RANDOM HOUSE eBOOKS

Quicksilver

Neal Stephenson

Contents

About the Author

Neal Stephenson is the author of the novels *The System of the World*, *The Confusion*, *Quicksilver*, *Cryptonomicon*, *Snow Crash*, *The Diamond Age*, and *Zodiac*. He lives in Seattle. *Quicksilver* was the winner of the 2003 Arthur C Clarke award.

Quicksilver

Volume One of the Baroque Cycle

Neal Stephenson

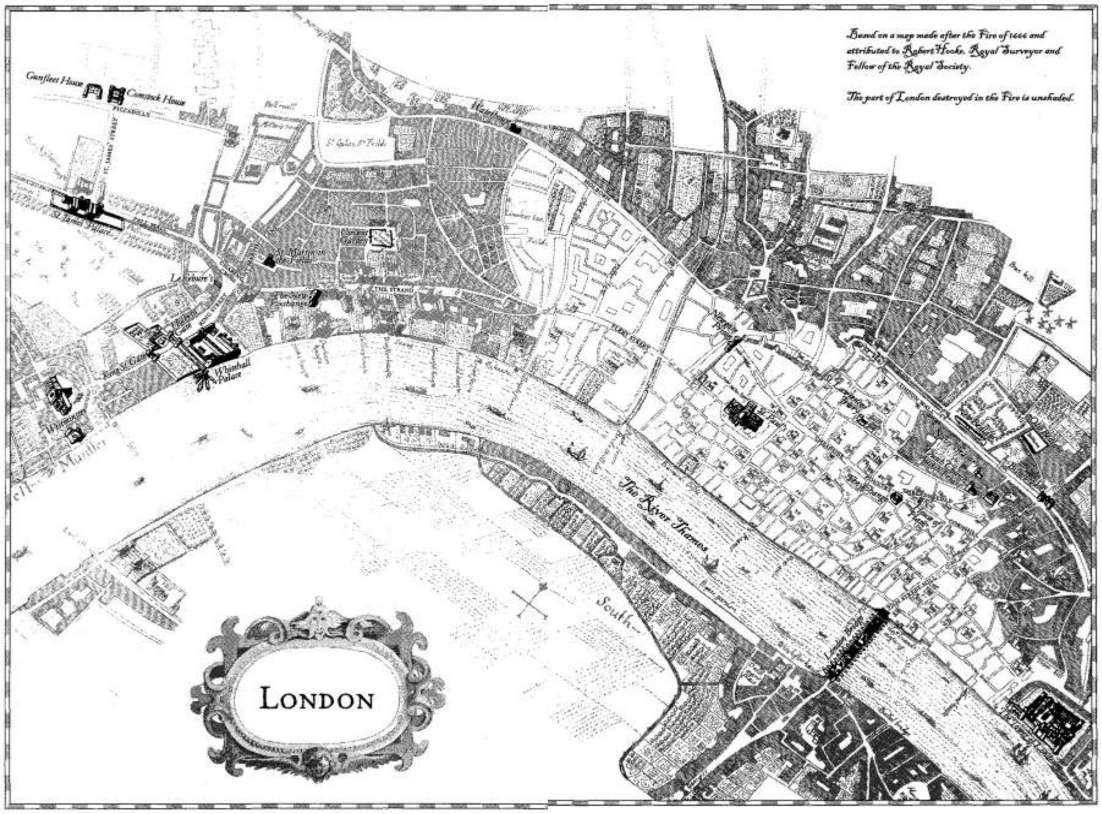
arrow books

To the woman upstairs

Invocation

State your intentions, Muse. I know you’re there.
Dead bards who pined for you have said
You’re bright as flame, but fickle as the air.
My pen and I, submerged in liquid shade,
Much dark can spread, on days and over reams
But without you, no radiance can shed.
Why rustle in the dark, when fledged with fire?
Craze the night with flails of light. Reave
   Your turbid shroud. Bestow what I require.
But you’re not in the dark. I do believe
I swim, like squid, in clouds of my own make,
To you, offensive. To us both, opaque.
What’s constituted so, only a pen
   Can penetrate. I have one here; let’s go.


