing over me so I fired my parting shot. "How do you suppose the town got its name?"

“Oh, I dunno. I dunno. Always had it, I guess!” This was said tolerantly and with an air of philosophy. He had answered many a grandchild’s questions in the same kindly tone.

But the interview had given novelty to his repetitious days and the three of us parted cordially. Woman. Aged man, compendium of his days’ knowledge. And disoriented traveler.

It was late, late, in the day, and I must answer the riddle myself. I left hastily, and stumbled in the drive. Looking down, I saw a lump of gleaming stuff and picked it up. It was slag!

Have you ever noticed that going up a hill, you see only your shoestrings, but going down, you see the view? I looked ahead to where the car was parked. It was on the only level stretch in this little vale. This bounded the brook, and across from it the miscellany of structure behind the lunch room ended in a great weed-grown pile of what from a distance looked like more slag. On the right, another bridge, much older, led the gravel road to the highway below. But just beyond this bridge and between road and brook, which disappeared behind it, was a beautiful old building that could only have been a tavern. The gravel road, not shown on the map, was originally the main highway, for no such building would have been built as much as ten feet up any side road, although now it was practically on a private drive. Tumbled granite blocks interrupted the brook: these were the materials of a dam, perhaps disturbed by the new concrete highway and its culvert-bridge. Across this highway from the mill, which I was now more than ever certain had not been such originally, were the edgewise granite foundations of a massive Victorian structure. Granite blocks set on edge were only used, so far as I know, in the first half of the nineteenth century. As the so-called mill did not look later than about 1820, it appeared that this and the buildings opposite had formed a related group adjacent to the row of houses and the level area by the brook. This unit, and the triangle between roads on the opposite side of the brook, had formed the core of the town around which roads and residences still centered, the roads more or less radiating from this point.

Convinced that a blast furnace had stood on the banks of the brook somewhere within this focal area, I moved the car and parked it before the inn where a small girl was playing hopscotch in the road. The inn consisted of a main block and an ell, both parallel to the road, and though the main building had a handsome front door, it was obvious that the one most in use led to the ell kitchen. I knocked here and waited patiently, but no one came and finally the little girl ran up and said they were all away.

While waiting at the door I had a closer view of the ell. As is so often the case, it was much older than the main house. The door was not, as one usually finds them, close in the angle next to the main house, but had a window each side of it. These filled me with great eagerness to examine the interior of the house, for they were of an extremely early and rare type. Though they had square lights of the original six by eight standard size, and a middle bar across, they were not double hung. The lights were set into an immovable single frame, and the glass, through some miracle of survival, was extremely old. Such a sash represents the first transition from the leaded casement, and in a town on the coast where new methods were sooner adopted, would have dated the window as somewhere between 1725 and 1740. Narrow graded clapboards and primitive horizontal boxed cornice confirmed a similar date for the entire ell. However, like the main part of the building, the majority of houses in the village belonged to the second half of the eighteenth century.

It was no use to wait longer, so I explained to the girl that I wanted to look at the brook, and went around behind the house and down to the lively little stream. The water here was rippling around a small salamander and broken clumps of others. Slag can look either like pumice, cinder, or glass; but the salamander is an easily recognized pudding-like mixture of iron and charcoal. The book was swift enough so that in a feshet, these could have been pushed down from further upstream, and I suspected that this had been the case. The bank opposite was steep, and climbed a hill without pause; no plausible furnace site suggested itself below the older bridge.

I went over to this bridge and stared upstream once more, deciding unwillingly that any conclusions would at best, be only conjecture. All I could say with conviction was that the level area across the stream looked like a casting yard, and that a little digging would probably reveal furnace foundations in the heap of earth adjoining it. Had the furnace been here, the road that came down off the hill could have served directly as loading road, as at Macedonia. And just below the newer bridge upstream, there appeared to be the remains of a dam.

I doubted very much whether the town would have been named Old Furnace without having contained such a thing. If the town was as old as it appeared to be, it must have been named early in the eighteenth century, and therefore the furnace was earlier yet. Certainly nothing but a blast furnace could have produced the slag and salamanders that remained there under the noses of the people who claimed that no furnace had ever existed.

It was already twilight and time to get back to Boston after my week away, but I left with a strong determination to return at the first opportunity.

When I do return it will be by way of county clerk's office and library with the history of the town in one hand and a mattock in the other.

This was an unwilling departure. I felt this town to be my personal discovery, and was eager to stay here until some of the questions it provoked had been answered. But they were not questions to be answered in an afternoon, and there was that plane on its way toward Boston. From our two directions and traveling at different speeds, we were to meet at a certain place and time in the morning.

Taking the shortest way out of the maze of country roads around me, I cut through South Barre to Route 122 and rolled down the long descent to Worcester. The highway entered the city from an unfamiliar angle, but two trained nurses, just off duty and in a hurry to get home, were glad of a ride and got me across the city in record time. The Worcester Pike is Boston's back door and is as familiar as the palm of his hand to every Bostonian who ventures as far west as the next county. I therefore sailed along it with my eyes before me and my mind far in the rear among the hills and thickets where mighty stone keeps tower silently and forgotten. Around me automobiles streaked onward in a river of light and noise, while behind me, in the hills, where there had once been light and noise, the tides of ambition had swerved away, leaving unbroken darkness and quiet.

When I reached Cambridge, and my home, and had unloaded the car, the old straw knapsack and the rolled tent and sleeping bag lying in the front hall, looked out of place, strange, and of another world. At the airport the next morning, I was standing indeed in another age, watching the great silver plane sail in out of the blue sky, touch the earth lightly, and glide forward, bringing its passengers to their appointed meetings. But the gleam of sunlight on aluminum and plate glass, and the leveled expanse before me, meant proportionately less in effort and outlay, than the tumbled rubble of the furnace that stands in solitude on Mt. Riga. Logan Airport had terminated for the time my journey into the past, but the past's heritage still stood waiting in the hills, among ruins that tell of a great enterprise, and among a people whose hands still know the feel of earth and stone, and who still share their bread and their lore, with a stranger.

End

A brief glossary

Ashlar: A squared block of building stone; a thin, dressed rectangle of stone for facing walls.

Bosh: The bottom inward-sloping surface of the furnace cavity; the widest part of the furnace.

Corbel: A bracket of stone, wood, brick, or other building material, projecting from the face of a wall and generally used to support a cornice or arch.

Crucible: The bottom of an ore furnace, in which molten metal collects.

Tuyere: The pipe, nozzle, or other opening through which air is forced into a blast furnace or forge to facilitate combustion.

Voussoir: Any of the wedge-shaped stones that form the curved parts of an arch or vaulted ceiling.

Salamander: A mass of solidified material, largely metallic, left in a blast furnace hearth.