The Last Witchfinder

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Extract

PART I

The Pricker of Colchester

CHAPTER THE FIRST

Introducing Our Heroine, Jennet Stearne, Whose Father Hunts Witches, Whose Aunt Seeks Wisdom, and Whose Soul Desires an Object It Cannot Name

May I speak candidly, one rational creature to another, myself a book and you a reader? Even if the literature of confession leaves you cold, even if you are among those who wish that Rousseau had never bared his soul and Augustine never mislaid his shame, you would do well to lend me a fraction of your life. I am the *Mathematical Principles of Natural Philosophy*, after all – in my native tongue, *Philosophiae Naturalis Principia Mathematica*, the *Principia* for short – not some tenth-grade algebra text or guide to improving your golf swing. Attend to my adventures and you may, Dame Fortune willing, begin to look upon the world anew.

Unlike you humans, a book always remembers its moment of conception. My father, the illustrious Isaac Newton, having abandoned his studies at Trinity College to escape the great plague of 1665, was spending the summer at his mother's farm in Woolsthorpe. An orchard grew beside the house. Staring contemplatively through his bedroom window, Newton watched an apple drop free of its tree, driven by that strange arrangement we have agreed to call gravity. In a leap of intuition, he imagined the apple to be not simply falling to the ground, but striving for the very centre of the Earth. This fruit, he divined, bore a relationship to its planet analogous to that enjoyed by the moon: gravitation, ergo, was universal – the laws that governed terrestrial acceleration also ruled the heavens. As below, so above. My father never took a woman to his bed, and yet the rush of pleasure he

experienced on that sweltering July afternoon easily eclipsed the common run of orgasm.

Twenty-two years later – in midsummer of 1687 – I was born. Being a book, a patchwork thing of leather and dreams, ink and inspiration, I have always counted scholars among my friends, poets among my heroes, and glue among my gods. But what am I like in the particular? How is the *Principia Mathematica* different from all other books? My historical import is beyond debate: I am, quite simply, the single greatest work of science ever written. My practical utility is indisputable. Whatever you may think of Mars probes, moon landings, orbiting satellites, steam turbines, power looms, the Industrial Revolution, or the Massachusetts Institute of Technology, none of these things is possible without me. But the curious among you also want to know about my psychic essence. You want to know about my *soul*.

Take me down from your shelf. If you're like most humans, you've accorded me a place of prestige, right next to the Bible, perhaps, or rubbing covers with Homer. Open me. Things start out innocuously enough, with eight turgid but not indigestible definitions concerning mass, acceleration, and force, followed by my father's three famous laws of motion. Continue turning my pages. Things are getting pretty rough, aren't they? Propositions proliferating, scholia colliding, lemmas breeding like lab rats. 'The centripetal forces of bodies, which by equable motions describe different circles, tend to the centres of the same circles, and are to each other as the squares of the arcs described in equal times divided respectively by the radii of the circles.' Lugubrious, I'll admit. This isn't Mother Goose.

But you can't judge a book by its contents. Just because my father stuffed me with sines, cosines, tangents, and worse, that doesn't make me a dry or dispassionate fellow. I have always striven to attune myself to the aesthetic side of mathematics. Behold the diagram that illustrates Proposition XLI. Have you ever beheld a more sensual set of lines? Study the figure accompanying Proposition XLVIII. Have arcs and cycloids ever been more beautiful? My father set geometry in motion. He taught parabolas to pirouette and hyperbolas to gavotte. Don't let all my conventional trigonometric discourse fool you, by the way. Determined to keep his methods a secret, Newton wrote out his discoveries in the mathematics of his day. What's really afoot here is

that amazing tool he invented for calculating the rate of change of a rate of change. Abide with me, reader, and I shall teach you to run with the fluxions.

The precise metaphysical procedures by which a book goes about writing another book need not concern us here. Suffice it to say that our human scribes remain entirely ignorant of their possession by bibliographic forces; the agent in question never doubts that his authorship is authentic. A bit of literary history may clarify matters. Unlike Charles Dickens's other novels, *Little Dorrit* was in fact written by *The Faerie Queene*. It is fortunate that Jane Austen's reputation does not rest on *Northanger Abbey*, for the author of that admirable satire was *Paradise Regained* in a frivolous mood. The twentieth century offers abundant examples, from *The Pilgrim's Progress* cranking out *Atlas Shrugged*, to *Les Misérables* composing *The Jungle*, to *The Memoirs of Casanova* penning *Portnoy's Complaint*.

Occasionally, of course, the alchemy proves so potent that the appropriated author never produces a single original word. Some compelling facts have accrued to this phenomenon. Every desert romance novel bearing the name E. M. Hull was actually written by *Madame Bovary* on a lark; *Mein Kampf* can claim credit for most of the Hallmark greetings cards printed between 1958 and 1967; Richard Nixon's entire oeuvre can be traced to a collective effort by the science-fiction slush pile at Ace Books. Now, as you might imagine, upon finding a large readership through one particular work, the average book aspires to repeat its success. Once *The Waste Land and Other Poems* generated its first Republican Party platform, it couldn't resist creating all the others. After *Waiting for Godot* acquired a taste for writing Windows software documentation, there was no stopping it.

In my own case, I started out small, producing a Provençal cookbook in 1947 and an income-tax preparation guide in 1983. But now I am turning my attention to a more ambitious project, attempting a tome that is at once an autobiography, an historical epic, and an exercise in Newtonian apologetics. Though occasionally I shall wax defensive, this is largely because so many of your species' ills, from rampant materialism to spiritual alienation, have been laid upon my rationalistic head. Face it, people, there is more to your malaise than

celestial mechanics. If you want to know why you feel so bad, you must look beyond universal gravitation.

