

**An Eighteenth Century  
Journey Through  
Orange County**

by

Hector St. John de Crevecoeur

Translated from *Voyage dans la Haute Pensylvanie et dans l'Etat de New York*, Volume I, Chapters XV,  
XVI and XVII

with an introduction by

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The translation was made possible through the efforts of: Dwight L. Akers of Blooming Grove, student of history who discovered the chapters on Orange County while engaged in research in New York Public Library; Miss Pauline K. Angell, supervisor of the Port Jervis History Project who procured the rare French work from the State Library and translated part of one chapter; Miss Marguerite O'Donnell who transcribed the French.; Miss Elizabeth Westbrook of Washingtonville High School who translated one chapter and Henri Salembier of the staff of the Vaucanson Silk Mill at Port Jervis who did the remainder of the translation.

This reprint has been made by The Times Herald so that the translation of this valuable source material on Orange County history might be available to students of history, libraries and any other persons or institutions interested.



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The four persons whose efforts made possible this publication

## INTRODUCTION

Crevecoeur, the American Farmer

By Dwight L. Akers

Author of Outposts of History in Orange County

In 1764, a young Frenchman, Michel Guillaume Jean de Crevecoeur took up his residence in Orange County. Born of a family of landed estate in Normandy, educated in France and England, he had come out to Canada as a mapmaker attached to the army of Montcalm.

With the end of the French war his military career was over. What should he do with himself now? He had no desire to return home.

Of Crevecoeur's movements for a few years subsequent to the fall of Quebec little is known. His familiarity with widely separated regions of America show that before coming to Orange County, he had travelled extensively. He was of that age when a desire to see the world is in the blood. When he arrived in Orange County, he was still under thirty.

By that time, he had already shown a desire to settle down. He had become a naturalized citizen of the province of New York. How thoroughly he adopted this new country as his own is shown by the abandonment of his French name.

Among his Orange County neighbors he was known as Hector St. John. St. John, as I shall now call him, lived at first, it is believed at the Cromeline house, commonly known as the Greycourt Inn. This famous Orange County hostelry was about two miles north of Chester on the road from New Windsor to Warwick.

In 1769, St. John purchased 120 acres of land adjoining the Inn, married and built himself first a log cabin and then a house. On his little estate, Pine Hill, he began life all over again. No longer the soldier, no longer the bird of passage through the colonies, he took up the career of an American farmer.

St. John, having seen much of the world, seems to have concluded that country living offered more sure satisfaction, greater contentment than any other mode of existence. He therefore entered upon the new life with enthusiasm. He was competent and industrious. He was enterprising. He joined his neighbors in such common projects for agricultural improvement as the draining of the Chester meadows.

Of a scientific turn of mind, he interested himself in experiments, notably in the introduction and cultivation of new forms of plant life.

By no means, however, did St. John abandon the life of the man of culture. In later years, referring to men of his own class who had settled here, he wrote: "To a love of work and agricultural knowledge, they added urbanity, ease of manner and the advantages of varied talents. Often their friends left the city to come and spend some time with these gentlefolk. For a long time their reunions offered the most charming picture of enlightened industry, of soft ease and good will." In these words, beyond a doubt, St. John was describing the setting of his own existence.

The young Frenchman was an appreciative observer of both man and nature. He watched with interest the everyday doings of the folk about him—their farming routines, their domestic economy, their social observances. With no less interest he haunted his woods and fields, noting the habits of birds, snakes and other small creatures or watching the growth of plants and trees. For no reason, probably beyond the pleasure of recording what he had seen—certainly without the assurance of the professional writer—he wrote down his observations in a series of essays.

It was the American Revolution which shattered Hector St. John's dream of building for himself a new Eden on Orange County soil. To his own misfortune, his interest in politics was small. He saw the Revolution as a tragic interruption of the true business of living. As a humane man, he could not approve the relentless severity of man toward man for which it called.

St. John did not actively oppose the Revolution. His non-participation, however—and who knows what unguarded words?—brought him under suspicion, and ultimately accomplished his ruin. Fined and

imprisoned, reduced to poverty, he decided, after his release from jail, to return to his native country. He was permitted by the military authorities to leave Orange County.

He took his writings with him. In England, on the journey home, he offered them for publication. In 1781, a series of his essays appeared under the title *Letters from an American Farmer*.

The *Letters* had an immediate success. Soon translated into several languages, they were widely read on the continent. They are still read. Today, after more than a century and a half, they stand as Orange County's most notable contribution to permanent literature.

In Paris, partly through the notoriety of his books, partly through influential family connection, Hector St. John now with de Crevecoeur restored to his name was thrown into the society of the outstanding men of letters, science and politics. Franklin and Jefferson were his friends. In 1783, he returned to America as Consul of France to the States of New York, Connecticut and New Jersey.

Though no longer a follower of the plow, Crevecoeur, during the years of his consulship, continued to devote himself to the cause of agriculture. His interest now, chiefly, was in the exchange of agricultural information and plant varieties between his native country and America. It was Crevecoeur, it is said, who introduced from France a plant which has since contributed much to the prosperity of American farms—alfalfa.

During his consulship Crevecoeur sold his Orange County farm. In 1790 he returned permanently to France. He continued to write but his subsequent works were in his native tongue. None of them had the popular success of the *Letters* he had written as an Orange County farmer. His most notable work in French, *Voyage dans la Haute Pensylvanie et dans l'Etat de New York*, published in three volumes in Paris in 1801, was not even translated into English.

Crevecoeur's *Voyages* contain three chapters relating to the Hudson river country. They purport to be an account of a journey from New York to New Windsor, then through Orange County—visiting some of the industries and one of its large farms — to the Stirling (Sterling) ironworks and the Drowned Lands. In this book for the first time since the publication of the *Voyages* more than a century and a quarter ago these chapters are presented to Orange County readers in an English translation.

As the report of an actual journey, Crevecoeur's story is open to doubt. Crevecoeur, as a writer knew the value of casting facts into a narrative form. There is evidence in the story itself that his observations were made on more than one occasion. All of them, of course, preceded the year 1790, when Crevecoeur returned to France.

There are also inaccuracies of detail in Crevecoeur's work. These may be described to the fact that the book was written more than a decade after the author left America. He depended no doubt on a sometimes faulty memory or on imperfect notes. Inaccuracies that have been discovered by the editors have been noted along with the text.

The merit of these chapters, however, does not depend on their precise rendering of small details. In place of carefully noted names and dates, they offer pictures of a vanished Orange County—pictures that have depth of focus, that re-create the outward scene as a stage on which a human story is played.

Crevecoeur's story, in my opinion, makes valuable additions to Orange County history. Its publication will also help to reclaim to Orange County one of its noteworthy but neglected citizens—a man whose name is more familiar outside the borders of his adopted county than within it.

Of Crevecoeur, the man, a leading historian has written: "A Lover of peace and good will, a humanitarian concerned only with justice and common well-being, seeking new ways to enlarge the returns of agriculture, devoid of petty ambitions and local prejudice, Hector St. John de Crevecoeur was an embodiment of the generous spirit of French Revolutionary thought, a man whom Jefferson would have liked for a neighbor." (Parrington- *Main Currents in American Thought*)

Of Crevecoeur's place as a writer another critic has said: "Without the self-discipline of his idol, Franklin, without the contact of cities, without literary models, he nevertheless developed unique powers as a writer. Of these the most marked is his mastery of short vivid narratives or descriptions. The episode, the thumb-nail sketch, the scene—who in America in the eighteenth century in depicting these is superior,

in spite of his faults, to Crevecoeur? I believe that various Americans who have written about the frontier, with fame, might be considered inferior in emotional response, in dramatic sense, in persuasive powers, to this American Farmer. (S. T. Williams—*Sketches of Eighteenth Century American Life—More Letters from an American Farmer*.—Yale University Press, 1925.)

In Crevecoeur's story of Orange County, presented herewith, there is a series of such pictures. There is included also, a narrative of the settlement which is entirely new in type and of the utmost dramatic interest.

The translations which follow were made, as a contribution to the history of the County, by Mr. Henri Salembier and Miss Pauline Angell of Port Jervis and by Miss Elizabeth Westbrook of Washingtonville. The portions to be credited to each are indicated in the text. Crevecoeur's annotations of his work are included and additional notes, based on their personal researches, have been supplied by Miss Angell of the Port Jervis History Project and by the author of this introduction.

### **Up the Hudson on a Sloop**

*Observations on New England—The travelers board Captain Dean's sloop—The Palisades—Echoes from the Hudson Highlands—Buttermilk Falls and West Point—(Translation pages 5 through 9 by Miss Angell; pages 10 to 20 by Mr. Salembier).*

"HOW rapidly time passes when it is usefully employed," said Mr. Herman, whom I had the good fortune to meet here on my return from Virginia. "Since I have been on this continent, I have not yet been able to see the Natural Bridge, the passage of the Potomac through the Blue Mountains, that of the Grand Kanhawa through the range of Laurier, the descent of that of Ouasioto, nor, indeed, Niagara Falls the most amazing natural phenomenon in the world.

"It is not so much the number of objective points," he continued, "as the great distances which consume a great part of the traveler's time, as well as the difficulty of communication. All will be changed within twenty years: then one will be able to travel here as easily as in Europe; then one will be able to see in the space of one year that which today would require two.

"Nevertheless, I should not complain, for on my last trip, which took only six months, I have seen thoroughly what was most interesting in the states of Connecticut, Massachusetts and New Hampshire. What progress, what activity in the country as well as in the town!

"Especially one notes the vigor of the young. I have found, from twenty to thirty miles from the majority of villages, a perfection of agriculture which seemed to me little inferior to that of Europe; particularly on the main road from Worcester to Cambridge and Boston. The beauty of the fields, the freshness of the meadows, almost all of them adorned with bunches of trees, the neatness, the elegance of the homes, the size of the cattle, the excellence of the roads, all bespoke the taste, the intelligence, the welfare and the prosperity of the colonies. It is the same in the vicinity of Salem, Marblehead, Beverly, Newburyport, etc.

"They have established in almost all the little villages of Connecticut the manufacture of cloth, linen, cotton, hats, the use of which has become very common. Whatever damage is caused by the high price of hand work and emigration is offset by a greater degree of prosperity!

"The manufactories of linen for sails, which already are numerous, seem to be holding their own and even increase every day. The threads are treated with fish glue which they say makes them less susceptible to mildew than those of Russia. I spent some days at Norwich on the New Thames; it is the Birmingham of Connecticut. I do not believe that they have in that little town of 3,000 a single individual, male or female, who is idle. They fashion iron and steel with great perfection.

"The factories of that town turn out stocking frames, large fullers' scissiors, scythes, sickles, which are used in that part of the country. They make all the sea biscuit necessary for the provisioning of the numerous ships of New London; they make also watches, clocks, buttons, paper, iron wire, oils, chocolate and bells. The water of a cascade some sixty feet high, formed by the union of the Quinibaw and the

Shetucket, is used to turn a great number of machines and mills; moreover the vicinity abounds in streams on which are established many mills, tanneries and forges.