EVROPA
OCEANVS OCCIDENTALIS
MARE ATLANTICVM
SINUS BISCÆ
OCEANVS GERMANICVS
MARE BRITANICVS
MARE MEDITERRANEVM
MARE BALTICVM
MARE ADRIATICVM
SCOTIA
HIBERNIA
ANGLIA
NORVEGIA
SUECIA
DANIA
LIVONIA
RUSSIA
LITHUANIA
PRUSSE
POLONIA
GERMANIA
GALLIA
HELVETIA
HISPANIA
PORTUGALIA
CORSICA
SARDINIA
SICILIA
HUNGARIA
TURCICUM IMPERIUM
GRÆCIA
BOHEMIA
MORAVIA
SILESIA
SAXONY
BAVARIA
AUSTRIA
WALLACHIA
BULGARIA
SERVIA
BOSNIÆ
CROATIA
SLAVONIA
TRANSYLVANIA
FESSA
BARBARIA
MAROCHO
AFRICÆ PARS


Based on a map made after the Fire of 1666 and attributed to Robert Hooke, Royal Surveyor and Fellow of the Royal Society.
The part of London destroyed in the Fire is unshaded.
Gunfleet House
Comstock House
PICCADILLY
ST. JAMES' STREET
St. James Palace
Whitehall Palace
The River Thames
South-
LONDON

Book One

Quicksilver

Those who assume hypotheses as first principles of their speculations . . . may indeed form an ingenious romance, but a romance it will still be.

—Roger Cotes,
preface to Sir Isaac
Newton's
Principia Mathematica,
second edition, 1713

Boston Common

OCTOBER 12, 1713, 10:33:52 A.M.

ENOCH ROUNDS THE corner just as the executioner raises the noose above the woman's head. The crowd on the Common stop praying and sobbing for just as long as Jack Ketch stands there, elbows locked, for all the world like a carpenter heaving a ridge-beam into place. The rope clutches a disk of blue New England sky. The Puritans gaze at it and, to all appearances, think. Enoch the Red reins in his borrowed horse as it nears the edge of the crowd, and sees that the executioner's purpose is not to let them inspect his knotwork, but to give them all a narrow—and, to a Puritan, tantalizing—glimpse of the portal through which they all must pass one day.

Boston's a dollop of hills in a spoon of marshes. The road up the spoon-handle is barred by a wall, with the usual gallows outside it, and victims, or parts of them, strung up or nailed to the city gates. Enoch has just come that way, and reckoned he had seen the last of such things—that thenceforth it would all be churches and taverns. But the dead men outside the gate were common robbers, killed for earthly crimes. What is happening now on the Common is of a more Sacramental nature.

The noose lies on the woman's gray head like a crown. The executioner pushes it down. Her head forces it open like an infant's dilating the birth canal. When it finds the widest part it drops suddenly onto her shoulders. Her knees pimple the front of her apron and her skirts telescope into the platform as she makes to collapse. The executioner hugs her with one arm, like a dancing-master, to keep her

upright, and adjusts the knot while an official reads the death warrant. This is as bland as a lease. The crowd scratches and shuffles. There are none of the diversions of a London hanging: no catcalls, jugglers, or pickpockets. Down at the other end of the Common, a squadron of lobsterbacks drills and marches round the base of a hummock with a stone powder-house planted in its top. An Irish sergeant bellows—bored but indignant—in a voice that carries forever on the wind, like the smell of smoke.

He's not come to watch witch-hangings, but now that Enoch's blundered into one it would be bad form to leave. There is a drum-roll, and then a sudden awkward silence. He judges it very far from the worst hanging he's ever seen—no kicking or writhing, no breaking of ropes or unraveling of knots—all in all, an unusually competent piece of work.

He hadn't really known what to expect of America. But people here seem to do things—hangings included—with a blunt, blank efficiency that's admirable and disappointing at the same time. Like jumping fish, they go about difficult matters with bloodless ease. As if they were all born knowing things that other people must absorb, along with færy-tales and superstitions, from their families and villages. Maybe it is because most of them came over on ships.

As they are cutting the limp witch down, a gust tumbles over the Common from the North. On Sir Isaac Newton's temperature scale, where freezing is zero and the heat of the human body is twelve, it is probably four or five. If Herr Fahrenheit were here with one of his new quicksilver-filled, sealed-tube thermometers, he would probably observe something in the fifties. But this sort of wind, coming as it does from the North in the autumn, is more chilling than any mere instrument can tell. It reminds everyone here that if they don't want to be dead in a few months' time, they have firewood to stack and chinks to caulk. The wind is noticed by a hoarse preacher at the base of the gallows, who takes it to

be Satan himself, come to carry the witch's soul to hell, and who is not slow to share this opinion with his flock. The preacher is staring Enoch in the eye as he testifies.

Enoch feels the heightened, chafing self-consciousness that is the precursor to fear. What's to prevent them from trying and hanging *him* as a witch?