The ability to appropriate mortal minds accounts not only for a book's literary output but for its romantic life as well, physical and emotional. We copulate by proxy, and we like it. But prior to any carnal consummation, we fall in love with you – madly, deeply, eternally – despite the yawning gulf separating our kingdoms, that chasm between the vegetable and the animal. The protagonist of my tale is a mortal woman, Jennet Stearne, and I must declare at the outset that I adored her past all telling and worshipped her beyond the bounds of reason. Even now, centuries after her death, I cannot write her name without causing my host to tremble.

When I say that my passion for Jennet began in her eleventh year, I hope you will not think me a pederast or worse. Believe me, my obsession occasioned no priapic action until my goddess was well into womanhood. And yet the fire was there from the first. If you'd known her, you would understand. She was a nimble-witted girl, and high-spirited too, zesty, kinetic, eager to take hold of life with every faculty at her disposal, heart and loins, soul and intellect. I need but tweak my memory molecules and instantly I can bring to mind her azure eyes, her cascading auburn hair, her dimpled cheeks, her exquisite upturned

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Nose

of Turk, Jennet

Stearne remembered from

The Tragedie of Macbeth, was amongst

the last ingredients to enter a witches' brew, hard behind the goat's gall, the hemlock root, the wolf's tooth, the lizard's leg, and so many other wonderfully horrid things. Near the end came the Tartar's lips, the tiger's guts, and the finger of a strangled babe. Finally you cooled the concoction with baboon blood, all the while chanting, 'Double, double, toil and trouble, fire burn and cauldron bubble.'

Although Jennet had never actually seen a witches' brew, she hoped the day was not far off when she might accompany her father,

Witchfinder-General for Mercia and East Anglia, on the cleansing circuit, thereby beholding not only an enchanted soup but all the other astonishing components of a Sabbat, the flying horses, singing pigs, wizards dancing widdershins, and altars piled high with silver apples made of moonlight. As it was, however, at the start of the spring hunt Walter Stearne always placed his daughter under the care and tutelage of his widowed sister-in-law, Isobel Mowbray, whilst Jennet's younger brother, Dunstan, was privileged to join their father as he set about delivering the English nation from the Devil.

This arrangement would have occasioned in Jennet an intolerable envy but for the irrefutable fact that Aunt Isobel was the cleverest woman in Christendom. Aunt Isobel the philosopher. Aunt Isobel the mistress of Mirringate Hall, that carnival of marvels, chief amongst the prizes accruing to her long-dead husband's mercantile genius. In the Mirringate astronomical observatory, Jennet had once spied the very quartet of Jovian satellites that had inspired Galileo Galilei to cast his lot with the Copernican universe. In the alchemical laboratory she'd oft-times heated the pigment cinnabar, sublimating it into a slippery silver pearl of mercury. The crystal-gazing parlour was the scene of many attempts by Jennet and Isobel to glimpse future events in polished mirrors and clear-quartz globes, with results that seemed neither to confirm nor disprove the validity of scrying.

The burgeoning spring of 1688 found Jennet particularly anxious to continue her studies, for Aunt Isobel had recently acquired a Van Leeuwenhoek microscope of the newest design. Climbing into the Basque coach that morning, settling onto the velvet seat alongside Dunstan, she felt throughout her body an uncanny exhilaration, as if her heart had become a passenger on one of her mother's girlhood kites. Their father, in the driver's box, snapped his whip, and the horses lurched out of Wyre Street Livery into a Colchester dawn alive with birdsong and the incisive scent of dog-roses.

Thanks to Aunt Isobel, Jennet knew many stories about her mother, whose life's juices had gushed out of her as she'd struggled to bring Dunstan into the world. Passing their schoolgirl years in the verdant environs of the River Stour, the two sisters – sole offspring of Oliver Noakes, a successful Parham apothecary – had in time come to share many enthusiasms, most especially a fondness for aeolian machines.

Margaret and Isobel had fashioned their own pinwheels, weather vanes, and toy sailboats. They'd constructed soaring paper birds and fluttering parchment butterflies. They'd stretched red silk handkerchiefs on birch-wood frames, launching each kite to such an altitude that it became an ominous crimson comet hanging in the Mistley sky.

On Jennet's eighth birthday, Aunt Isobel presented her with Margaret Noakes's crowning achievement, a four-bladed windmill, thirty inches high. Silk sails puffed full of breeze, the cedar cross turned smoothly on its axis, grinding the softest flour in Creation.

'It still works!' Jennet exclaimed.

'You doubted it would?' Aunt Isobel said. She was a small woman, compact as a stone, intense as an owl. 'Your mother and I took our pastimes seriously, child. We ne'er confused fun with frivolity.'

'Fun versus frivolity . . .'

'A subtle distinction, aye, but 'tis to the subtle distinctions a natural philosopher must be e'ermore attuned. My husband once came home bearing both the skull of a human imbecile and the skull of a Sumatra orang-utan, then challenged me to say which was which.'

'The skulls looked much the same?'

'They were twins for fair. But then I noticed that in one specimen the aperture permitting egress of the brain-cord was set an inch lower than in the other. Ergo, I knew the first for the imbecile's skull, since 'tis only we humans who walk fully erect!'

The journey from Colchester to Ipswich had never seemed longer to Jennet, but at last they were strolling amidst the boxwood hedges of the Mirringate gardens, and finally they were sitting in the east parlour, eating biscuits and admiring the new microscope. Hand-carried by Aunt Isobel all the way from the Low Countries, the device rested on a squat marble table beside a porcelain vase holding three tulips – yellow, purple, red – likewise Dutch, recently burst from their bulbs.

It was Rodwell himself who waited on the visitors, and as the gangling old steward poured out saucers of coffee from a silver retort (not the first time an alchemical apparatus had been pressed into practical service at Mirringate), the conversation between Jennet's

father and aunt turned to the sorts of dreary political matters that for adults held such incomprehensible fascination. Would the King persist in imposing his regrettable religion on the affairs of state? Would he continue to risk his throne by appointing Catholics to head the colleges, imprisoning rebellious Anglican bishops in the Tower, and setting Papist officers over the army and the fleet? To Jennet it did not seem terribly important whether England lost her ruler or not. Obviously the nation could always get another. Surely this James the Second boasted at least one blood-relation willing to wear the crown, especially as the position included scores of minions standing ready to empty your chamber-pot, soothe you with a viol, and feed you marzipan and meringue the instant you snapped your fingers.