"The many falls obstruct the interior navigation of the Connecticut River. By means of canals which a company incorporated by the Government is going to complete, boats descend and ascend as far as Dartmouth and even to Coohaws, not far from the Canadian frontier under the 45th parallel and 380 miles from the sea.(COOIHAWS, now written Coos, is located in Coos County, N. H.— P.K.A).

"The abundance of wood and vitrifiable material has given rise to several glassworks of considerable size; that at Albany already has acquired some reputation.

"The great fisheries have been for a long time a never-failing source of riches. The banks of Saint George, of Newfoundland, are the great school where the sailors of these seafaring states are made. The number of schooners which they use here annually is enormous and, ey say, there are 15,000 belonging to the fishermen alone.

"What a nursery! The day I arrived at Marblehead, the weather being extremely stormy, the roads presented to my eyes one of the most striking spectacles I have ever seen. As far as my eye could reach they seemed to be covered with detached rocks, like cones, against which the waves dashed with a roar and rose to a great height. I was seized at the same time with admiration and fright, at beholding the daring sailors, manoeuvring their schooners in the midst of these numerous breakers, with an audacity, a skill and a precision which I can not exactly describe.

"They say that a party of these cod fishermen, turned into privateers, seized, during the Revolution 1,108 English merchant vessels which then constituted one seventh of the English navy; and from which they formed two fleets, whose courage and audacity history has not forgotten.

"I did not have time to see ii that part of the continent," continued he, "the great forges, the foundries, the refineries, which the tell me are situated in the mountains."

"That wish," said I, "is very laudable and easy to be fulfilled. The districts of New Jersey as we as those of this state which the same mountains cross have been cultivated for nearly a century. Instead of those temporary and inconvenient houses which we have so frequently encountered in the new settlements, we shall lodge in fine houses, inhabited by persons whose hospitality leaves nothing to be desired.

"But to make this trip doubly interesting, we shall not go by land. We shall go up the great river for seventy-five miles to the landing at New Windsor. From there we shall go with ease to the home of Mr. Jesse Woodhull, one of my old friends, a well-informed man and one of the most influential in the district. Like myself, you will admire his clear-sighted industry, his activity, and his large family. Like myself, you will be astonished at the great amount of work he has accomplished in thirty years, as well as the great farming activities over which he presides. You will scarcely be able to believe that a single man has dared to undertake, and has had sufficient courage and perseverance to achieve the clearing of a valley which contains close to 1500 acres. He is, at the same time, one of the foremost farmers of the state, a colonel of the militia, and sheriff of the county of Orange.

"From his home to the great forges at Sterling and Ringwood is but ten or twelve miles; he will accompany us willingly and will furnish us with horses, for he has raised a great number and no one has better.

"I wish," continued I, "that circumstances would permit us to ascend the river to Albany, for I am inclined to think you have seen in Europe nothing so imposing as the voyage on that beautiful river. . . . However I do not wish to compare it to the St. Lawrence in breadth, nor to the Mississippi in length. But still one experiences here neither tempests as on the first nor, as on the second, the endless difficulty of a current against which it is necessary to struggle without ceasing. When the wind is favorable, the same tide conveys a vessel from this town to that, so far as the river is navigable, which is 275 miles from here.

"To appreciate the many advantages which that internal navigation on the river and its branches brings to this capital, it is necessary to examine the geography of that part of the United States, the height

of the land in relation to the Ocean and to the lakes of Ontario, Erie and Champlain, which are Mediterranean seas; also to the rivers Genesee, Allegheny, Susquehanna and Mohawk. The day is not far distant when the products of all of these countries west and northwest of this State will descend to Albany by the last of these rivers, and that of the country to the East by the different branches of the Hudson and the Canal of South Bay.

*(SOUTH BAY CANAL: Near the southern end of Lake Champlain, long, narrow and deep, known under the name of South Bay, falls the small river of Wood Creek, navigable for fifteen miles, up to old Fort Anne. The company incorporated in 1792 proposed to clear the upper part and to cut a canal which would extend to Kingsbury. The advantages which would result are so numerous, so considerable, that, however great the cost, it would be expedient for the government of New York, the richest of all the state governments, to lend the money; so that the commodities of Vermont and the counties of Washington and Clinton, situated on the banks of Lake Champlain, instead of going into Canada by St. John and Chambly, could be easily transported to Albany, and from there to New York. The execution of this important enterprise will not be delayed.—de Crevecoeur)*

"On the other hand, the inhabitants of the states of Vermont, Massachusetts and Connecticut, nearer to the waters of that river than to their own, have brought there for a long time all that their agriculture and their industry produces.

"With regard to ease of landing navigation of the Sound, position relative to neighboring States, the beauty and safety of the port, this town enjoys inestimable advantage which, one day, should raise it to a high degree of prosperity. Everything will come by water, any therefore everything will be with out noise.

"They assure me that the export last year amounted to more that twelve million piastres."

Everything being ready, we took passage on a beautiful sloop o ninety tons, bound for the village of Poughkeepsie.

*(POUGHKEEPSIE: Capital of this county of Dutchess, in the State o New York, situated a quarter of league (about three-quarters of mile) from the Hudson, on the greet; road to Albany and on that which goes to Litchfield in Connecticut Being extremely modern, the house are well built, the streets laid low in straight lines and ornamented with trees. It has 350 houses and close to 1800 inhabitants. Before the Revolution, it was only a little stragglng village where the Governor of the State of New York (George Clinton) resided as long as the British were masters of the capital (Kingston). The district of which it is the center, may be considered as one of the most fertile and the best cultivated in that state. Wheat is one of the principal products. That young town keeps six vessels constantly occupied in the transport of commodities from the country to New York. — de Crevecoeur.)*

The captain agreed to land us at New Windsor, a town situated on the west bank of the river. Several reasons led us to prefer this sloop to all those which were going up the river, particularly the beauty of its construction, the unusual size at' its cabin, and above all the expectation that the conversation of Captain Dean, who had made a 'voyage to China in the same sloop. would be very interesting.

We were not mistaken. He told us that if the Chinese duty at Canton had only required a sum in proportion to the size of his boat he would have made an advantageous voyage.

"You are, I think," I said to him, "the first navigator who has dared to cross so large an ocean in so small a boat."

"Even so," he replied, "I did not make a piastre worth of repairs."

The day was beautiful, the wind and tide favorable, when we left the wharf to double the great battery situated on the point west of the town, and enter the river, which is more than two miles wide.

To the right, its waters wash the shores of the island on which New York is built; to the left, those of New Jersey. But so rapid was our progress that in less than forty minutes, we lost sight of the Narrows, Staten Island and the islands of the Big Bay. Soon afterwards, the stores, the churches and their steeples, slightly obscured by the mists on the horizon, disappeared from our sight.

*(MANHATTAN ISLAND: The native name of the island on the western extremity of which the city of New York is built. It is fifteen miles long by a mile and a half in width. Although the soil is extremely sterile and covered with rocks, the wealthy residents of the city have succeeded, by dint of expenditures and labor, in vanquishing nature. On every side one sees prettily designed houses, surrounded by productive gardens, fruit trees, acacias, tulip trees, especially on the river banks to the east and the west. That sterile and bare surface no longer resembles what it was before the Revolution. The land has become as expensive as that in the vicinity of London and Dublin. There are few foreigners and travelers who have not enjoyed, under those elegant roofs, the charms of hospitality. Not far from these picturesque premises lives General Horatio Gates (the general who conquered Burgoyne) in a pretty house near the sound, whose waters, teeming with fish, are forever covered with vessels which go to the Northern States or come from them. — de Crevecoeur)*

What a contrast between the appearance and the character of the two banks of this beautiful river! That on the right wooded, pleasant and fertile, covered with well-cultivated fields, evenly planted orchards, ornamented with houses belonging to the merchants of the village, almost all elegant and painted white. Some seemed hidden in the density of the trees; others situated in the midst of gardens surrounded by locust trees, plane-trees or tulip-trees.

The banks on the left, or, properly speaking, the New Jersey side, although rough, arid and solitary, are equally worthy of close attention, especially by amateur botanists. For a distance of twenty-five miles and more, the river is retained by a perpendicular wall of rocks more than fifty feet high, the summit of which is crowned with high trees. These enormous piles of stone which one would believe to have been quarried, like the ruins of some ancient building, occupy or rather form the base which slopes gently to the edge of the river and is partly covered with trees and thick bushes as well as interesting plants. In the less stony and less barren intervals, the industrious have already built houses surrounded with peach and cherry trees. Boats pass within a short distance of these houses.

*(In 1790, there were houses on the west bank of the Hudson above Sneden's Landing, the western terminus of Dobb's Ferry, at what is now Palisades; on the farms which lay all along the river from Tappan-Slate (Piermont) to Nyack; and at Haverstraw, the oldest settlement in Rockland County.—P.K.A.)*

Mr. Herman and I were amusing ourselves with reflections upon how so many striking and novel objects came to be created, when the Captain said to us: "You are now in what they call the Tappan-Sea; but it is only an enlargement of the river which is five miles in width."

"What!" said my companion. "We navigate under full sail a lake of salt water so far from the sea, and we feel less movement than if we were sailing on a canal in a park!"

"It is not like this in the Fall," replied the Captain. "The winds then require prudence in the set of the sails and some acquaintance with the channel."

"What is the purpose of those warehouses and of those cranes and long piers which I see on the right and on the left of the river?" Mr. Herman asked.

"Those are the landings where the great roads from the interior of the country terminate." Captain Dean replied, "The different products are forwarded to New York, whence also is dispatched to these

same landings merchandise from Europe, the Indies and the islands, necessaries for the consumption of the inhabitants. Each landing has a certain number of sloops which are regularly in the service.

"This commerce, naturally, will increase as the population increases. It is not so with manufacturing. The farmers are inclined to purchase imported merchandise. That is why the government is increasing and protecting domestic manufacturers. But I believe the time for that is not yet ripe."

*(LANDINGS: The principal landing on the west side of the river below Highlands was Tappan Slote, now called Piermont. It was the outlet to the river used by the village of Tappan and the surrounding country.—P.K.A.)*

The Captain was entertaining us with all these interesting details when, doubling the cape Vrederickhook, we suddenly discovered a superb chain of mountains which appeared to obstruct the river.

*(VREDERICKHOOK: Verdrietig Hoek, Dutch for Tedious Point, now called Hook Mountain, about two miles north of Nyack at the upper end of Tappan Sea. The Dutch named it Tedious Point because its bold outlines were so long in view of their slow-moving vessels—P.K.A.)*

"Is it then here that the river ends?" asked Mr. Herman, "for I do not see either opening or passage."

"Nevertheless, the river passes through within a distance of twenty-one miles," replied the Captain, "and separates them by a winding channel, wide and deep. This gateway is one of the most interesting sights one can see on the continent. And, what will astonish you still more, the tide ascends for more than 135 miles above these mountains.

"That opening," continued he, "must have existed always and even preceded the existence of the river. For if, like the Shenandoah, the Potomac, the Grand Kanhawa and the Tennessee, its waters had had to carve out a passage through these Highlands, we would have encountered rocks, islands, debris, some vestiges of that ancient destruction, and we have seen nothing of the kind. From here up to the town, the river is as we say perfectly clear. We approach the magic spot—you shall see."