How must he look to these people? A man of indefinable age but evidently broad experience, with silver hair queued down to the small of his back, a copper-red beard, pale gray eyes, and skin weathered and marred like a blacksmith's ox-hide apron. Dressed in a long traveling-cloak, a walking-staff and an outmoded rapier strapped 'longside the saddle of a notably fine black horse. Two pistols in his waistband, prominent enough that Indians, highwaymen, and French raiders can clearly see them from ambuscades (he'd like to move them out of view, but reaching for them at this moment seems like a bad idea). Saddlebags (should they be searched) filled with instruments, flasks of quicksilver, and stranger matters—some, as they'd learn, quite dangerous—books in Hebrew, Greek, and Latin pocked with the occult symbols of Alchemists and Kabalists. Things could go badly for him in Boston.

But the crowd takes the preacher's ranting not as a call to arms but a signal to turn and disperse, muttering. The redcoats discharge their muskets with deep hissing booms, like handfuls of sand hurled against a kettledrum. Enoch dismounts into the midst of the colonists. He sweeps the robe round him, concealing the pistols, pulls the hood back from his head, and amounts to just another weary pilgrim. He does not meet any man's eye but scans their faces sidelong, and is surprised by a general lack of self-righteousness.

"God willing," one man says, "that'll be the last one."

"Do you mean, sir, the last witch?" Enoch asks.

"I mean, sir, the last hanging."

Flowing like water round the bases of the steep hills, they migrate across a burying ground on the south edge of the Common, already full of lost Englishmen, and follow the witch's corpse down the street. The houses are mostly of wood, and so are the churches. Spaniards would have built a single great cathedral here, of stone, with gold on the inside, but the colonists cannot agree on anything and so it is more like Amsterdam: small churches on every block, some barely distinguishable from barns, each no doubt preaching that all of the others have it wrong. But at least they can muster a consensus to kill a witch. She is borne off into a new burying ground, which for some reason they have situated hard by the granary. Enoch is at a loss to know whether this juxtaposition—that is, storing their Dead, and their Staff of Life, in the same place—is some sort of Message from the city's elders, or simple bad taste.

Enoch, who has seen more than one city burn, recognizes the scars of a great fire along this main street. Houses and churches are being rebuilt with brick or stone. He comes to what must be the greatest intersection in the town, where this road from the city gate crosses a very broad street that runs straight down to salt water, and continues on a long wharf that projects far out into the harbor, thrusting across a ruined rampart of stones and logs: the rubble of a disused sea-wall. The long wharf is ridged with barracks. It reaches far enough out into the harbor that one of the Navy's very largest men-of-war is able to moor at its end. Turning his head the other way, he sees artillery mounted up on a hillside, and blue-coated gunners tending to a vatlike mortar, ready to lob iron bombs onto the decks of any French or Spanish galleons that might trespass on the bay.

So, drawing a mental line from the dead criminals at the city gate, to the powder-house on the Common, to the witch-gallows, and finally to the harbor defenses, he has got one Cartesian number-line—what Leibniz would call the Ordinate—plotted out: he understands what people are

afraid of in Boston, and how the churchmen and the generals keep the place in hand. But it remains to be seen what can be plotted in the space above and below. The hills of Boston are skirted by endless flat marshes that fade, slow as twilight, into Harbor or River, providing blank empty planes on which men with ropes and rulers can construct whatever strange curves they phant'sy.

Enoch knows where to find the Origin of this coordinate system, because he has talked to ship's masters who have visited Boston. He goes down to where the long wharf grips the shore. Among fine stone sea-merchants' houses, there is a brick-red door with a bunch of grapes dangling above it. Enoch goes through that door and finds himself in a good tavern. Men with swords and expensive clothes turn round to look at him. Slavers, merchants of rum and molasses and tea and tobacco, and captains of the ships that carry those things. It could be any place in the world, for the same tavern is in London, Cadiz, Smyrna, and Manila, and the same men are in it. None of them cares, supposing they even know, that witches are being hanged five minutes' walk away. He is much more comfortable in here than out there; but he has not come to be comfortable. The particular sea-captain he's looking for—van Hoek—is not here. He backs out before the tavern-keeper can tempt him.

Back in America and among Puritans, he enters into narrower streets and heads north, leading his horse over a rickety wooden bridge thrown over a little mill-creek. Flotillas of shavings from some carpenter's block-plane sail down the stream like ships going off to war. Underneath them the weak current nudges turds and bits of slaughtered animals down towards the harbor. It smells accordingly. No denying there is a tallow-chandlery not far upwind, where beast-grease not fit for eating is made into candles and soap.