Bored, Jennet studied the vapours rising from her coffee. Dunstan, equally unamused, leafed through his sketching-folio – his unerring eye, she noticed, was attracted of late to gnarled trees and helical vines – until he found a blank sheet, whereupon he took out his sweet-smelling sticks of coloured wax. In a matter of minutes he'd caught the essence of the red tulip, fixing its pulse and glow to the page: a living heart, Jennet decided, beating within the breast of a fabulous Oriental dragon.

'*Mutum est pictura poema*,' she said.

Dunstan glanced up from his folio. His pudgy face had of late acquired an unfortunate pummelled quality, like a bulging purse drawn tight by a miser's anxiety. 'What?'

' "A picture is a silent poem." Simonides.'

Simultaneously changing the pitch of her voice, the cant of her spine, and the topic under discussion, Aunt Isobel gestured towards the microscope. 'It hath six times the potency of its ancestors, I'm told, a siege cannon as compared to a sling-shot. The secret lies in Van Leeuwenhoek's lenses. They say only God Himself can grind better.'

'A most impressive trinket,' Jennet's father said.

'This is no bauble, brother,' Aunt Isobel said. 'Indeed, the day may soon dawn when you will count a microscope amongst your most important tools.'

'Oh?' Walter said, frowning severely. 'How so?'

'Unless my instincts have betrayed me, 'tis by means of this invention that England's witchfinders might finally put their profession on a

sound philosophic basis, worthy to stand alongside chemistry, optics and planetary mechanics.'

Jennet contemplated the gleaming brass tube, portal to a hundred invisible worlds. She was eager to explore them all – the kingdom of swamp water, the empire of moss, the caliphate of fungus, the republic of blood.

''Tis gratifying you wish so to elevate my calling, Lady Mowbray,' Walter said, 'but my usual tools are adequate to the task.'

'Adequate to the task, but inadequate to a judge's scepticism.' Aunt Isobel fluted her thin lips, siphoning up a mouthful of coffee. 'Let me make bold, dear kinsman, to suggest that cleansing's an imperiled enterprise. England's a-swarm with doubting Thomases and the lineal descendants of Offa the Contrarian.'

'I shan't deny it.' Jennet's father removed his snowy peruke, thereby altering his aspect for the worse, from handsome and dignified demonologist to bald-headed, sweat spangled practitioner of a vanishing trade.

Isobel set her palm against the brass tube, caressing it as if coaxing a prediction from a crystalline sphere. 'I have an *experimentum magnus* in mind, certain to confound the sceptics, but requiring such materials as only you can provide.'

For the second time that day Jennet's heart flew heavenward, kite-borne, weightless. An *experimentum magnus* was coming to Mirringate – and if she learned her lessons well that season, mastering her Euclid and ingesting her Aristotle, Aunt Isobel would surely give her a role in the momentous project!

'Each time you unmask a witch, you must catch and cage her animal servant for me,' Isobel said. 'I shall need a dozen specimens at least, alive and vigorous: rat, locust, toad – whate'er sorts have lately claimed the Devil's affections.'

'A peculiar request,' Walter said.

'I shall anatomize each familiar, then use this microscope in detecting signs of satanic intervention, evidence on which no jurist durst turn his back. Mayhap I'll find tiny incantations, written on a ferret's bones in Lucifer's own hand – or minuscule imps adrift in a raven's blood – or monstrous animalcules fighting tooth and claw amidst a cat's spermatozoa.'

When Jennet heard this elaboration, her heart instantly descended.

Was there no way to accomplish the great experiment except by entering those dark, slimy, stinking regions that lay beneath fur and feathers? It was one thing to cage and scrutinize a witch's familiar, and quite another to cut the poor animal to pieces.

'Sweet sister, 'twould seem you expect me to turn my coach into a menagerie,' Walter said.

'Quite so,' Isobel replied, 'but consider this: I mean to pay you two crowns for every beast you fetch me.'

Walter rose abruptly from the divan, restoring his peruke and brushing the biscuit crumbs from his waistcoat. He bowed towards Isobel and kissed her cheek. 'I'faith, you shall have your specimens. Far be it for a witchfinder to block the path of progress.'

By the noon hour Walter and Dunstan were back in the coach, rolling away from the manor amidst a tumult of dust and the frenzied baying of the Mirringate dogs. Jennet stood on the portico and waved farewell, moving her raised hand back and forth as if polishing a scrying-mirror.

'You wear a mournful visage,' Isobel noted, cradling a bowl of coffee.

'I weep for the specimens,' Jennet confessed in a timorous voice.

'I thought as much.'

'Must we truly put them under the knife?'

'Ne'er be ashamed of sympathizing with another creature, Jenny,' Isobel said. 'Your mother, were she alive, would advocate for the vermin too.' Steam rose from her coffee, cloaking her face in a Pythian mist. 'But I bid you recall Monsieur Descartes' well-reasoned deduction concerning the lower animals. He says they are machines at base and therefore insensible to pain. Keep mindful, too, that a witch's servant hath lost all trace of primal innocence, being naught but a pawn of Satan.'

Squeezing her eyes closed, Jennet tried to picture an animal familiar. At last she conjured the creature, a ferret of sleek form and conical snout. It nosed beneath the gown of a sleeping witch and fitted its mouth around the wayward teat in the centre of her belly, slowly sucking the black milk down, ounce by unholy ounce.

Jennet opened her eyes. At its birth, no doubt, the ferret had been as stainless as any other dumb beast, but now it was a fallen thing, pet of

devils, toy of demons, poppet of goblins. It deserved a fate no better than a philosopher's glittering blade.