"What a superb screen of fresh, green foliage," said Mr. Herman. "From the water level up to the highest summit, I do not see the bare crest of a single rock. All is covered with the most beautiful trees. Does that not confirm the opinion of those who maintain that this continent has more recently emerged from the bosom of the waters than Europe and Asia?"

While my companion entertained us with his various ideas we crossed Haverstraw Bay, and rounded, without noticing it, a long peninsula (Verplanck's Point) which formed the beginning of that grand and magnificent scene. We found ourselves all at once in the midst of a superb channel more than 600 fathoms wide formed by the almost perpendicular walls of very high mountains (Dunderberg and Anthony's Nose), the bases of which, the Captain told us, extended more than 100 feet below the water. Their summits were crowned with cedars which appeared to be only dwarf trees. Looking back toward the stern of the boat, the land seemed to have closed in behind us. One could no longer see the bay of Haverstraw from which we had come. Looking ahead, there was only a long succession of promontories, of varying heights, covered with pines, hemlocks and cedars, the shape and the appearance of which were more or less lengthened out and softened by the different hues of distance and optic illusion. The end of the channel toward which we were moving also appeared to be entirely closed.

We were going ahead under full sail, when Mr. Herman, after several moments of silence, exclaimed, "How beautiful and imposing it all is! What grandeur! What majesty nature lends to her works! How difficult it would be for the coldest imagination to be silent or sterile here! The fantastic shapes of the rocks which form the banks, their extravagant disorder, the height of the trees, the colossal altitude of these mountains in the midst of which this boat seems only a dot, the freshness of the air which we breathe, the murmur of the light waves which expire on the shore, the multitude of birds which

animate and flash above the surface of the waters—all this gives birth to pleasure, astonishment and admiration.

"It is the illusion of a beautiful dream. It is, in effect, only a dream," he continued, "for the progress of the sloop is so rapid that it is impossible fully to enjoy the total effect of these great pictures. Hardly are the eyes fixed on a group of impressive features than the change of position makes them seem new again. The succession is so rapid and so elusive that one has not the time to seize the ideas to which they give rise, to enjoy the spectacle which alone is worth crossing the ocean to see. One must stop from time to time to review that which merits most attention, taking seven' days to ascend these beautiful narrows."

No sooner had we passed the second peninsula (Caldwell Landing, opposite Peekskill, just below Iona Island—P. K. A.), than the river, turning to the west, presented us a new view in which the objects were less imposing but more suave, more picturesque and more varied. The mountains, less near, seemed to be resting on accessible bases where one would stop with pleasure to breathe the freshness in the shade of the beautiful trees with which they are covered.

When the wake of the boat and the wind permitted, from all sides we heard the resounding of waterfalls and cascades, whose echoes diffused or softened the babbling at the pleasure of the breeze, without our being able to distinguish the course of their waters through the depth of the woods.

"Those," said the Captain, "are large rivers springing from the sides of distant hills, which do not join this river until they have been precipitated from the top of the rocks to leap over numerous obstacles. Several of them, extremely picturesque, merit the use of an artist's brush.

"Modest as a young virgin who hides with care her attractions beneath the shadow of her cloak, it is only in the mysterious obscurity of the woods and above all in that of the mountains that nature bares without reserve her beauties and her treasures and only there that she produces them each instant. Thus, when I go on excursions, it is almost always in the mountains that I lose myself.

"In the meantime," he continued, "until agriculture, commerce and industry have accumulated riches in our maritime towns and our population becomes increased tenfold, it is here that luxury and skill will come, build resorts, to direct and drive these pretty waters, to take possession of all the advantageous sites, to convert this wilderness, today so rude, into healthy habitations, pleasing and delightful; it here that the rich, the idle and the aged will come to find rest, freshness and health.

"Nature has done everything to make these retreats eventually charming during the heat of the dog-days; she has favored them with the proximity of a river abundant in sea fish, with fertile vales small hills cool and sheltered, constant breezes which the flowing and the ebbing of the tide maintain with abundant and limpid waters. Finally, the enjoyment of all these advantages is facilitated by the proximity of the city.

"Never," he went on, "do I ascend or descend this river, but that involuntarily my imagination amuses itself by wandering over its capital sites, so varied and so numerous. Here, in the shadow of beautiful oaks which nature has planted on the borders of this rushing brook, my imagination seems to see a spacious and comfortable house. There, on the southern slope of hillside sheltered from the cold winds by the neighboring heights, I already see in fancy a small farm where skill has combined the useful and the agreeable.

"On the steep brink of a rock the base of which is bathed by the waters of the river, my imagination places a pavilion where amateurs can throw the beguiling hook and amuse themselves by fishing. On the flat summit of a lofty height, I seem to see already a terrace from which some day one can admire the magnificence of the sunrise and the sunset in the lovely days of summer, the breaking up of the ice at the return of Spring, the maneuvering of the boats which ascend and descend this beautiful river.

"My imagination travels even up to the most dominant and the most inaccessible of these mountains on which productive power has managed to plant cedars. There it will forget for several moments the storms, the adversities, the troubles of life, for the cedar is the tree of meditation. The aeolian sounds which the breeze produces as it passes through its aged leaves, in which the soul even more than the ear, seems to distinguish its harmonics; its astonishing life-span, above all, the age of the granite in the

crevices of which it grows; the height, the pure air which one breathes, all this tends to stimulate one's thoughts.

"One walks with an involuntary respect toward these indestructible witnesses of the upheavals and the changes to which the surface of this earth has been subject and to which she will again submit during the ensuing centuries.

"Such are the fancies with which my imagination occasionally amuses itself; keeping company with them, I travel in all their length the diverse meanderings of this superb and tortuous channel. If only the future generations will conserve with care these beautiful cedars, these gigantic pines, these venerable hemlocks, these oaks more than venerable, which human industry never will be able to replace, whose tops, agitated by the winds, balance themselves today upon all these heights, as well as on the ridge of these banks.

"Here is the country of echoes, their favorite abode. Elsewhere they murmur; here they express themselves distinctly. In no other place are they as numerous or as attentive to respond. The different intonations of their voices resemble the conversation of persons placed at different heights and distances; some speak in your ear; the voice of others is stronger, their accents better pronounced. Some answer right away, others after an interim, as if thinking before speaking. Sometimes several answer together. It is above all when one laughs that the confusion of their reverberation renders the illusion complete.

"When the boats approach, maneuvering, it is impossible from the bank not to think that one hears persons seated behind the rocks. Those echoes which respond from above seem always so distinct that the eye, guided by the ear, seems to perceive the tree behind which the persons are crouched. Of all these deceptions, this last has always impressed me the most. One of my passengers was very much astonished a while ago when, passing the west bank, he heard the echo from the nearest point speak into his ear; so astonished was he that he wondered for several instants if this whisper did not come from the person who was next to him.

"These wood-nymphs hear every language and repeat with pleasure the songs of the travelers. Are they playing the flute or the clarinet? They seize at that instant the same instruments. Then it is a veritable concert given with precision and measure. Especially is this true of their simple harmonies, the repetition of which, softened by the undulations of the breeze and the vague uncertainty of distance, is delicious to hear. Animated by pleasure, they seem then to contribute much zest and grace. But for the enjoyment of a type so new to be more lasting, it is necessary to anchor the sloop in a favorable place. I know two or three of these spots, situated on the west bank, where one can enjoy these aerial and invisible concerts without being able to distinguish whence come the sounds which produce them, and it is often from a mile away."

*(ECHOES: Mr. John Watts, member of the Council of New York, 1764, speaking to General Gage, then Commander-in-Chief in the colonies and a resident of New York, about the echoes which are found in this range of mountains, asked him one day to come by water and dine in a house which he had had built here. To convince him of the fidelity with which the wood nymphs repeated what they were told up to a considerable distance, he placed the General's military band 3,145 fathoms (about three and a half miles—Ed.) away in the midst of the woods and on the banks of the river.*

*Everything was favorable; the tide ascended, the sky was without cloud and the atmosphere calm. Confirming what Mr. Watts had said, the General heard distinctly the airs which the band had been ordered to play. The instruments were a mixture of horns, clarinets, flutes, oboes and brass cymbals. Sometimes they played together, sometimes separately, following the orders which had been given by the writer to the musicians and of which the guests each had one copy.*

*"In all the concerts which I have ever attended," said General Gage, "I have never heard anything so penetrating, so moving, nor so suave. The melodies, softened and trembling, produced a harmonious effect which elevated and touched me. That, is the way it should be in play-houses and churches. This aerial concert has all the charms of illusion, of which our hearts and our imaginations are often in need."*

*After the most exact researches, it was the voice of the fifth echo which one heard. I speak of this small experiment with the utmost confidence, as I was one of the guests.---de Crevecoeur.)*

"Whenever I have wished to count the number of these echoes, I could never go higher than eight, not because I did not hear a greater number, but because I did not have a keen enough perception, and they repeated themselves too quickly," the Captain continued. Then he told hoes by use of his megaphone he had been able to hear seventeen echoes.

"This task became much more difficult when I made use of my megaphone. Then a multitude of wood nymphs which had not yet opened their mouths made themselves heard, and their last echoes were missed by my ear. You can imagine my astonishment when in the middle of these tests, I observed that those echoes which were too far from me to be heard, repeated what was echoed by the first, and these echoes were in their turn repeated by, others yet farther away, so that in the progression of distance, each echo became another to which its neighbors responded.

"I recall again the phrase, divided into four syllables, which I heard repeated distinctly seventeen times: 'Hail, fair Wood-nymphs.' Would it not be possible during the calm of a beautiful day, to determine up to what distance a phrase from a megaphone could be repeated, echo upon echo, in a distinct enough manner to .strike the ear?"

With these words, the Captain shouted, "Hail, passengers" But the wind and the noise made by the wake of the boat permitted us to hear only the nearest wood-nymphs It was then that the heights, the sides of the mountains, the deep valleys, the points and the surface of the rocks, the tops of the trees and the bushes seemed to be inhabited, filled with invisible or hidden beings which saluted us, repeating "Hail, passengers!"

Their voices were so distinct, the places which we supposed them to be living in so well determined that each one of us could not conceive how it was that our eyes could not see them, and gave the lie to our ears.

"The time and the height of the tides," continued the Captain, "the force and the direction of the wind, the lay of the mountains, the positions of the promontories, the curvatures, more or less large, of the coves and bays, the season of the year, the time of the day; such are the causes which infinitely change the number, the effect, and the so-varied mixture of these echoes. Like the birds, they are more numerous and gayer when the bushes and trees are covered with leaves, than they are during the bareness of autumn and winter."

*(ECHOES HEARD BY ANOTHER TRAVELER: "We embarked in the General's barge to cross the river which is almost a mile wide. As we approached the opposite bank, the West Point fort which, seen from the river to the east, appeared humbly located at the foot of the mountains, rose before our eyes and seemed itself the summit of a steep rock; this rock, however, was only the bank of the river. Although I had not noticed that the crevices which split it in different places were only the embrasures for cannon and formidable batteries, I was informed by thirteen reports of a twenty-four pounder, fired successively. This was a military salute with which General Heath wished to honor me in the name of the thirteen states.*

*Never has an honor been more imposing or more majestic. Each shot of the cannon, after a long interval, was re-echoed from the opposite bank with a noise almost equal to that of the original discharge." Voyage de Chastelux, tome 1, page 70—Note inserted by de Crevecoeur.*

*(Francois Jean de Chasten= visited the forges of Sussex and Orange Counties, as well as West Point and other points of interest in this vicinity in 1780-82. His account of his travels was published in Paris in 1786—P.K.A.)*

"What would a man think," continued the Captain, "a Hollander, for example, born in a flat country where this phenomenon is unknown who, placed in the middle of this vast solitude, should hear for the first time these wood nymphs repeating distinctly everything ze said?"