"Did you come from Europe?"

He had *sensed* someone was following him, but *seen* nothing whenever he looked back. Now he knows why: his doppelgänger is a lad, moving about like a drop of quicksilver that cannot be trapped under the thumb. Ten years old, Enoch guesses. Then the boy thinks about smiling and his lips part. His gums support a rubble of adult teeth shouldering their way into pink gaps, and deciduous ones flapping like tavern signs on skin hinges. He's closer to eight. But cod and corn have made him big for his age—at least by London standards. And he is precocious in every respect save social graces.

Enoch might answer, *Yes, I am from Europe, where a boy addresses an old man as "sir," if he addresses him at all*. But he cannot get past the odd nomenclature. "Europe," he repeats, "is that what you name it here? Most people *there* say *Christendom*."

"But we have Christians *here*."

"So this *is* Christendom, you are saying," says Enoch, "but, obviously to you, I've come from somewhere *else*. Perhaps Europe *is* the better term, now that you mention it. Hmm."

"What do other people call it?"

"Do I look like a schoolmaster to you?"

"No, but you talk like one."

"You know something of schoolmasters, do you?"

"Yes, sir," the boy says, faltering a bit as he sees the jaws of the trap swinging toward his leg.

"Yet here it is the middle of Monday—"

"The place was empty 'cause of the Hanging. I didn't want to stay and—"

"And what?"

"Get more ahead of the others than I was already."

"If you are ahead, the correct thing is to *get used to it*—not to make yourself into an imbecile. Come, you belong in school."

“School is where one learns,” says the boy. “If you’d be so kind as to answer my question, sir, then I should be learning something, which would mean I *were* in school.”

The boy is obviously dangerous. So Enoch decides to accept the proposition. “You may address me as Mr. Root. And you are—?”

“Ben. Son of Josiah. The tallow-chandler. Why do you laugh, Mr. Root?”

“Because in most parts of Christendom—or Europe—tallow-chandlers’ sons do not go to grammar school. It is a peculiarity of . . . your people.” Enoch almost let slip the word *Puritans*. Back in England, where Puritans are a memory of a bygone age, or at worst streetcorner nuisances, the term serves well enough to lampoon the backwoodsmen of Massachusetts Bay Colony. But as he keeps being reminded here, the truth of the matter is more complex. From a coffeehouse in London, one may speak blithely of Islam and the Mussulman, but in Cairo such terms are void. Here Enoch is in the Puritans’ Cairo. “I shall answer your question,” Enoch says before Ben can let fly with any more. “What do people in other parts call the place I am from? Well, Islam—a larger, richer, and in most ways more sophisticated civilization that hems in the Christians of Europe to the east and the south—divides all the world into only three parts: their part, which is the *dar al-Islam*; the part with which they are friendly, which is the *dar as-sulh*, or House of Peace; and everything else, which is the *dar al-harb*, or House of War. The latter is, I’m sorry to say, a far more apt name than Christendom for the part of the world where most of the Christians live.”

“I know of the war,” Ben says coolly. “It is at an end. A Peace has been signed at Utrecht. France gets Spain. Austria gets the Spanish Netherlands. We get Gibraltar, Newfoundland, St. Kitts, and—” lowering his voice “—the slave trade.”

“Yes—the *Asiento.*”

“Ssh! There are a few here, sir, opposed to it, and they are dangerous.”

“You have Barkers here?”

“Yes, sir.”

Enoch studies the boy’s face now with some care, for the chap he is looking for is a sort of Barker, and it would be useful to know how such are regarded hereabouts by their less maniacal brethren. Ben seems cautious, rather than contemptuous.

“But you are speaking only of *one* war—”

“The War of the Spanish Succession,” says Ben, “whose cause was the death in Madrid of King Carlos the Sufferer.”

“I should say that wretched man’s death was the *pretext*, not the cause,” says Enoch. “The War of the Spanish Succession was only the second, and I pray the last, part of a great war that began a quarter of a century ago, at the time of—”

“The Glorious Revolution!”

“As some style it. You *have* been at your lessons, Ben, and I commend you. Perhaps you know that in that Revolution the King of England—a Catholic—was sent packing, and replaced by a Protestant King and Queen.”

“William and Mary!”

“Indeed. But has it occurred to you to wonder *why* Protestants and Catholics were at war in the first place?”