Walter Stearne was not a deep man, neither scholar, jurist, nor theologian, but he did a great deal of thinking all the same, and never so much as when riding the witch-circuit. As he guided his coach along the road to Saxmundham that excellent Monday afternoon, Dunstan snoring beside him, he pondered a vexing dilemma. He had misled his family concerning his credentials, sorely and deliberately misled them. For in truth he held no title for his trade – no Witchfinder-General's commission, no Master Pricker's charter – though certainly not for want of effort. Five times since the accession of James the Second he'd written to the Privy Council, pleading for a cleansing licence of the sort Queen Elizabeth had routinely issued during her luminous reign, and in January he'd petitioned White Hall proposing the creation of a new government office, Witchfinder-Royal – but so far no response, yea or nay, had come down from His Majesty. Was it time to tell Dunstan, Jennet and Isobel the truth? Not yet, he decided, as the coach clattered into Saxmundham – soon, but not yet.

As was their wont, father and son passed the night atop a goose-feather mattress in the Horn of Plenty, rising the next morning at seven o'clock. They broke their fast in the tavern – buttered eggs, fried oysters, peeled fruit – then drove to Andrew Pound's house in Church Lane. The magistrate greeted them with his customary hearty hallo, and yet Walter immediately sensed that something was amiss: a stammer in the man's voice, a stickiness in his demeanour. The cause of Pound's distress was soon forthcoming. Only two accused witches, not the usual five, lay in his keeping, though one of them had that morning put her *X* to a confession.

'Did you perchance catch their animal servants?' the cleanser asked.

Pound guided Walter and Dunstan from his dishevelled consulting room to the adjacent examination chamber, a cramped unfurnished space, spare as a crypt. 'We bagged Mrs Whittle's beastie, aye, as plump a toad as e'er licked a witch's happy sack.'

'Hear me now,' Walter said. 'My sister-in-law will lay down two

crowns for that selfsame toad, as she wishes to anatomize it according to the new experimental philosophy. If I give you half the payment, might I take the creature with me?'

'A generous bounty,' Pound said. The magistrate was a coarse and dim-witted fellow, deplorably fond of bear-baiting, but Walter still counted him a friend. 'My share I'll be depositin' in the town treasury, since my apprehension o' the familiar was all in a day's work.'

'Thou art an honest man, sir.'

Pound summoned his constable, the thickset Martin Greaves, then ordered him to fetch the suspects from the gaol. A moment later the two brides of Lucifer stood before Walter, dressed in tattered burlap smocks, their outstretched hands manacled together. Silently he offered a prayer of gratitude, complimenting God on the admirable arrangement whereby a witch always grew powerless in the custody of a magistrate, constable or pricker.

The confessed Satanist, middle-aged Alice Sampson, was a walking scarecrow, her inner putrefaction declaring itself in a squinty eye and warty thumb. Gelie Whittle, by contrast, was a corpulent hag, her hair like cankered swamp-grass, her complexion rough as cedar bark. The constable had brought along Mrs Whittle's toad-familiar as well, imprisoned in a bottle, and Walter observed that it was exactly the sort of animal, all fat and satisfied, that the Dark One might give a favourite disciple.

'Your father's about to undertake a pricking,' he said to his son. 'What five implements doth he require from the coach?'

'The short needle and the long,' Dunstan said, beaming like a cherub.

'Bright boy.'

'The shaving razor.'

'Excellent lad.'

'The magnification lens.'

'There's a keen fellow.'

'And also . . .'

'Aye?'

'Give me a moment, sir.'

'Do you not recall the alchemical tool we acquired last winter in Billericay?' Walter asked.

'The Paracelsus trident!'

The boy dashed out of the examination chamber, returning, errand accomplished, before their shadows had lengthened an inch.

Upon receiving the devices, Walter explained to his colleagues that he would examine Mrs Sampson no less rigorously than Mrs Whittle, for a signed confession was no guarantee that Lady Justice would win the day. Standing before the grand jury, the admitted heretic would commonly repudiate her statement, insisting that she'd *X*'ed it only because the magistrate had befuddled her. Either that, or she would shamelessly ornament her narrative in hope of convincing the jury to brand her a mere lunatic. In both such cases – denial and decoration – a professional witchfinder's testimony typically proved the key to securing an indictment.

'Alice Sampson,' Walter said, waving the incriminating document in her face, 'I do accuse thee of consorting with the Devil, for by setting thy mark upon this paper thou hast confessed as much.'

Barely had the accusation left his lips than, true to Walter's forebodings, Mrs Sampson spewed forth a torrent of fantastical rubbish. She described not a typical Sabbat (a dozen hags dancing naked round a bonfire) but a ceremony beyond the gaudiest confabulations of Popery itself: a thousand Satanists flying astride brimstone-belching horses all the way to Pendle Forest, where they submitted themselves to the obscene whims of the Devil's own majordomo, Lord Adramelech. A score of unbaptized babes were by Mrs Sampson's account laid upon the altar that night, after which the coven consumed the infants' flesh and drank their blood, abandoning the unspeakable feast only at daybreak.

It was all too much. Unless Walter could discover direct evidence of Satanic compaction, the grand jury would rate the woman an addlepate, commending her to the madhouse rather than to Norwich Assizes.

For modesty's sake, he ordered Dunstan back to Pound's consulting room, then peeled off Mrs Sampson's burlap shift, strapped her to the table, and shaved her body, head to pudendum, harvesting the hairs like an angel scything Cain's unwanted crop from the breast of the Earth. Assisted by the magnification lens, his eye roved across the landscape of the suspect's skin. He scrutinized moles, sorted

blemishes, classified warts, and categorized wattles, searching for Mrs Sampson's insensible Devil's mark – residue of the ritual through which the Dark One bound heretics to his service – and also for the teat Lucifer had sculpted from her flesh so she might give suck to her familiar.