And, as if some degree of the variety and magnificence of this superb picture were still lacking, as soon as the sea bass leave the ocean and enter the river, the fish hawk comes to live in these mountains. Having risen into the air to an immense height, the better to distinguish his prey beneath the waters, he precipitates himself with the velocity of a thunderbolt, plunges, and soon reappears holding in his claws an enormous fish, whose weight and convulsive movements render his flight slower and more difficult.

But, a formidable enemy also lives in his neighborhood, the Bald Eagle, which likes fish without being able to catch them. The rarity of game in this season makes it necessary for him to leave the mountains. As soon as he sees the fish hawk arrive at his high aerie, this king of birds leaves his nest and pursues him swiftly until the fish hawk, convinced of his inferiority, abandons his prey.

Then this proud antagonist, with folded wings, darts like an arrow and with an inconceivable speed re-seizes the prey before it has a chance to hit the river. Supreme arbiter of great as well as small issues, the right of the strongest rules throughout the universe, in the uppermost air as well as upon the land and beneath the waters.

*(FISH HAWK: I was at the home of Mr. S. Verplank, whose estate is only a little distance from Fishkill, situated on the banks of the Hudson, when he said: "Follow me; I wish to have you see with what skill my caterers are going to catch the fish on which we shall dine today."*

*Arrived, in deepest silence, at the last escarpment of the bank and hidden under thick bushes, we were examining attentively the part of the river which presented itself to our eyes, when, some distance from the stern of a vessel which was ascending under full sail, I saw a considerable undulation in the middle of the channel, as if one had flung a large stone; whence, soon after, I saw a fish hawk emerging laboriously from the midst of the water, holding in his claws a fish the size and the writhing of which seemed to retard his flight.*

*Alternately he rose, sank as if almost to fail, rose again. Finally after many efforts, taking advantage of a puff of favorable wind, he made slowly toward his aerie, not far from the place where we were concealed.*

*Now Mr. Verplank called my attention to his fierce antagonist, the Bald Eagle, which, to judge by the fluttering of his wings and his excited aspect, was preparing for combat, or rather, to exercise the right of the strongest.*

*Too overburdened, the fish hawk made no resistance and abandoned his prey. The fish was about to escape from the greed of his enemy when the eagle, by an effort of skill and an unbelievable redoubling of speed, seized it at the very moment it reached the river. He was approaching his aerie when, surprised, frightened perhaps, by the noise which Mr. Verplank made, it let the fish fall. It was a sea bass weighing twenty-one pounds.*

*"It is thus," said my friend, "that often the prey of the feeblest becomes that of the strongest. Nevertheless," continued he, "for fear of driving away these birds, whose flight, whose skill and whose combats are so interesting to see, it rarely happens that I disturb them. I would not have committed that indiscretion today except in order that you might enjoy one of the strangest performances of natural history which this beautiful river presents.*

*"In the same manner," he added, "as the privateer, from whom an enemy carries off his prize in sight of the harbor, undertakes a new cruise in the hope of being more fortunate, so the fish hawk rises again to the upper air, whence with the rapidity of lightning, he darts beneath the water and reappears holding in his claws a new prey which finally he succeeds in keeping from the violence of his foe, especially when it is not so heavy.*

*"These birds remain here until the bass return to the sea. Then the Bald Eagle leaves for the mountains and the hawk for the seacoast where he does not have to pay tribute."*

*This fish hawk is large, its flight high and swift, its wings, long and pointed, giving it a considerable spread, proportionate to the size of its body. It lives only on the fish, which it captures, disdainful of those which the sea casts up on the shore. —de Crevecoeur.)*

"It is in these mountains that the sea wind encounters and combats the wind of the interior. Often it happens especially during the Summer, that their forces being equal, each of them dominates in its region. Then, when approaching these mountains, the boats re-turning from New York or Albany are obliged to anchor, if the tide is against them. The locality is consequently a variable zone. From there, these refreshing breezes during the Summer; from there also, these squalls, often violent, which, escaping from the interior valleys, fall upon the river during the Autumn and cause accidents, if usage and experience have not taught the sailors how to prevent them. On the other hand, certain of a great depth of water, they are able to sail, to tack about, obedient to the currents or to the backwaters, until the bowsprit of their vessel touches the branches of the trees on the bank."

We scudded along in the middle of the fourth channel, extremely imposing by its length and the solemn majesty of the mountains which bordered it, until we perceived on the west side a very high falls (Buttermilk Falls) the water of which seemed to us as white as milk.

At its foot on the bank of the river a considerable edifice had been erected. "If this is not one of the most beautiful wheat mills of this state," the captain said, "it certainly is one of the most advantageously situated and one of those which yields the largest profits.

The granite base upon which it is built is 300 feet long by forty to sixty feet wide. It is all the land which the proprietor could buy, but the advantage of a chute forty-five feet high is incalculable for this establishment, because of its position on the bank of such a large river, the waters of which bring the grain and the barrel staves and transport his flour to the capital. You would be surprised at the small quantity of water which the wheel uses, because the weight and the velocity supplants the quantity.

The grandeur of the building, the number of wheels, the fineness of the sifters, the ingenious usage made of the cylinders to simplify the movements and to diminish the friction — thus it is that the fine merchantable flour which comes out of this mill has merited the commendation of connoisseurs.

The boats loaded with grain from the interior and those which come from New York and take the flour, moor at the door of the mill, at the foot of which there is always forty feet of water. What a pity that the height of the mountains robs it of sunshine during part of the day!

They say that this beautiful establishment cost 18,500 piastres. (About \$20,000. The mill was built by David Lydig, one of those "bold old merchants" who built up the trade of New York City. "Lydig's Mill" is shown at the mouth of Buttermilk Creek on a map of the Hudson made in 1820. The West Shore Railroad now passes over the spot.—P. K. A.)

The wind and the tide having made us lose several miles above this mill, we anchored in five fathoms of water in a beautiful bay surrounded by silver-leaf poplars and hemlocks made venerable by their long mosses. At the end of the bay we heard the noise of a waterfall, which we were told was that of Poplo's Kill.

*(POOPLO'S KILL: It is only after having put in motion the hammers of two large forges and the bellows of two furnaces, known under the same name, that this little river flows into the Hudson, throwing itself from the high rocks on the western bank. On a calm day, the sound of that pretty cascade resounds from far away.—de Crevecoeur.*

*Crevecoeur's memory has played him false in placing Buttermilk Falls below Poplo's Kill. A map of Orange County made in 1829 shows Buttermilk Creek entering the Hudson above Poplo's Kill at the place where Highland Falls is now located. Highland Falls was formerly called Buttermilk Falls. — P.K.A.)*

It was six o'clock and the sun had long since disappeared behind the mountains on the west shore. We were engaged in examining this beautiful and abundant cascade, from which some day skill will extract great advantage, when a noise resembling that of a violent explosion suddenly struck our ears and startled us.

The echoes which had diverted us before, were but feeble compared to these which now repeated the clap and the rumbling, the force and the violence of which it is impossible to imagine. From all sides, we were surrounded, and we amused ourselves by following the echoes with an attentive ear until these repetitions imperceptibly lost themselves in the silence and the distance.

"It is the cannon of retreat," said the Captain.

*(CANNON OF RETREAT: The West Point fort being regarded as a stronghold, in which the Government has deposited a part of its great artillery, as well as that which was taken at Saratoga, they keep there a garrison of two hundred men. That is why, evening and morning, they fire a cannon.— de Crevecoeur.)*

"I thought myself fifteen hundred leagues from Europe," said Mr. Herman, "in a country of peace and tranquility—and there is a cannon!"

"We are but three miles from West Point," replied the captain. "Have you never heard people speak of the fortifications which our first Congress erected during the War of Independence? Never was there a more favorable place, indeed. The river forms a very considerable elbow, the peninsula which makes it necessary for the boats to make a large detour is very long; the steepness of the banks, the relative position of the neighboring heights made Congress determine to close this passage. The heights were covered with batteries, with formidable forts, the cannon fire from which crosses on several points of the river.

"Tomorrow you will see in passing what remains of all these great works. You will see the rock to which is attached the eastern end of the chain which closes the channel, each link of which weighs more than 400 pounds.

*(This is the chain which was forged at Sterling Furnace, which de Crevecoeur visited a few days later. He exaggerated the weight of the links, which was from 100 to 130 pounds.—P. K. A.)*

"Among the causes which assured the liberty and the independence of these states, perhaps these impregnable fortifications ought to be counted for much."

The obscurity of the night had little by little caused the grand and magnificent objects by which we were surrounded to disappear. The Captain invited us to descend into the cabin of the boat. It was furnished in Chinese style, lighted by candles from the same country, each one enclosed in its glass bowl.

He called our attention to a map, drawn up during the war under the surveillance and by the order of Washington, on which were shown the peninsulas and the promontories, the capes, contours and the most defensible parts of this celebrated channel, which the great man considered the key to this part of the continent.

He pointed out to us the interior of these mountains, which he had traveled on one side up to the borders of Connecticut and on the other up to those of New Jersey.

"If I were a farmer," he said, "(and I navigate only to become one some day), I would prefer to live here rather than in the counties of Dutchess and Columbia.

*(DUCHESS AND COLUMBIA: Neighboring counties, located on the east bank of the Hudson. They occupy all the space between the mountains and Albany, for thirty-five leagues. That part of the state of New York is extremely fertile, populated, and perhaps as well cultivated as it can be. The art of irrigation has been known there for a long time, not only for the watering of the meadows, but also that of*

*the orchards. No part seems as beautiful as that in the district of the Nine Partners, of Oswego and of the Oblong, where one is astonished by the sight of magnificent pastures which cover the tops as well as the slopes of the hills. These counties are inhabited by a large number of wealthy families who combine with a liking for agriculture, education and the habit of travel.—de Crevecoeur.)*

"Everything here (in Orange County) is favorable to agriculture; the fertility of the valleys, the limpidity of the rivers, the benefits of irrigation, the abundance of the most beautiful woods and the proximity of several great forges.

"Several foreign officers, pensioned after the peace of 1763, came and founded establishments which for a long time earned the commendation of connoisseurs as well as public admiration. To a love of work and agricultural knowledge, they added urbanity, ease of manner and the advantage of varied talents. Often their friends left the city to come and spend some time with these gentlefolk. For a long time, their reunions offered the most charming picture of an enlightened industry, of soft ease and good will. Unfortunately the war of independence has ruined several."