“In our studies we more often speak of wars *among* Protestants.”

“Ah, yes—a phenomenon restricted to England. That is natural, for your parents came here because of such a conflict.”

“The Civil War,” says Ben.

“Your side won the Civil War,” Enoch reminds him, “but later came the Restoration, which was a grievous defeat for your folk, and sent them flocking hither.”

“You have hit the mark, Mr. Root,” says Ben, “for that is just why my father Josiah quit England.”

“What about your mother?”

“Nantucket-born sir. But her father came here to escape from a wicked Bishop—a loud fellow, or so I have heard—”

“Finally, Ben, I have found a limit to your knowledge. You are speaking of Archbishop Laud—a terrible oppressor of Puritans—as some called your folk—under Charles the First. The Puritans paid him back by chopping off the head of that same Charles in Charing Cross, in the year of our lord sixteen hundred and forty-nine.”

“Cromwell,” says Ben.

“Cromwell. Yes. He had something to do with it. Now, Ben. We have been standing by this millstream for rather a long while. I grow cold. My horse is restless. We have, as I said, found the place where your erudition gives way to ignorance. I shall be pleased to hold up my end of our agreement—that is, to teach you things, so that when you go home to-night you may claim to Josiah that you were in school the whole day. Though the schoolmaster may give him an account that shall conflict with yours. However, I do require certain minor services in return.”

“Only name them, Mr. Root.”

“I have come to Boston to find a certain man who at last report was living here. He is an old man.”

“Older than you?”

“No, but he might *seem* older.”

“How old is he, then?”

“He watched the head of King Charles the First being chopped off.”

“At least threescore and four then.”

“Ah, I see you have been learning sums and differences.”

“And products and dividends, Mr. Root.”

“Work this into your reckonings, then: the one I seek had an excellent view of the beheading, for he was sitting upon his father’s shoulders.”

“Couldn’t have been more than a few years old then. Unless his father was a sturdy fellow indeed.”

“His father was sturdy in a sense,” says Enoch, “for Archbishop Laud had caused his ears and his nose to be cut off in Star Chamber some two decades before, and yet he was not daunted, but kept up his agitation against the King. Against all Kings.”

“He was a Barker.” Again, this word brings no sign of contempt to Ben’s face. Shocking how different this place is from London.

“But to answer your question, Ben: Drake was not an especially big or strong man.”

“So the son on his shoulders was small. By now he should be, perhaps, threescore and eight. But I do not know of a Mr. Drake here.”

“Drake was the father’s *Christian* name.”

“Pray, what then is the name of the family?”

“I will not tell you that just now,” says Enoch. For the man he wants to find might have a very poor character among these people—might already have been hanged on Boston Common, for all Enoch knows.

“How can I help you find him, sir, if you won’t let me know his name?”

“By guiding me to the Charlestown ferry,” Enoch says, “for I know that he spends his days on the north side of the River Charles.”

“Follow me,” says Ben, “but I hope you’ve silver.”

“Oh yes, I’ve silver,” says Enoch.

THEY ARE SKIRTING A KNOB of land at the north end of the city. Wharves, smaller and older than the big one, radiate from its shore. The sails and rigging, spars and masts to his starboard combine into a tangle vast and inextricable, as characters on a page must do in the eyes of an unlettered peasant. Enoch does not see van Hoek or *Minerva.* He begins to fear that he shall have to go into taverns and make inquiries, and spend time, and draw attention.

Ben takes him direct to the wharf where the Charlestown Ferry is ready to shove off. It is all crowded with hanging-watchers, and Enoch must pay the waterman extra to bring the horse aboard. Enoch pulls his purse open and peers into it. The King of Spain's coat of arms stares back at him, stamped in silver, variously blurred, chopped, and mangled. The Christian name varies, depending on which king reigned when each of these coins was hammered out in New Spain, but after that they all say D. G. HISPAN ET IND REX. By the grace of God, of Spain and the Indies, King. The same sort of bluster that all kings stamp onto their coins.

Those words don't matter to anyone—most people can't read them anyway. What does matter is that a man standing in a cold breeze on the Boston waterfront, seeking to buy passage on a ferry run by an Englishman, cannot pay with the coins that are being stamped out by Sir Isaac Newton in the Royal Mint at the Tower of London. The only coinage here is Spanish—the same coins that are changing hands, at this moment, in Lima, Manila, Macao, Goa, Bandar Abbas, Mocha, Cairo, Smyrna, Malta, Madrid, the Canary Islands, Marseilles.