Even after delving into Mrs Sampson's most intimate region, the very cavern of her sex, Walter failed to detect an aberrant nipple. Her right shoulder, however, displayed a suspicious black blotch, and so he took up the Paracelsus trident. The instant he touched the tines to the excrescence, he felt a tingling in his fingers, as though he were fondling a sack of mealworms. He seized the long needle and, over Mrs Sampson's shrill protestations, probed the mark. Even after the point had descended a full quarter-inch, the spot failed to yield even one drop of blood: proof of its Satanic aetiology.

As Mrs Sampson got dressed, he set about examining Mrs Whittle, shucking her smock, tying down her torso, removing her hair. He studied the revealed terrain, first pricking the anomalies – all perfectly natural, as it happened, for they bled freely – then employing his sensitive fingers in seeking a teat. Ere long he found one, concealed within her privy shaft, poised to nourish the toad-familiar.

Mark and teat: for Walter this was confirmation enough, but juries were partial to redundancy. 'We must corroborate these findings,' he explained to Pound and Greaves whilst the prisoner wriggled back into her smock. 'In the matter of the Whittle woman, 'tis my opinion the cold-water test will serve our ends, but with Mrs Sampson we're obliged to try a watching, for the wretch is so bony that even the sacred Jordan would strain to spit her out.'

'I see before me a man adept at his trade,' Greaves said.

And Walter thought: the constable speaks truly – I *am* adept. He was especially proud of locating the teat obscured by Mrs Whittle's female organ. Such sharp powers of discernment, he felt, such tactile perspicacity, bespoke a mind attuned to the very forces through which King Solomon and his descendants had recovered in part the knowledge of good and evil that Adam had forfeited at the Fall. Yes, it was gratifying that Isobel now sought to make his profession as impersonal and empirical as planetary mechanics: in the last analysis, however, he saw himself not as the heir of Galileo or Kepler but as the child of John

Dee, Robert Fludd, and all those other holy hermeticists whom England called her own.

'In sooth witchfinding's an art,' he said, offering the constable a nod. 'And now let us go to the river, that we might swim Mrs Whittle and determine whether she hath indeed signed the Devil's book!'

Jennet spent the morning in the third-floor conservatory, peering beneath the world's surfaces, contemplating its hidden struts and secret fretworks. When properly adjusted – eyepiece focused, mirror angled to catch the ascendant sun and illuminate the stage – a microscope became a preternatural passkey, unlocking a universe that only Jehovah Himself could see unaided. Under Van Leeuwenhoek's lenses, a louse grew as big as a lobster, a wood tick appeared strong enough to pull a plough, and a rose petal disclosed its constituents, the honeycomb-like 'cells' of Mr Hooke's *Micrographia*. Mixed with water and placed upon a Van Leeuwenhoek stage, a bit of scum from Jennet's nethermost tooth stood revealed as a fen inhabited by creatures with hairy legs and grasping tentacles.

At one o'clock Aunt Isobel declared that the day's second lesson would begin, then led Jennet down the corridor to the west cupola. The instant she saw the two leather bags on the window seat – one labelled PISTOL SHOT, the other GOOSE FEATHERS – Jennet guessed that Isobel would now require her to demonstrate Galileo's celebrated principle of uniform acceleration.

'Which will hit the ground first?' Isobel asked, depositing the bags in Jennet's grasp. 'Lead or feathers?'

'They will hit the ground together.'

'Together?' Isobel guided Jennet through the cupola window and across the sloped roof of the master bed-chamber. 'Why do you believe that?'

'Because Mr Galileo says 'tis so.'

'Nay, Jenny. You should believe it because of what occurs before your eyes when you put the conjecture to a test.'

At her aunt's bidding Jennet leaned as far over the edge of the roof as she could without herself becoming an object of uniform acceleration. The gravel walkway shimmered in the afternoon sun, arcing past

an oak tree in whose commodious shade the Mirringate dogs now dozed.

'On the count of three, you will drop lead and feathers in tandem, studying them throughout their descent,' Isobel said.

Jennet held out both bags as if waiting for some huge omnivorous bird to fly past and snatch them away.

'One . . . two . . . three!'

She opened her hands, sending both bags plummeting. They struck the gravel simultaneously – or so it seemed – the feathers landing silently, the lead with a muffled crunch. The dogs, startled, scrambled to their feet and bounded away.

'What happened?' Isobel asked.

'They hit the ground together.'

'I shan't disagree. Conclusion?'

'I say that Mr Aristotle's physics serves us poorly in this matter. 'Tis obvious that an object's weight affects not the speed at which it falls.'

'Wrong, darling.'

'Wrong?'

'Doth one black hare prove that all hares are black? Doth one fanged snake prove that every snake will bite?'

'No.'

'Conclusion?'

'I say that . . . I say that I must retrieve the bags and drop them again!'

'Ah!'

As the afternoon progressed, Jennet repeated the famous experiment, once, twice, thrice – eight trials altogether. In no instance did the lead outpace the feathers.

'Conclusion?' Isobel asked.

''Twould seem reasonable to say that uniform acceleration's a fixed principle of Nature.'

'An excellent deduction, Jenny! You have made a sterling case for it!'

Weary now of contradicting antiquity, Jennet asked whether they might ascend to the astronomical observatory, as she wished to study

the full moon, presently lying in pale repose above the horizon. Isobel insisted that for the moment they must visit the library, so they could together examine her latest acquisition.

'A book?'

''Tis much more than a book,' Isobel said. ''Tis in sooth the grandest treatise yet conceived by any man of woman born.'

Thus it was that Jennet found herself in her aunt's favourite reading chair, cradling a volume entitled *Philosophiae Naturalis Principia Mathematica*. The author was Professor Isaac Newton, whose essay called 'A New Theory About Light and Colours' had constituted her assignment in optics during the winter hiatus. Whereas Newton's ruminations on light had proven succinct and accessible, the beast now pressing her lap was something else entirely; quite possibly the world's most profound book – certainly it looked the part and boasted the heft. Turning the pages and beholding the geometric figures, strange as any in an alchemist's text, Jennet felt a peculiar quietude settle over the library, as if the other volumes had been paralysed by reverence. Mr Huygens's *Horologium Oscillatorium* stood in awe of this *Principia Mathematica*, as did Mr Harvey's *De Motu Cordis*, Mr Boyle's *The Sceptical Chymist*, and *De Magnete* by Colchester's own William Gilbert.