*(Crevecoeur himself was one of those French officers who, having developed a fine estate, lost it during the Revolution. His farm was at Greycourt, half way between Blooming Grove and Chester.—P.K.A.)*

The moon, which we awaited with impatience, finally appeared above the mountains. It was then that ascending to the deck, a thousand new and strange forms presented themselves to our eyes. These were no longer the optical illusions, the gradations of perspective nor that variety of well-known objects which the light of the sun illumined during the day, but phantoms more singular and more fantastic, to which one could not give a name.

What seemed to me most amusing was that each of us, struck by the beauty of the things which his imagination painted, blamed his neighbor for what he seemed to see differently. What a field for the imagination, indeed, was this void of darkness more or less profound, this medley of light, more or less bright, more or less weak, surrounded as we were by the waters of the river, by the forests, by the mountains, which the shadows of night appeared to have brought nearer to us! It was not, then, very astonishing that, in the midst of a scene so imposing and so new, our imaginations borrowed from the oddity and the grandeur of so many objects some of the traits and even some of the charms of the fantastical!

It was midnight, and we were still on deck, engaged in contemplating the majesty of nature, those exertions of a power we can never comprehend, displayed in the sky, on the earth and under the waters. The profound calm, the solemn silence of this beautiful Chaldean night was but rarely and feebly interrupted by the long and slow undulation of the waves which one could barely hear breaking against the distant banks, or which the cable of our boat cut into tremblings; by the rustle of the leaves or finally by the remote murmur of this immense volume of water passing through this long and tortuous channel. We again amused ourselves with the echoes of the vicinity, which we made repeat verses and songs until our ears were all of a sudden struck by a very extraordinary noise, as if some giant, lodged on top of the mountains, had thrown rocks into the river.

"Those are sturgeons," said the Captain, "which, having jumped to a great height, fall back into the river. I am ignorant of the motive of such a strange exercise."

The following day, we raised anchor as soon as the tide permitted, and the Captain having reefed the sails of his boat, we had time to consider attentively what remained of the great works of West Point. Or rather, what could be seen from the middle of the river.

Most of the forts, constructed of stone, the batteries erected on the top of the rocks as well as level with the water, seemed to us well preserved, although in part hidden under the thick foliage of the shrubs and trees. For here wherever the foot of man treads but seldom is soon covered by woods.

"This vast amphitheatre of defense," said the Captain, "required the assiduous labor of several thousand men throughout two long years. Of all the houses which they constructed, there remains only the great store-house, now become an arsenal, in which they have deposited the great artillery of these fortifications and that which was taken at the capitulation of Saratoga.

"The two extremities of the chain which closed the river were defended, as you see, by these two formidable forts, perfectly preserved. It is easy to see that the boats never could have approached them without exposing themselves throughout more than two miles to withering fire and cross-fire from the banks and neighboring heights."

Finally, after having slowly passed these relics of such effort and perseverance, we entered into the last and spacious channel, the most imposing of this strait. It is terminated by two mountains which, nearly perpendicular, are, however, partly wooded. From here, we commenced to discover the countryside and the dwellings on the west bank of the river.

This river, at its outlet from the narrows, is nearly three miles wide between New Windsor and Fishkill.

## AN ORANGE COUNTY PIONEER

Flour mills on Murderer's Creek—Jesse Woodhull's 733 acre farm—How Orange County farms were cleared—A discouraged youth flees but returns to complete his task—[Translation pages 20-28, by Miss Westbrook, de Crevecoeur's Notes translated by Miss Angell]

In accordance with his promise, the captain landed us at this first port (New Windsor), soon after having come out of the narrows; but as this is only a pier where several roads coming from the interior end, and as it offered us nothing interesting, we left there immediately. We had gone scarcely several miles in the direction of Bethlehem when we met Mr. John Allison, a rich property-holder of this district with whom I had crossed the ocean four years previously and who, after having taken us to see his fine mill in which he yearly turned into flour 25,000 to 30,000 bushels of wheat, wished us to dine with him. His business would have been much more considerable, he told us, if he had not had to run the risk of being without water during the Summer heat, and if he had been able to find a way to get rid of the Hessian fly, an insect which, for several years, had been making considerable ravages in all the neighboring districts, and which had never been heard of before the arrival of the German troops at New York.

*(John Allison—or "Ellison"—was proprietor of the stone house, now maintained as an historic landmark, that was occupied by General Knox as his headquarters during the military encampment at New Windsor—D. L. A.)*

*(HESSIAN FLY. The colonists of Long Island, having discovered that an insect, hitherto unknown, was destroying their wheat in the neighborhood of a camp of Hessian troops, gave that name to it; it is, in fact, a fly. As soon as the stalk and the ear are formed, the fly cuts with her sting the parts above and below the first joint of the stalk, and there she deposits her microscopic eggs. As soon as the little grubs are hatched, they intercept the sap for nourishment, and the plant dies. From Long Island, the new pest has spread into other states; but as it advances in/and, it is observed that the fly abandons the districts which she has ravished.*

*It is very doubtful whether the insect came from Europe. The wheat which grows in poor soil or which is poorly cultivated, is more subject to her depredations than that which grows in strong or well-fertilized soil.—de Crevecoeur.)*

Guided by the milestones, we continued our trip to Blooming Grove, where we were to leave the main road to enter the mountains; scarcely had we passed the bridge built over Murderer's Creek when we

discovered another mill which aroused the insatiable curiosity of Mr. Herman. Fortunately, we met its proprietor, J. Thorn, who invited us very politely to come in and offered to show us all the details of it.

*(Thorn's mill, here described, was at the falls on Murderer's Creek, now known as 'Moodna,' at the present location of Salisbury Mills. It appears under that name on Erskine's map of 1778. The mill was built by Col. Vincent Mathews, Blooming Grove's first settler and, throughout the colonial period, its chief citizen. Living on his 1500 acre estate of 'Mathewsfield', which included most of the present area of Washingtonville, he reserved these falls out of a sale of a part of his original 3000 acre purchase and at them built the mill mentioned by Crevecoeur. It was undoubtedly one of the earliest grist mills built in Orange County and, we may judge from Crevecoeur's account of it, also one of the largest. A paper mill is now in operation on the same site. There is every reason for supposing that a large part of the foundation of the paper mill and a part of its walls were laid up by Vincent Mathews or his immediate successors as proprietor, and were a part of the building described by Crevecoeur. —D. L. A.)*

He began on the ground floor, where there were four pairs of millstones; from there he had us go up several stories filled with immense fans, sieves with brushes of a new invention, to the fifth floor where the flour was cooled for fifteen days before being sifted and put in barrels. This last floor had the whole size of the building, that is, ninety-four feet by forty. Then he took us to his dam.

"Skill and nature," he told us, "had provided for me a fall of eighteen feet as a result of which, my wheels receiving the motive force from above, I need less water. Here is my cooerage where I have made annually three to four thousand barrels."

"How much wheat do you turn into flour. then?" asked my companion.

"Forty to fifty thousand bushels."

"Where do you get the wheat?"

"From the counties of Sussex, Orange, Ulster, as well as from upper Jersey and from Pennsylvania."

*(The statement here quoted is, I think, a very significant one, revising and extending our notions of eighteenth century industry and commerce in Orange County. In the absence of such information it would be natural to suppose that our grist mills were local industries only. On the contrary they were part of a system of manufacture and commerce that involved regions remote from the County.*

*Grist mills were of course first built to meet local needs. They were to be found at every available source of water power for the local requirements were large. It must be remembered that until our industrious but careless first farmers had begun to exhaust the soil by improvident methods of agriculture, Orange County was a prime wheat country. In the eighteenth century wheat was our leading agricultural product, both for home use and export. But the development of local mills for grinding it into flour provided facilities for processing wheat grown elsewhere.*

*In Crevecoeur's account of his journey up the Hudson, he describes the piers built into the river at various places and accounts for them ac the termini of roads leading from the interior. It was at such places, he said, that the home-grown products were exchanged for manufactured or other imported goods.*

*New Windsor was one of the most important of these river ports. The roads to it led back to New Jersey, Pennsylvania and western New York. Roads leading directly to New York were not many and none of them were good. Smith's Clove, through which runs our present main highway to New York, Route 17, was described by the Marquis de Chastellux as wild country through which during the Revolution a road had been built for military purposes. It was not a road suitable for the transportation of wheat or other agricultural produce to the city. The better road led to the river, where the produce could be transferred to sloops bound for New York.*

*Thorn's mill was on the main road to New Windsor. There were other mills, too, directly in the path of the carters bringing their produce from the interior. It became a common practice for wheat-growers in the back country not to cart their product all the way to the river but to one of these mills,*

where it would be purchased by the miller, processed into flour and shipped as a manufactured product. The extent of this flour-manufacturing business is indicated by Thorn's statement that he ground annually forty to fifty thousand bushels a year.  
—D.L.A.)

"How much does it cost you a bushel?"

"The price of the markets of Europe is our guide; in general, eight to ten shillings."

*(SHILLINGS AND PIASTRES The piastre, which has become the nominal money, is divided, according to the new decimal calculation, into one hundred parts, represented by as many pieces of copper called pence (coins). Before the revolution, that same piastre was divided into shillings, the number of which varied in the different colonies from four and a half to eight. As a result, the pound, always composed of twenty shillings did not have a uniform value. It is to remedy that great inconvenience that Congress has introduced the method of reckoning in piastres and decimal parts of piastres. —de Crevecoeur)*

"What is the use of this great wall constructed beyond your wheels which seems to support a part of the foundation of your fine mill?"

"It is to shelter them from the frost."

"How much did all that cost you?"

"Fourteen thousand piastres including the dam and the site."

Finally we entered the mountains, almost all well cultivated for a long time, and after three hours walking, we discovered the beautiful valley of Schunnemunk.

"All that you see," I said to Mr. Herman, "belongs to my friend Jesse Woodhull. these meadows, this great orchard, these fields, as far as eye can reach. Would you believe it? It is he who cut down the first tree of this vast establishment. and this good fellow is not yet fifty years old. I believe I recognize him by his great height, on that slope which three plows are working: let us go there."

*(Jesse Woodhull was born at Mastic, Long Island in 1735. He moved to Orange County in 1753.*

*He was a pioneer of a type common enough in Orange County history but vastly different from the pioneer who settled the country further west and at a later time. The town had other such men, young men of education and family and even means, who looked to new lands for the increase of fortune which long-settled communities feeling the pressure of population, could not afford them.*

*At the time of Crevecoeur's visit, Woodhull had passed from the status of pioneer to that of county gentleman. He had been sheriff of Orange County, colonel of a regiment of its militia during the Revolution, delegate to the Provincial Congress, a member of the State senate, a member of the state convention which ratified the Federal Constitution and as presidential elector had cast his vote for Washington and Clinton.—D.L.A.)*

After we had been received by him as if hospitality itself had taken us by the hand, my companion, astonished to see that each harnessing was composed of two pairs of oxen and of two horses. asked him the reason for it.

"The ground is so compact in the valley," he answered, "that our plowing requires very great strength Often, indeed, four pair are required for the breaking-up of the ground. Very different is the soil of the neighboring districts which is plowed with only three horses."

"Why do these oxen walk so lightly and those which I have seen in Connecticut so heavily?"

"Those which you see here are not oxen."