The man who saw Enoch down to the docks in London months ago said: "Gold knows things that no man does."

Enoch churns his purse up and down, making the coins-fragments fly, hoping to spy a single pie-slice—one-eighth of a Piece of Eight, or a bit, as they are called. But he already knows he's spent most of his bits for small necessaries along the road. The smallest piece he has in his purse right now is half of a coin—four bits.

He looks up the street and sees a blacksmith's forge only a stone's throw away. Some quick work with a hammer and that smith could make change for him.

The ferryman's reading Enoch's mind. He couldn't see into the purse, but he could hear the massive gonging of whole

coins colliding, without the clashing tinkle of bits. “We’re shoving off,” he is pleased to say.

Enoch comes to his senses, remembers what he’s doing, and hands over a silver semicircle. “But the boy comes with me,” he insists, “and you’ll give him passage back.”

“Done,” says the ferryman.

This is more than Ben could have hoped for, and yet he *was* hoping for it. Though the boy is too self-possessed to say as much, this voyage is to him as good as a passage down to the Caribbean to go a-pirating on the Spanish Main. He goes from wharf to ferry without touching the gangplank.

Charlestown is less than a mile distant, across the mouth of a sluggish river. It is a low green hill shingled with long slender haymows limned by dry-stone fences. On the slope facing toward Boston, below the summit but above the endless tidal flats and cattail-filled marshes, a town has occurred: partly laid out by geometers, but partly growing like ivy.

The ferryman’s hefty Africans pace short reciprocating arcs on the deck, sweeping and shoveling the black water of the Charles Basin with long stanchion-mounted oars, minting systems of vortices that fall to aft, flailing about one another, tracing out fading and flattening conic sections that Sir Isaac could probably work out in his head. *The Hypothesis of Vortices is pressed with many difficulties.* The sky’s a matted reticule of taut jute and spokeshaved tree-trunks. Gusts make the anchored ships start and jostle like nervous horses hearing distant guns. Irregular waves slap curiously at the lapping clinkers of their hulls, which are infested with barefoot jacks paying pitch and oakum into troublesome seams. The ships appear to glide this way and that as the ferry’s movement plays with the parallax. Enoch, who has the good fortune to be a bit taller than most of the other passengers, hands the reins to Ben and excuses his way around the ferry’s deck trying to read the names.

He knows the ship he's looking for, though, simply by recognizing the carved Lady mounted below the bowsprit: a gray-eyed woman in a gilded helmet, braving the North Atlantic seas with a snaky shield and nipples understandably erect. *Minerva* hasn't weighed anchor yet—that's lucky—but she is heavy-laden and gives every appearance of being just about to put to sea. Men are walking aboard hugging baskets of loaves so fresh they're steaming. Enoch turns back toward the shore to read the level of the tide from a barnacled pile, then turns the other way to check the phase and altitude of the moon. Tide will be going out soon, and *Minerva* will probably want to ride it. Enoch finally spies van Hoek standing on the foredeck, doing some paperwork on the top of a barrel, and through some kind of action-at-a-distance wills him to look up and notice him, down on the ferry.

Van Hoek looks his way and stiffens.

Enoch makes no outward sign, but stares him in the eye long enough to give him second thoughts about pushing for a hasty departure.

A colonist in a black hat is attempting to make friends with one of the Africans, who doesn't speak much English—but this is no hindrance, the white man has taught himself a few words of some African tongue. The slave is very dark, and the arms of the King of Spain are branded into his left shoulder, and so he is probably Angolan. Life has been strange to him: abducted by Africans fiercer than he, chained up in a hole in Luanda, marked with a hot iron to indicate that duty had been paid on him, loaded onto a ship, and sent to a cold place full of pale men. After all of that, you'd think that nothing could possibly surprise him. But he's astonished by whatever this Barker is telling him. The Barker's punching at the air and becoming quite exercised, and not just because he is inarticulate. Assuming that he has been in touch with his brethren in London (and that is a very good assumption), he is probably telling the Angolan

that he, and all of the other slaves, are perfectly justified in taking up arms and mounting a violent rebellion.

"Your mount is very fine. Did you bring him from Europe?"

"No, Ben. Borrowed him in New Amsterdam. New *York*, I mean."

"Why'd you sail to New York if the man you seek's in Boston?"

"The next America-bound ship from the Pool of London happened to be headed thither."

"You're in a terrible hurry, then!"

"I shall be in a terrible hurry to toss you over the side if you continue to draw such inferences."