Isobel strode to the centre of the room, placing her palms on the great dusky Earth-globe, big as a cathedral bell. 'What Mr Newton hath accomplished, or so I surmise, is to take Mr Galileo's terrestrial mechanics, combine them with Mr Kepler's celestial laws, and weave them all into one grand theory of the world. 'Twould seem, for example, that whether we speak of planets or of pebbles, the mutual affinity betwixt two objects is the inverse square of their distance one from the other.'

'Inverse square? I'm confused.'

'No shame in that, even for so brilliant a child as yourself.' Isobel relieved Jennet of the *Principia Mathematica*, clasping it to her bosom. 'Now hear my bold conjecture. 'Tis by mastering Mr Newton's principles that a demon makes itself a lord o'er acceleration and a ruler of the attractive force. Through this ill-gotten gravity that same spirit can send an enchantress streaking broom-borne to her Sabbat – or drive a bolt of Heaven's fire into a Christian's crops – or raise

a storm against an admiral's flagship. Mark me, darling, our witch-finding family would do well to grasp the Newtonian system in all its particulars, for the devils who trap us in catastrophes are first and foremost geometers.'

'My father's a great lover of books,' Jennet said, 'but I fear this swollen tome would bewilder him.'

Isobel nodded and said, 'A considerable time will pass ere England's witchfinders confound Satan with cosines, for not only is the *Principia* a fearsome difficult work, there are but four hundred of them in the world.'

'Then it must have cost you dearly.'

'Not a penny. I received this copy in person from Mr Pepys, who currently presides o'er the Royal Society. Ah, you ask, by what means did my aunt commend herself to a community that excludes dabblers by habit and women by policy? Simply this. She posed as both an expert and a man!'

'Wonderful!'

''Twas a bonny ruse: a loose shirt to mask my bosom, a golden periwig to conceal my locks, and – *voilà* – I was Monsieur Armand Reynaud of L'Académie Royale des Sciences, in which guise I travelled to London and spoke to Mr Pepys's sages on "La Grande Tache Rouge de Jupiter". I nearly fell to giggling when, right before my talk, I o'erheard Pepys brag how his august body had thus far learned natural philosophy from one woman only – the female skeleton in the Society's anatomical collection.'

'Oh, how I wish they knew the truth!' Jennet squealed.

'On the evidence of this gathering, our gender hath been deprived of naught. Save for my argument that Jupiter's Great Red Spot is really a kind of thunder-gust, plus a few diverting remarks from Mr Wallis concerning cryptography, 'twas a frightfully dull affair – and poorly attended, too, Mr Newton being at his mother's farm, Mr Hooke away on business, and Mr Boyle abed with a fever. Ah, but you're wrong to suppose they ne'er learned of my mischief, for at meeting's end, in a fit of pique, I pulled off my wig, announced my sex, snatched up my *Principia*, and jumped into my carriage!'

'*Merveilleux!*' Jenet said, practising her French.

'A jolly sight indeed – fifteen falling jaws plus twice as many

bulging eyes. And now we climb to the observatory, Jenny, where Rodwell hath laid out our supper and the Hevelius telescope stands ready to show us the lunar landscape, every dip and ridge. The moon wants mapping, child of my heart, and we're the philosophers to do it!'

As Jennet followed her aunt out of the library, she once again felt an intimation that the *Principia Mathematica* was a work so powerful and majestic that all its predecessors had prostrated themselves before it in inky adoration. No book in Isobel's collection was immune to this idolatry – not *De Revolutionibus Orbium Coelestium* by Nicolaus Copernicus nor *Siderius Nuncius* by Galileo Galilei nor even *De Harmonice Mundi* by Johannes

*

Kepler never became an object of the legendary Newtonian wrath, and neither did Copernicus nor Galileo, though it must be allowed that this circumstance traced less to collegial congeniality than to the fact that all three scientists were dead before my father was born, Galileo passing away less than a year prior to Newton's advent. While I am in no way prepared to defend my father's penchant for cultivating enemies, I shall admit that in one particular instance – the case of René Descartes – his vindictiveness proved productive, sending him down pathways he might otherwise have left unexplored.

Because Descartes rejected atomism, my father became an atomist. Descartes's vortex theory of planetary motion inspired Newton to demonstrate that vortices couldn't account for Kepler's laws. Descartes's fondness for describing motion algebraically goaded Newton into imagining a dynamics based on algebra's *alter ego*, geometry. Because no such branch of mathematics existed, he proceeded to invent one. Speaking personally, I wish the world had adopted my father's original term, *fluxions*, for his brainchild. *Calculus* is such a frosty word.

As for the balance of Newton's spleen, there is nothing to be said for it. He might have been the smartest man ever to walk the Earth, but he was not the noblest. Typical was the John Flamsteed affair,

wherein Newton manoeuvred the Astronomer-Royal into publishing the latter's work prematurely, merely so that my second edition might be spiced with Flamsteed's lunar observations. In 1712 the poor man's garbled and embarrassing catalogue appeared under the title *Historia Coelestis Britannica*. A few years later Flamsteed managed to buy up three hundred of the wretched things, nearly the entire print run. He heaped the copies into a pyre in the grounds of the Royal Observatory, inserted a lighted torch, and, as he subsequently wrote, 'made a Sacrifice of them to Heav'nly Truth'.

A bonfire of books. The thought curdles me. Some say my species is imperishable, but they lie, for ours is a chillingly provisional immortality. Although we commonly outlive our creators, the curious scholar need look no further than the inferno that razed the Library of Alexandria to realize that a book may vanish irretrievably, leaving behind only a whiff of carbon and a pile of ash. Gutenberg, of course, did much to allay our angst – for us the coming of movable type was equivalent to the arrival of gonads among you vertebrates – but the fact remains that visions of extinction haunt us all. The moral of my dread is simple. Treasure each volume you hold in your hands, and read it while you may.