Astonished by this response, which Mr. Herman did not seem to understand at all, the colonel added:

"No, sir, these are not oxen, but animals of a new sort. for which our language, rich as it is, has as yet no name, These are heifers which in their youth I caused to undergo a very simple and not at all dangerous operation depriving them of their sex; I made of them animals of a type which is much more agile, as well as lust as suitable for tiring work as the males: but they are a little less tractable. Every year I have a certain number of colts undergo the same operation which makes them much superior to my other horses in strength and health and, above all, in sure-footedness."

"Where did you get this strange new idea? Who performs this operation?"

"I got the idea from my head," he said. "I myself made the first attempts fifteen years ago; they were successful, and have been constantly since."

"Are you not afraid of causing a shortage of these two breeds?"

"No, because here we never kill calves and we have a very great number of horses."

"We have come," I said, "to spend several days with you, and then, provided with your instructions, to go see the great iron works of Sterling. Ringwood, Charlotteburg and so forth. Will you lend us horses?"

"Very gladly; but I insist that you remain with me a week, then I will accompany you everywhere you wish. If you like hunting or fishing, there is plenty here to amuse you."

The following day, upon returning from his meadows and fields, he had several of his spayed mares brought from the stable.

"I hunt deer only on horseback" he said to us, "and here are my mounts; they are tireless and never stumble. They have still another quality, that of trotting with a great deal of speed without ever being shod."

"Where do they get these qualities?"

"From their training. Three times a week during the Summer. I have lead shoes put on their forefeet. They are taught at first to walk with this weight, then to trot. Six months of this training are sufficient so that their hind feet can never reach their forefeet, no matter how long their stride or how rapid their trot is."

"How much land do you cultivate?"

"Seven hundred and forty-eight acres. That is too much, I know. for one man alone can scarcely oversee so large an undertaking. But it's a going concern; I couldn't do otherwise; besides, I have nine children, and if all of them wished to be farmers like their father, you realize that the 1,500 acres that I own here would not be enough to give each of them a good plantation. I have taken care of that by a rather considerable purchase which I have just made in the new county of Otsego."

*(TO BUY LAND FOR THEIR CHILDREN. The lands which the general government or the States have acquired from the natives, have become a great object of speculation; they sell or buy ten, twenty, or thirty thousand acres with as much ease as a simple farm. However, that stock-jobbing is practised only in the towns. The farmers, more timid or more wise, content themselves with buying choice bits which they reserve for their children. If those acquisitions have been made in their infancy, the parents are sure that by the time the children have reached their majority, the growth of the population will have increased the value of the land tenfold. The purchase of those lands is much more advantageous than an investment in the public funds.—de Crevecoeur)*

"Since I see scarcely any more stumps in your fields," Mr. Herman said to him, "I imagine that this great clearing was begun before your time."

"No, I myself cut down the first tree, thirty-one years agog I was then eighteen years old. I 'was not alone, as you can imagine. What a terrible spectacle the bottom of this Valley then presented! The kindly richness of nature was buried under the most repulsive debris of overturned and partially earth-covered trees; these fine pastures, these meadows, today so green and harmonious, were nothing but a swamp filled with willows, the ends of whose branches were taking root to form new stems, with dark and trailing

brambles, with thorny vines whose innumerable sprouts were weaving together the bushes and making them impenetrable, and finally with ash trees and water-maples of great height. Certainly, future generations will owe us some gratitude; but will they ever be able to realize what the weariness, hardships, disappointments and boredom which accompanied these painful beginnings were like?

"One day," he continued, "after seventeen months of the most persistent work, struck by the lack of progress which we had made, I felt that I would never be able to survive the great interval which I perceived must elapse before I could attain the enjoyment of a few enclosed fields, of a few acres of meadowland, of a house and a barn. This reflection made me despair. Suddenly I was seized by such despondency as I had never yet experienced. My courage and strength disappeared. The hopefulness which, every morning, preceded my steps as I went to the woods and, every evening, followed me as I came back, completely deserted me. I ceased considering this fine property which my father had given me, as the pathway which would one day take me to ease and independence. I was filled with regrets. I groaned to see myself condemned to spend the best days of my youth far from the pleasures of society, in the midst of these sombre forests, of these impenetrable swamps, which perseverance and courage, iron and fire, could not destroy. 'So many obstacles to overcome,' I said to myself, 'so many difficulties to surmount, would require the strength of Hercules or Milo, and the long life of a patriarch.' In vain one of my uncles, settled at Blooming Grove, came to see me often to encourage me. In vain my father wrote me letters well-designed to recall me to industry. I had been struggling for several months against myself, when I learned of the near departure of one of my uncles for Surinam with a cargo of horses. Influenced by some fascination, I hastened to seek him out at New York. I informed my father of my flight only on the very day of our departure.

*(HORSES. Before the Revolution, the colonies of Dutch Guiana would not admit into their harbors the vessels of Connecticut, New York and Pennsylvania laden with foodstuffs, except on condition that they would have on board a certain number of horses. But as it sometimes happened that in a squall they were obliged to throw the horses overboard, the captains, to prove that they had conformed to the law, would produce the tails. Hence the custom of always having a certain number on board. —de Crevecoeur)*

"We were no sooner at sea than I felt myself freed from a heavy burden. I felt like a man who is born again to life after a long illness. I congratulated myself for having abandoned such a troublesome and monotonous sort of life. All my ideas and thoughts were directed toward another aim. My spirit was no longer the same; no change was ever so complete. If, at times, I thought of this valley, I congratulated myself anew for having abandoned it, as well as for having abandoned the unremitting labor which, in my eyes, seemed only a shameful servitude. I estimated the probable length of my apprenticeship, how many years must pass before I would be able to hold command of a vessel. The only reflection which occasionally saddened my mind was that I had displeased my good parents by leaving Schunnemunk.

"Up to that time the winds had been favorable and the sea calm; but upon crossing the latitude of Cape Hatteras and the Bermudas we were assailed by a very violent storm, which obliged the captain to get rid of the horses by throwing them into the sea.

*(BERMUDA. The latitude of that little archipelago situated 300 leagues from the continent, as well as that of Cape Hatteras on the eastern coast of Carolina, being the interval which separates the variable from the regular winds, is very subject to tempests. Whence the mariner's proverb: If Cape Hatteras is quiet, take heed at the Bermudas.—de Crevecoeur)*

"This storm, the first that I had seen, filled my heart with fear and terror and in an instant dispelled my new plans. I became seasick. During my misery my mind went back involuntarily to this valley I began to think of it under less sombre colors. Sometimes in my dreams, I seemed to see the swamp changed to pastureland and covered with cattle; the wooded land changed to fields of corn and wheat.

'Oh!' I said to myself on awakening, 'if only a part of what my imagination has just seen had existed, I would never have left this fine heritage and I would not be exposed today to the fury of the wind and waves.'

"Finally, after a long and miserable crossing, we arrived at Surinam. The exceeding heat of this overpowering climate, the disgusting insects with which we were incessantly surrounded, the thunder, the fearful lightnings (which to me seemed to be forerunners of the end of the world), the extreme subordination which my uncle required of me. The pit of the ship's hold into which every day I had to go to help with the loading and unloading of the ship—all of this unexpected adversity made regret rise in my heart and brought me to repentance. By comparing the inconveniences attendant upon these two kinds of life, it didn't take me long to realize that there were inconveniences everywhere, that everywhere nature escapes us and arms herself against us, and that it was a thousand times better, whatever the fatigue, to cut down and burn the trees, and little by little to clear the surface of a fertile soil (which one day would repay me a hundred fold) than to plow the stormy ocean, travel through the burning climates and meet the storms of the torrid zone. 'If, in the forest, one feels repugnance, weariness and boredom,' I said to myself, 'at least these do not make hope disappear as do the dangers of this climate where one spends half of his days trembling beneath the vertical thunderbolts which overturn the air and earth.'

*(SURINAM. An important river of Dutch Guiana, on the banks of which the town of Paramaraibo has been built, which is regarded as the capital. It is impossible to view without a mixture of astonishment and admiration what perseverance and industry have accomplished in that country within a century. The length of the canals, the richness of the plantations, the elegance of the houses erected on their banks all this is impressive.—de Crevecoeur)*

"Returning to New York after five months absence (for we had been obliged to go to Essquibo to complete our loading), I went to Long Island the morning after my arrival to throw myself into the arms of my parents, whose just anger I feared. What was my surprise and my joy when I learned that my father was here (at Schunnemunk) and when my mother told me what he had said to her after receiving my letter: 'The discouragement which has taken hold of this young man does not surprise me. He is not the first who has despaired in like circumstances: but instead of going to sea and fleeing his native land why did he not come to me? Did he not know that I was his father and his friend, and you his mother, his gentle mother? To discourage him in his maritime plans and settle him down for good, I know only two means: I am going to hire six good workers who, with the fowl left at Schunnemunk, will do a great deal of work during his absence. At his return, surprised and pleased by our progress, he will blush at his folly and will realize the value of the lesson which I will have given him. Will that not be better than any other kind of reprimand? Soon he will forget the past, and I also. As for the second means I will tell you of that only when he returns.'

*ESSEQUIBO. Another river to the west of the preceding, on which stands a town of the same name, belonging also to Holland.—de Crevecoeur)*

"This was one of the happiest moments of my life. A few days later I came here to find again this good father. Embracing me tenderly, his eyes filled with tears: he said to me, 'Well, Jesse, isn't this country better than Surinam. In truth, one becomes not a rich, luxurious colonist, a millionaire, but a farmer, a worker, with health and prosperity. who is not ashamed to handle an axe and grasp a plow.'

"Ah, father!' I answered him, 'This climate, this country, seem to me today like a Paradise on earth compared to that from which I come. If you will pardon me, I will devote myself to the most persistent work until I have accomplished your plans, which are now mine.'

" 'Since your departure,' my father continued, 'I have had cleared, enclosed and sown with grain a field of twenty-seven acres, have removed and burned a great number of stumps. destroyed two beaver

clams and finally set up a saw mill, so you can build a decent and convenient home as well as a barn, suitable for the considerable harvests which you will have some day. Haven't I employed the five months of your absence to advantage?'

"I have another present to make you, Jesse.' he continued. 'It is that of a suitable wife — wise, healthy, industrious and intelligent. You know S. B. of the district of Cornwall.

*(The initials are a mistake, Woodhull married Hester DuBois "of the district of Cornwall"— D.L.A.)*

"If you haven't brought back from Surinam any sugar or indigo, you have acquired during this trip something which is better, a thousand times better, for a young man like you. It is experience; for life is like the ice of winter on which one does not learn to walk or to hold himself ready until he has gotten up again, from his first slips and then you will know better how to understand your father.'

"I have made a great mistake.' I answered. 'If you will pardon me it will be the last.' "Yes, I am sure of it,' he said to me. 'Let all this be forgotten!'

"Happy are the children to whom nature has given fathers, or rather friends, like mine. They owe them more than life. My father is dead, out his memory, which I bless every day after offering my prayers to the Supreme Being, will remain with me all my life. My good mother still lives at St. George on the island of Nassau (Long Island).