This quiets Ben, but only long enough for him to circle round and probe Enoch's defenses from another quarter: "The owner of this horse must be a very dear friend of yours, to lend you such a mount."

Enoch must now be a bit careful. The owner's a gentleman of quality in New York. If Enoch claims his friendship, then proceeds to make a bloody hash of things in Boston, it could deal damage to the gentleman's repute. "It is not so much that he is a friend. I'd never met him until I showed up at his door a few days ago."

Ben can't fathom it. "Then why'd he even admit you to his house? By your leave, sir, looking as you do, and armed. Why'd he lend you such a worthy stallion?"

"He let me in to his house because there was a riot underway, and I requested sanctuary." Enoch gazes over at the Barker, then sidles closer to Ben. "Here is a wonder for you: When my ship reached New York, we were greeted by the spectacle of thousands of slaves—some Irish, the rest Angolan—running through the streets with pitchforks and firebrands. Lobsterbacks tromping after them in leapfrogging blocks, firing volleys. The white smoke of their muskets rose and mingled with the black smoke of burning warehouses to turn the sky into a blazing, spark-shot melting-pot, wondrous to look at but, as we supposed, unfit

to support life. Our pilot had us stand a-loof until the tide forced his hand. We put in at a pier that seemed to be under the sway of the redcoats.

Anyway," Enoch continues—for his discourse is beginning to draw unwanted notice—"that's how I got in the door. He lent me the horse because he and I are Fellows in the same Society, and I am here, in a way, to do an errand for that Society."

"Is it a Society of Barkers, like?" asks Ben, stepping in close to whisper, and glancing at the one who's proselytizing the slave. For by now Ben has taken note of Enoch's various pistols and blades, and matched him with tales his folk have probably told him concerning that fell Sect during their halcyon days of Cathedral-sacking and King-killing.

"No, it is a society of philosophers," Enoch says, before the boy's phant'sies wax any wilder.

"Philosophers, sir!"

Enoch had supposed the boy should be disappointed. Instead he's thrilled. So Enoch was correct: the boy's dangerous.

"*Natural* Philosophers. Not, mind you, the other sort—"

"Unnatural?"

"An apt coinage. *Some* would say it's the unnatural philosophers that are to blame for Protestants fighting Protestants in England and Catholics everywhere else."

"What, then, is a Natural Philosopher?"

"One who tries to prevent his ruminations from straying, by hewing to what can be observed, and proving things, when possible, by rules of logic." This gets him nowhere with Ben. "Rather like a Judge in a Court, who insists on facts, and scorns rumor, hearsay, and appeals to sentiment. As when your own Judges finally went up to Salem and pointed out that the people there were going crazy."

Ben nods. Good. "What is the name of your Clubb?"

"The Royal Society of London."

“One day I shall be a Fellow of it, and a Judge of such things.”

“I shall nominate you the moment I get back, Ben.”

“Is it a part of your code that members must lend each other horses in time of need?”

“No, but it is a rule that they must pay dues—for which there is *ever* a need—and this chap had not paid his dues in many a year. Sir Isaac—who is the President of the Royal Society—looks with disfavor on such. I explained to the gentleman in New York why it was a Bad Idea to land on Sir Isaac’s Shit List—by your leave, by your leave—and he was so convinced by my arguments that he lent me his best riding-horse without further suasion.”

“He’s a beauty,” Ben says, and strokes the animal’s nose. The stallion mistrusted Ben at first for being small, darting, and smelling of long-dead beasts. Now he has accepted the boy as an animated hitching-post, capable of performing a few services such as nose-scratching and fly-shooing.

The ferryman is more amused than angry when he discovers a Barker conspiring with his slave, and shoos him away. The Barker identifies Enoch as fresh meat, and begins trying to catch his eye. Enoch moves away from him and pretends to study the approaching shore. The ferry is maneuvering around a raft of immense logs drifting out of the estuary, each marked with the King’s Arrow—going to build ships for the Navy.

Inland of Charlestown spreads a loose agglomeration of hamlets conjoined by a network of cowpaths. The largest cowpath goes all the way to Newtowne, where Harvard College is. But most of it just looks like a forest, smoking without being burned, spattered with muffled whacks of axes and hammers. Occasional musket shots boom in the distance and are echoed from hamlet to hamlet—some kind of system for relaying information across the countryside. Enoch wonders how he’s ever going to find Daniel in all that.