More than three hundred years have passed since Jennet Stearne, sitting in Isobel Mowbray's library, first held me in *her* hands, and I can still feel the pulsing thrill of that moment. The child did not requite my adoration that day, or the next day either, but in time she craved intimacy with my pages. Ah, what rapturous vibrations seized me when my goddess learned to determine parabolic orbits! How complete my epiphany when she conquered the mathematics of rectilinear ascent!

Now, I must confess that much of what lies between my covers is as opaque to me as to anyone else. I am not wholly available to myself. 'Homogeneous and equal spherical bodies, opposed by resistances that are as the square of the velocities, and moving on by their innate force only, will, in times that are inversely as the velocities at the beginning, describe equal spaces, and lose parts of their velocities proportional to the whole.' That sort of thing. But before you chide me for my ignorance, please remember that you too contain components of which you can give no coherent account. Who among you will say how many neurons

are firing in her brain at the moment? Who is prepared to write me
a lobe-by-lobe treatise on his pancreas? And what of that vital
fluid now flowing through your veins? Can you
expound upon it meaningfully, other
than to call
it
*
Blood
never poured
from the maleficent
mark with which the Devil branded
a disciple: every witchfinder understood this, from the
lowliest justice of the peace to a master pricker like Walter Stearne.
Nor did tears flow freely from a witch's ducts, no matter how forceful the cleanser's coercions. Nor did the *Pater Noster* leave a witch's lips without suffering some degradation, gross or subtle. And pure water, of course, the medium of baptism, could not long abide the presence of a person fit to be christened only with shit.

No one disputed that the best place in Saxmundham for swimming a witch was the sturdy stone arch known as the Alde River Bridge. When Andrew Pound revealed that, thanks to the April rains, the Alde's waters ran deep, Walter remanded Dunstan to the coach that he might procure the necessary items: mask-o'-truth, thongs, twenty-foot rope. The boy obtained the tools in a trice, whereupon Walter prepared Gelie Whittle for the test, binding her wrists and ankles, lashing the rope around her waist. Throughout these preliminaries Mrs Whittle attempted to recite the twenty-third Psalm, lapsing into incoherence upon reaching the valley of the shadow of death.

Martin Greaves dragged Alice Sampson back to the gaol, returning anon to the examination chamber, and then the small solemn company started down Mill Lane. First came Walter and Mr Pound, marching in tandem, followed by Dunstan, clutching his artist's valise. Mr Greaves brought up the rear, Mrs Whittle slung over his shoulder like a sack of potatoes.

Well versed in the principles of buoyancy, Walter knew that a witch would sometimes foil the waters by exhaling at the moment of descent, and so immediately after their arrival at the bridge he applied

his brilliant invention, the mask-o'-truth. Whilst Mrs Whittle remained balanced on Greaves's back, Walter demanded that she take a deep breath, and then upon her compliance he clamped the cowhide napkin over her mouth and pinched her nostrils closed using the ingenious spring-clip. He secured the entire arrangement with leather thongs, trapping within her lungs the inhaled volume of air.

'An awesome clever device.' Greaves set the prisoner supine on the span.

Walter said, 'I could ne'er have contrived it were I not sensible of the relevant philosophy, from Archimedes to Robert Boyle.'

He knelt and lashed Mrs Whittle's manacles to her ankle thongs, thus bending her into the form of an ox-yoke. As Pound took hold of the swimming-rope, Walter and the constable picked up the suspect and set her atop the bridge wall as they might place a freshly baked pie to cool upon a window-sill, then levered her into the open air. Pound tightened his grip on the rope, locked his foot against the wall, and lowered Mrs Whittle's polluted flesh inch by inch towards the tell-tale river.

Of all the proofs employed by witchfinders, swimming was the one most vulnerable to sceptical objection, and so Walter always ordered a sinker raised at the merest hint she might drown. Fifteen years in the profession, and he'd lost only two suspects to the cold-water test. In Mrs Whittle's case, however, no particular vigilance was necessary, for within five seconds of her immersion she shot to the surface, as if her stony heart lay sealed within a body of cork.

'Gelie Whittle, I aver that this virtuous current hath vomited thee forth!' Walter shouted as Pound and Greaves hauled her dripping, shivering body free of the water.

They set her in the centre of the span, where she jerked and spasmed like a flounder expiring on the deck of a fishing smack. Crouching beside her, Walter severed her ankle thongs with his pocket-knife and untied the mask-o'-truth. She exhaled fiercely.

'Wilt thou therefore confess to thy witchery,' Walter asked, 'or must we bring thee before Mr Pound's jury?'

'I could no more put my name to your paper than I could set a Bible aflame,' Mrs Whittle sputtered. ''Tis as sinful to claim compact with the Devil where none exist as to deny such intercourse when it be true!'

'You bear an imp teat 'twixt your legs!'

''Tis naught but the womb God gave me!'

'You bear an imp teat, the Alde's flow hath spurned you, and now you speak of taking a torch to Scripture!' Walter said. 'The jurors will hear the whole of it, Mrs Whittle, pap and river and blasphemy – they will hear all three!'

On Wednesday morning Jennet's fellow student arrived at the manor, Elinor Mapes, eleven years old, a bitter and conceited child who never tired of noting that her father was the Vicar of Ipswich, whereas other girls' fathers were merely farmers or cobblers or witchfinders. By way of convincing herself she was in fact fond of this disagreeable person, Jennet had on several occasions made overtures of friendship, reminding Elinor that they shared a bond of bereavement, Sarah Mapes having succumbed to a malignant fever not many months after Margaret Stearne had died in childbirth. But the object of Jennet's amicable advances invariably greeted them with scorn.