*(NASSAU. Legal name of Long Island; that is to say, that which one is obliged to use in all public and private documents.—de Crevecoeur)*

"The following day I was about to start for the woods, axe in hand, when my father stopped me and said:

"Jesse, take a rest! Go see the wife whom I plan for you and be worthy of her affection. I will stay here until the beginning of winter.'

"Six months later I married this dear and precious woman. Since then she has made my happiness. She has made me father of nine children and is rightly famous for her intelligence in household affairs.

"As if to crown my happiness, a dear brother, Professor at the College of New Haven, came to spend a vacation of that same year with me. To him I owe several important improvements in agriculture. He has in the vicinity of this city (New Haven) a small property on which, through care, persistence and knowledge, he has brought together all the useful and pleasant things that are cultivated in these states. One may say that his garden and his land are an epitome of the continent. Once a year he gives his president and his colleagues a great dinner which he calls by a Greek name that I have forgotten. The linen of his table comes from some cotton trees which he raises: his napkins are edged with blue bands dyed with indigo of which he makes two or three ounces a year. I do not speak to you of the meat from his barnyard or the vegetables and fruits from his garden, the maple sugar, oil of sesame, peach cordial, maple syrup, and vinegar, cider, hyrdomel, cherry wine, preserves, a sort of tea from this country (Labrador), even coffee—everything conies from his fields, from his garden, or his hothouse: yes, everything, even to the candles.

*(MAPLE VINEGAR. It is made only with the last sap of April. Its strength depends on the amount of evaporation accorded it.*

*GREEN WAX. The bushes (myrica cerifera), with the berries from which that wax is made, are so common from Carolina to Massachusetts that they are used for various purposes. Wax candles are made of them and tallow candles, by mixing in an equal quantity of animal fat; they also go into the mixture with which ships are graved. I am surprised that these bushes have not yet been cultivated in Europe.—de Crevecoeur)*

"But what will astonish you even more is the punch with which he regales them. The acid of this liquor also comes from his garden. While going through the woods a few years ago, I myself discovered this delightful bush; it produces berries as large as a pigeon's egg, of a beautiful red color filled with a transparent juice of the same color, which our doctors have found as good as that of the citrus from Jamaica or Bahama; it is exactly the same as that of the swamp cranberry. It is rather strange that a plant and a tree produce the same fruit without any difference but the size."

*(CRANBERRY. The fruit of that beautiful shrub closely resembles, in the color and acidity of its juice, the marshwort, known in that country under the name of cranberry, and the fruit which in Georgia they call Ogeechee lemons. —de Crevecoeur)*

The following day, not finding the colonel in his living room, it did not take us long to discover that he was repairing a plowshare. "It is not to save money," he told us, "that I sometimes strike my anvil: it is to save time, something which makes all our prosperity here. Time goes faster than the water of the river. How many days have I not wasted to save a half hour's work when I went to the neighboring blacksmith!"

"Why should the time here pass faster than elsewhere?" asked Mr. Herman.

"Because we have no spring. Summer follows winter so promptly that often it is difficult to sow the grain of this first season before the time of haymaking comes. Also, the length of our winters necessitates a great amount of fodder. The work of laying in fodder sometimes lasts six weeks; for I mow each year about one hundred acres and during that time our plows are at rest. You see, indeed, that we have no time to lose, and that, if our winters were less long, our harvests would be much less trouble.

"For another thing, as sheriff of the county, I am obliged to spend several days at Goshen every time that the lower and higher courts convene there. As colonel of the militia of the same county, four main yearly trainings and frequent inspections oblige me to leave my fields often. All these extraneous duties, together with the necessary oversight of so great an undertaking as this and the care of a family composed of thirty-five persons whom it is necessary to clothe and feed help to make time more fleeting and more precious to me than to many others."

*(Woodhull was sheriff, except for one term, from 1764 to 1776, a period which corresponds roughly with Crevecoeur's residence in Orange County. Crevecoeur's picture of the many-sided life of the farmer-politician is undoubtedly a correct one though here, as in other instances, he has not been careful of dates.*

*The size of Woodhull's household is probably not overstated. His will, proved in 1795, shows that besides his large family he had many slaves.—D.L.A.)*

*(GOSHEN. A pretty, straggling village, county seat of Orange County in New York State, surrounded by meadows and well-cultivated fields. The houses, instead of being close together, are separated by paddocks, gardens, or beautiful orchards. The inhabitants have founded an incorporated academy, where a great number of young men are instructed and prepared to enter the university.—de Crevecoeur)*

"But why," Mr. Herman asked him again, "should there be militia in a country which enjoys profound peace? Do you not have regular troops?"

"We have only the means of defense absolutely necessary to guard our frontiers and protect our new colonies beyond the Ohio. There is not a single soldier in our towns. The Constitution requires that every citizen from the age of eighteen to fifty be enrolled, armed and ready to march. The peace and tranquility of our towns and countryside being entrusted only to the protection of the laws, it is necessary that in an emergency the magistrates may be able to call to their help detachments of militia. By whom may we be better protected than by the citizens?"

In the evening, my companion, having noticed that the candles which lighted the living room were green. asked the colonel the reason for it. "They are not made with tallow," he answered, "but with vegetable wax produced by very common bushes in this district. The flat section of Schunnemunk mountain is entirely covered with them. Nothing is simpler or easier than to get as much as one wishes of them. Do you not observe how pleasant and sweet-smelling the smoke of these candles is. Already successful attempts have been made to make them white. A few years more and we shall be able to perfect several new branches of industry and commerce. Already they are being exported, with our beeswax, to the Spanish and Portuguese Islands where the religious observance requires candlelight, even while the sun is shining.

"The same activity, the same amount of care and foresight employed in the work of our fields, guides our household management. Here we spin each year enough cotton, linen and wool to provide for the house and clothe the whole family. The different materials which are made are woven under my own roof. Those which must be dyed undergo this operation here. My wife is our principal dyer. We usually make 800 to 1,200 ells of cloth a year. It is the same with soap: each family makes annually all of it that it needs with fat and vegetable wax. This operation is easier and even quicker than the making of maple sugar.

"I owe to nature three or four hundred of these so useful trees (maples). I have had them carefully enclosed and have had cut down all closely adjacent trees in order to increase the strength as well as the quantity of sap from them. This fine orchard, our little Jamaica provides us yearly during the month of April all the sugar, syrup and vinegar we need. Each tree gives three to four pounds of it; but in order not to wear the trees out, I have divided them into three classes of which only one is tapped each year. Since I have freed them of everything which stifled them and since the sun bathes them with his kindly light, I notice that each year their sap becomes richer and more abundant. In a few years I hope that each tree will give five pounds of sugar.

Already they are beginning to refine it. The sugar I have just received from New York seems to me as fine and sparkling as that from Jamaica or Antiga. As for the vinegar, I know of none better or stronger."

Finally, led by the head of this good family, we left Schunnemunk for Sterling, whose heavy hammers we were not long in hearing, and we arrived there early.

*(Note: The land cleared by Woodhull now comprises part of the estate of E. M. Bull on the Washi7zgtoville-Monroe road.—D. L. A.)*

*(FOOTNOTE: T h e interesting details included in this chapter would suffice to prove, if it were not already long well-known, the truth, which has become trivial by reason. of being evident, that necessity is the father of industry. I add that the success of industry, however, always dearly bought, brings to man happiness that he finds neither in. the kindness of fortune nor in the easy pleasures of luxury. Here is something which the active and hard-working colonist is very sure of, from his own experience—something not suspected, far less comprehended by the idle and folly-loving inhabitant of European towns. (Note received by the editor from Citizen B.)—de Crevecoeur*

## **IRON WORKS AND DROWNED LANDS**

No sooner had we put our horses in the stable, than the proprietor, Mr. Townsend, presented himself and received us with the politeness of a man often accustomed to seeing travelers and strangers. In other words, his hospitality is so well known and has been for so long a time that, if one comes from the interior or from New York City, one always arranges to stay with him in crossing the mountains. Having learned that the object of our journey was to examine carefully the different works, he offered to show us all the details.

First he conducted us to his large furnace where the minerals are melted and then converted into bars of pig iron weighing from sixty to one hundred pounds each. It was situated a slight distance away

from the principal dam which by the favorable position of the rocks made possible a reservoir of water of immense capacity. From a mere river, it was changed into a little lake 15,000 acres in area, filled with fish and on which de had a pretty boat.

Draft for the furnace was furnished by two large blowers forty-eight feet by seven, which were made of wood only, containing no iron or copper. The violence, the noise of the wind which they produced resembled that of a tempest.

"This furnace," he told us, "produces annually, when there are no accidents, from 2,000 to 2,400 tons of iron of which three-quarters is converted into bars and the rest melted into bullets, cannon, etc., for commercial use. These mountains, the wood from which furnishes me with charcoal, furnish also several kinds of minerals of an excellent quality known by different names."

From there he showed us the refinery; six large hammers were engaged in forging bars of iron and some anchors, also several other pieces for maritime use.

Further down on the same river was the foundry with a reverberatory oven. He showed us several ingenious machines designed for different uses for which they had sent him the models which he had melted with a pinchbeck (an alloy of copper and zinc) recently discovered in these mountains, in which the grain, after the two fusions, acquired the fineness and nearly the color of tin.

"I can make," he told us, "the most delicate and the lightest things. What a pity that you could not have been here eight or ten days sooner! I would have shown you, first, three new kinds of plows of which I melted the principal pieces and which do not weigh as much as the old plows. Each one of them is provided with a kind of graduated steelyard, so that one can see with the utmost precision how much the pull of the yoke amounts to, and consequently the resistance, that is to say, the tenacity of the soil. Second, a portable mill designed to separate the grain from the small straws. This invention is but the offspring of another, by which all the yield of a field can with ease be totally removed without being obliged to cut by the foot in order to make the unthreshed sheaves, as was the ancient custom.

"All this has left for Mt. Vernon, for," he continued, "although General Washington is filling with his so distinguished talents the presidency of the Union to which he has been called by the unanimous voice of affection and recognition, and as the seat of the Government is but a hundred leagues away from his beautiful estate, he looks after his immense tillage and directs the operations with discernment and praiseworthy attention.

*(New York City was the national capital from January 1788 to December 1790.—P. K. A.)*

"Every week he receives the details, like a merchant, keeping in touch with his affairs. With the aid of a very large map which he showed me, he knows all his fields, knows what each one yields, and foresees what ought to be planted there. Never has there been more order, method and economy of time. It was the same during the war. Congress and the public were not a little astonished when, after having retired to private life, he returned the accounts of his command from the beginning, among which one finds the account of each particular expenditure of the secret service during seven years, written entirely by his hand and which hardly amounted to twelve or fourteen thousand guineas.

"During this long interval, in which he became chief of the general government, that illustrious Agricola has never ceased to be one of the most brilliant farmers in the United States. Before the Revolution, he had forty plows, and in 1772, he harvested more than ten thousand bushels of wheat."

From the furnace we went to see the ovens in which the iron was converted into steel.

"It is not yet as fine as that from Sweden," Mr. Townsend told us, "but we are getting there. A few more years of experience and we shall arrive at perfection. The iron which comes from my hammers has been known for a long time to be of good reputation, and it sells at from twenty-eight to thirty pounds a ton of 2,200 pounds.