He moves toward a talkative group that has formed on the center of the ferry's deck, allowing the less erudite (for these must be Harvard men) to break the wind for them. It is a mix of pompous sots and peering quick-faced men basting their sentences together with bad Latin. Some of them have a dour Puritan look about them, others are dressed in something closer to last year's London mode. A pear-shaped, red-nosed man in a tall gray wig seems to be the Don of this jury-rigged College. Enoch catches this one's eye and lets him see that he's bearing a sword. This is not a threat, but an assertion of status.

"A gentleman traveler from abroad joins us. Welcome, sir, to our humble Colony!"

Enoch goes through the requisite polite movements and utterances. They show a great deal of interest in him, a sure sign that not much new and interesting is going on at Harvard College. But the place is only some three-quarters of a century old, so how much can really be happening there? They want to know if he's from a Germanic land; he says not really. They guess that he has come on some Alchemical errand, which is an excellent guess, but wrong. When it is polite to do so, he tells them the name of the man he has come to see.

He's never heard such scoffing. They are, to a man, pained that a gentleman should've crossed the North Atlantic, and now the Charles Basin, only to spoil the journey by meeting with *that* fellow.

"I know him not," Enoch lies.

"Then let us prepare you, sir!" one of them says. "Daniel Waterhouse is a man advanced in years, but the years have been less kind to him than you."

"He is correctly addressed as Dr. Waterhouse, is he not?"

Silence ruined by stifled gurgles.

"I do not presume to correct any man," Enoch says, "only to be sure that I give no offense when I encounter the fellow in person."

“Indeed, he is accounted a Doctor,” says the pear-shaped Don, “but—”

“Of what?” someone asks.

“Gears,” someone suggests, to great hilarity.

“Nay, nay!” says the Don, shouting them down, in a show of false goodwill. “For all of his gears are to no purpose without a *primum mobile*, a source of motive power—”

“The Franklin boy!” and all turn to look at Ben.

“Today it might be young Ben, tomorrow perhaps little Godfrey Waterhouse will step into Ben’s shoes. Later perhaps a rodent on a tread-mill. But in any case, the *vis viva* is conducted into Dr. Waterhouse’s gear-boxes by—what? Anyone?” The Don cups a hand to an ear Socratically.

“Shafts?” someone guesses.

“Cranks!” another shouts.

“Ah, excellent! Our colleague Waterhouse is, then, a Doctor of—what?”

“Cranks!” says the entire College in unison.

“And so devoted is our Doctor of Cranks to his work that he quite sacrifices himself,” says the Don admiringly. “Going many days uncovered—”

“Shaking the gear-filings from his sleeves when he sits down to break bread—”

“Better than pepper—”

“And cheafer!”

“Are you, perhaps, coming to join his Institute, then?”

“Or foreclose on’t?” Too hilarious.

“I have heard of his Institute, but know little of it,” Enoch Root says. He looks over at Ben, who has gone red in the neck and ears, and turned his back on all to nuzzle the horse.

“Many learned scholars are in the same state of ignorance—be not ashamed.”

“Since he came to America, Dr. Waterhouse has been infected with the local influenza, whose chief symptom is

causing men to found new projects and endeavours, rather than going to the trouble of remedying the old ones."

"He's not entirely satisfied with Harvard College then!?" Enoch says wonderingly.

"Oh, no! He has founded—"

"—and *personally endowed*—"

"—and laid the cornerstone—"

"—corner-log, if truth be told—"

"—of—what does he call it?"

"The Massachusetts Bay Colony Institute of Technologickal Arts."

"Where might I find Dr. Waterhouse's Institute?" Enoch inquires.

"Midway from Charlestown to Harvard. Follow the sound of grinding gears 'til you come to America's smallest and smokiest dwelling—"

"Sir, you are a learned and clear-minded gentleman," says the Don. "If your errand has aught to do with Philosophy, then is not Harvard College a more fitting destination?"

"Mr. Root is a Natural Philosopher of note, sir!" blurts Ben, only as a way to prevent himself bursting into tears. The way he says it makes it clear he thinks the Harvard men are of the Unnatural type. "He is a Fellow of the Royal Society!"

Oh, dear.

The Don steps forward and hunches his shoulders like a conspirator. "I beg your pardon, sir, I did not know."

"It is quite all right, really."

"Dr. Waterhouse, you must be warned, has fallen quite under the spell of Herr Leibniz—"

"—him that stole the calculus from Sir Isaac—" someone footnotes.

"—yes, and, like Leibniz, is infected with Metaphysickal thinking—"

"—a throwback to the Scholastics, sir—notwithstanding Sir Isaac's having exploded the old ways through very clear demonstrations—"