"You see," he continued, "this beautiful and vast growth which is enveloped by the two branches of the river? This is what I call the masterpiece of my industry; it has not yet been ten years since this

hollow was the catch-basin of the mountains. I was trying to have it cut-over with axes; but the thickets and brambles with which it was covered offering no resistance, this instrument was useless.

"I did not know what to do until the idea came to me to put three hundred goats there and keep them until the approach of winter. Pressed by need, they killed the stronger bushes by stripping their bark. The following summer, a fire destroyed the rest. I planted my land in clover and timothy and the next year, this impenetrable mass of brambles and thorns was replaced, to my great joy, by an abundant harvest of hay. This island has since become one of the best meadows of the district. Several farmers have followed my example."

After two days spent in examining these diverse constructions and admiring the art with which they had united the movement of the water, as well as the order and the arrangement of the logs necessary for furnishing the charcoal which such a large enterprise requires, we left Mr. Townsend and the same day arrived at Ringwood, where we knew that the proprietor, Mr. Erskine, had spent three years in Europe visiting the principal forges of Scotland, Sweden and Germany.

Though not as large, the Erskine Works were no less interesting. The arrangement and the mechanism of the different machines designed to simplify the work was even more perfect than we had seen at Sterling. A great improvement designed to flatten and to break the iron rods seemed to Mr. Herman a masterpiece of simplicity; but that which piqued his curiosity still more was the flour mill which could be lowered when one wished to use it, or raised as soon as the grinding was finished. All the pieces were made of pinchbeck. Not far from there was another mechanical device designed to bore cannon.

Mr. Erskine told us that last year he sold 500 tons of iron in bars, 200 of steel, without counting the cast iron. But Ringwood, besides an abundance of water and woods, enjoyed an inappreciable advantage, namely that of being but a short distance from the Hackensack River whose waters flow into the larger New York Bay.

"What resources," Mr. Herman said to him, "these mountains offer to the inhabitants of New York State and New Jersey. The immensity of the forests with which they are covered up to their highest peaks, the different kinds of minerals found within them with as much facility as abundance; the rich and fertile valleys, the many rivers which water them, also the springs which one encounters at different heights and which are so useful in the irrigation of the meadows and fields—what a means of prosperity and riches!

"If your posterity conserves these beautiful woods, it will enjoy for many centuries the precious advantages of leaving the charcoal necessary for the manufacture of iron, the facilities for repairing buildings and dams, also all the possibilities of power which will be needed."

"You are right," said Mr. Erskine. "It is probable that that will happen, because quite a while ago the entire range became the property of several individuals extremely interested in the conservation of these forests.

"From the limits of Connecticut up to the boundaries of Jersey, one counts in these mountains seven furnaces and six large forges, not to mention the foundries and the several refineries which [annual] produce maybe 140,000 hundredweight of forged iron, a large quantity of steel, anchors, cannon etc. If, on the other hand, I could know how much the sales of these harvests amount to, and the cattle which are raised in the valleys, I am sure that a rich and fertile plain of 882 square miles: (this is the amount which I estimate is occupied by these mountains) would not be as productive."

The following day, we arrived at Charlottenbourg across a very mountainous country. The constructions there had been built before the Revolution by an English company which the war had ruined

*(This company was organized in London by Peter Hasenclever, a German. He brought his workmen to America in 1764 and in the same year purchased the Ringwood works: later acquired by Robert Erskine. In addition to the works at Ringwood and Charlottenbourg, N. J., Hasenclever had works at Greenwood Lake, Lake Tiorati in Bear Mountain Park, back of Stony Point (in the Interstate Park section also, and across the Hudson in Westchester County. For the full scope of his immense enterprise, see PETER HASENCLEVER by Raymond H Torrey in New York History, July 1936. —P.K.A.)*

The furnace had just blazed forth. The proprietor was absent. We saw an immense nail manufactory extremely simplified by reason of a great number of small hammers put in motion by an exterior shaft. Workmen were forging bolts, also several other articles of iron for use on boats. We saw also a flattening process for sheet-iron and iron blades, used in the making of spades and shovels. They told us that last year they had melted 46,000 hundredweight of pig iron.

There, as at Sterling and Ringwood, the water reserve was immense.

*(Fifteen lakes, according to Mr. Torrey, were created by Hasenclever in order to supply his iron works with water power. Macopin Lake, now part of the Newark water supply, was one of them, Long or Greenwood Lake was another. He also created Tuxedo Lake and a lake in the valley now occupied by Lake Tiorati. Many roads in upper Passaic County were laid out by Hasenclever in connection with his works. The state highway from Pompton Lakes west along the Pequannock River on which the Charlottenbourg works were located was originally a route built by Hasenclever.—P. K. A.)*

From Charlottenbourg, we should have gone to visit Bellevale; but having learned that we would see only some large hammers, it was resolved to abandon this project in order to go to see a natural plain containing nearly 70,000 acres, situated in the center of a country which was beginning to be well cultivated.

*(DROWNED LANDS. A natural meadow estimated to contain 70,000 acres, partly situated in the State of New York and partly in New Jersey. It surrounds several good-sized islands covered with cedars. The law which the two states have just passed, gives us hope that the works started long ago to remove obstructions from the eastern part will soon be finished; so that this immense surface when entirely dry will become the principal source of riches in these districts. — de Crevecoeur)*

Nature, as if to banish nudity, had embellished this immense plain with several islands of different sizes, the land of which was extremely fertile; some were covered with red cedars, the others with very tall white cedars. It is with the wood of these last that they cover houses and barns and with which they make the fine casks and kegs of which the use is so widespread and so varied.

This plain is crossed its entire length, which is forty-eight miles, by a large and deep river (the Wallkill); but from the bridge constructed at its eastern end, up to the Hudson River, its boiling and rapid waters serve only to turn a large number of mills designed for different purposes.

*(The bridge referred to was at the foot of Denton Hill on Route 17; it was built before the Revolution and was called the Outlet Bridge as it marked the outlet of the Drowned Lands—P. K. A.)*

Accompanied by Mr. John Allison, one of the richest proprietors of these counties, we went to see an island which belongs to him half a mile from the river.

*(Allison's tract was located on the east bank of the Wallkill about four miles south of New Hampton. —P. K. A.)*

Upon it fifty-two cows were grazing. This beautiful sight, as well as the immense dairy and the mechanism employed to churn the milk surprised Mr. Herman very much.

"What!" said he, "you told me a little while ago that one-hundredth part Of the surface of these islands and of this plain was hardly cultivated, cut by the scythes or converted into grass; and already there is such a large herd! What will it be some day?"

"The day is not far away, answered Mr. Allison, "when all that we see will be covered with grain and useful grasses. The culture of this vast plain is a conquest reserved for our posterity; here as in Egypt we will have to cut canals for irrigation, and as this plain is much subjected to inundations, it will be necessary to build dikes and causeways, divide the properties by a great number of ditches, place some strong landmarks to determine the limits of the subdivisions and trace the boundary line of New Jersey which crosses it in all its width. nothing but trees will answer this purpose, so that all over one will see

willows rising, wych-elms, poplars and sycamores. What an ornament! What riches! How wonderful to have these trees to give their shade during the heat of summer. The monotony which one observes today shall be replaced by variety; the sombre green of the dull horizon never more will blend with the brilliant azure of a beautiful day. Our population then will be increased tenfold.

"But the multiplication of men is far from contributing to their happiness. In the infancy of communities, men, having more space, being less exposed to the incentive of necessity, are happier and consequently less wicked. Maybe even our posterity will consider the age in which we are living as the golden age. Hand work will be cheaper, it is true; the enjoyments of life will be better perceived, better known, the houses more spacious and better distributed. But there will be the rich and the poor: crimes will become more common and laws more severe; perhaps even the form of our good government will have changed with the circumstances.

"Nevertheless, it would be a very interesting sight for a man born, like me, in this country at the time of its very infancy, if he could review it when these great spaces, today useless and uncultivated, shall be covered with beautiful harvests; when these isles and these slopes will be decorated with neat houses and surrounded with pretty orchards; when the soft slopes of the shores of this vast plain shall be cultivated up to where the plow meets the scythe.

"What magnificent vegetation will be gathered from this rich and fertile earth, formed by long association with the waters. What a quantity of horses, of cattle, will be born and will fatten on this land, today overloaded with useless grasses and wild plants! What a quantity of butter, cheese, hemp and flax will come from these districts.

"The germs of these products exist, however, and await for development only the progress of time and industry both of which are advancing rapidly."

This learned farmer, magistrate of the county, had just finished a brick house, elegant enough and comfortable. under the roof of which we tested good hospitality and enjoyed the pleasure of his conversation.

He had us drink some gooseberry wine so old and so good that Mr. Herman thought it had come from Europe. He told us that he sends to New York every year 4,000 pounds of butter, 200 pounds of cheese, 40 casks of lard, and several tons of hemp which brings him from twelve to thirteen piasters (a coin); that his father had started this establishment twenty-two years before.

*(BUTTER, CHEESE. A long time before, the proprietors of this vast plain combined their efforts to drain its waters, the banks were cultivated, covered with cattle and goats. The quantity of butter and cheese exported from this district is prodigious, and increases every year. Last year nearly 90,000 pounds were shipped from Newburgh.—de Crevecoeur)*

He talked a great deal to us also about the laws which the states of Jersey and New York had passed to encourage drainage; he added that the work had been started and had already produced good results.

*(In 1773, the colonial legislature of New York passed an act providing that inspectors be appointed with power to raise fifteen hundred pounds—about \$7,500—for the purpose of draining the Drowned Lands. Among the inspectors appointed was Jesse Woodhull, Crevecoeur's escort on this trip. In 1775, another act was passed providing for the raising of about \$2,500 to continue the work.—P. K. A.)*

"What a conquest," he remarked to us, "when one thinks that for three thousand guineas (a guineau is 21 shillings so this would amount to approximately \$10,000—H.S.) one can drain a surface of 70,000 acres!"

The affairs of Colonel Woodhull necessitated his leaving us sooner than we expected, and we separated at Wawayanda in upper Jersey, where we passed the Highlands.

*(HIGHLANDS. Name by which this range of mountains is known which crosses New York State twenty leagues from the sea; it is only seven leagues wide. It is a branch of the range which in Pennsylvania are called the Kittling Mountains in Pennsylvania, the Kittatiny in New Jersey and the Shawangunk in New York.—de Creve Coeur)*

They seemed to us much higher than the mountains which bordered the river.

The following day we came to Basking Ridge where we spent the night and admired the ingenious mechanism of a mill designed to break and cut hemp and flax.

The day after, we went to Princeton in order to see the masterpiece constructed by Rittenhouse. It is a machine which represents with the utmost exactitude the movements of the heavenly bodies, their eclipses, their oppositions; and so all the astronomical phenomena which the moderns have discovered.

"This machine," says Mr. Jefferson, "which for want of a name we shall call Orrery, is perhaps the most beautiful piece of mechanism made by the hand of man. Rittenhouse has not created the world, but by the power of imitation, he has approached nearer to the Great Creator than any man who ever existed."

We were asked to visit the copper mines of Rock, Hill and Schuyler, but having learned that the damage which they had received during the war had not yet been repaired, we returned to New-York.