'Would that Elinor knew as much of kindness as of Copernicus,' Jennet said to Aunt Isobel.

'"This you should pity rather than despise," as Helena advises Lysander,' Isobel replied.

'Mayn't I do both?'

'Both?'

'Pity and despise Elinor at the same time?'

Isobel rolled her eyes heavenwards.

The source of Elinor's disgruntlement was not far to seek. Whereas Jennet was privileged to live at Mirringate during the cleansing season, her schoolmate had to return home each night to beguile her father's solitude – an insufferable situation for a student like Elinor, who was in her own self-satisfied way a true lover of knowledge. Although Jennet struggled to avoid trumpeting her special status, she periodically succumbed to temptation, making mention well within Elinor's hearing of the previous evening's telescopic exploration, micrographic adventure, pendulum experiment, or visit to the alchemical laboratory.

Elinor's bile was fully aboil that morning, threatening to scald whomever it touched, much to her father's evident discomfort. Jennet

felt sorry for him. Although generally indifferent to clerics, she held Roger Mapes in the highest regard, as he seemed not merely a man of God but a godly man, his very self a sermon.

'Tell me, pray, what novelties have come to your school of late,' he said as he followed Isobel, Jennet and his glowering daughter into the library. He was a tall, well-favoured man with an array of moles on his left temple suggesting the constellation Cassiopeia. 'A vacuum-pump mayhap?'

'I have just now collected an astonishing book.' Isobel lifted the *Principia Mathematica* from its niche, presenting it to the Vicar. ''Twould appear that what Jesus Christ accomplished for our souls, Isaac Newton hath done for our senses.'

'Lady Mowbray, you can turn a phrase for fair.' From Mr Mapes's pursed lips came a titter not entirely merry. 'Christ and Newton, a most . . . *audacious* analogy.' He restored the *Principia* to its shelf and withdrew from his satchel a slender volume entitled *Satan's Invisible World Discovered*. 'George Sinclair is certainly no Newton, but I imagine your brother-in-law might profit from this treatise, which I recently acquired wet from the press. Consider it my gift to him.'

'Walter will be most appreciative,' Isobel said, taking the book in hand.

'What use hath a pricker for such rarefied information?' Elinor asked. 'It takes no special wisdom to plant a pin in a beggar-woman's bum.'

'Miss Mapes, you will not use vulgar language,' the Vicar said.

''Twould be my supposition, child,' Isobel said, looking sharply at Elinor, 'that in obtaining impractical knowledge we please God far more than when we cultivate applicable ignorance. I trust you grasp the distinction.'

Before Elinor could reply, Isobel turned to the Vicar and asked, 'Will you do us the honour of attending the day's first lesson?'

Mr Mapes assented with a smile, whereupon Isobel guided everyone down the hall and into the crystal-gazing parlour, the churlish Elinor all the while staring crestfallen at her shoes.

'Our aim this morning is to duplicate a demonstration devised by Mr Newton himself,' Isobel said. The room lay in a swamp of gloom, its windows occluded by black velvet. 'This past winter Miss Mapes

and Miss Stearne read a piece from the Royal Society's *Philosophical Transactions* in which Newton—'

''T'was called "A New Theory About Light and Colours,"' interrupted Elinor.

'In which Newton' – Isobel inhaled pointedly – 'proposed a new theory about light and colours.' She set a triangular glass prism in the centre of the table, strode towards the east window, and removed a circular patch from the curtain. A shaft of white sunlight shot across the parlour and, striking the prism, transmuted into a rainbow that decorated the opposite wall with brilliant ribbons of red, orange, yellow, green, blue, indigo, and violet. 'What conclusion did Newton draw from this first experiment? Miss Stearne?'

'According to the received laws of refraction, the spectrum before us should be circular,' Jennet said, 'for the chink in the curtain is circular, as is the sun itself. And yet we see this oblong form. Mr Newton judged the traditional optics to be in error. A prism doth not alter light's nature but rather separates light into its components.'

'*Très bien!*' From her writing-desk Isobel obtained a second glass prism and two identical white boards, each bearing a shilling-size hole at its centre. 'Next Newton performed what he called his *experimentum crusis*. Miss Mapes, will you favour us with a replication?'

'*Certainement.*'

Elinor set one perforated board upright behind the standing prism, then positioned the other board vertically about eight feet further along the table, so that a portion of the refracted light passed through the first hole and struck the second board, bestowing a ray of purest red upon both the immediate barrier and the parlour wall beyond. 'If the old optics is correct, we could now place the second prism thus' – with a confident flourish Elinor fixed the glass pentahedron in question behind board number two – 'refract the red ray as it emerges from the second hole, and in consequence project new colours on the wall. But, as you can see, the red ray remains red.' Slowly, methodically, she moved the original prism about its axis, isolating each colour in turn and delivering it to the second prism. The orange ray stayed orange; the yellow hoarded its hue; the green held true – likewise the blue, the indigo and the violet. 'No matter how we align these prisms, we can effect no further transmutations.'

'And what therefore is Mr Newton's final hypothesis concerning light?' Isobel asked.

'He hath declared light to be a confused aggregate of rays,' Jennet cried, 'differently refrangible, and endued with all sorts of colours!'

'I was about to say that!' Elinor shouted.

'In a bug's rump you were!' Jennet insisted.

'I was! I was!'

'Softly now, children, for you've *both* learned your optics admirably.' Like a mariner reefing a sail, Isobel uncurtained the east window. The glorious morning sunshine spilled into the room. 'Miss Mapes, your father should be proud.'

'Proud as a man can feel without making a sin of it,' the Vicar said. Bending low, he kissed his daughter's cheek – but after this show of affection came a rather different display, Mr Mapes rising to full height and presenting Isobel with a mien of supreme discontent. 'Lady Mowbray, you know I'm not one to condemn the pleasures of crystal-gazing, for where's the harm in idle divination? This prism business, however – alas, I do not approve, for I find it to be a grotesque parody of God's most basic gesture.'

'You perplex me,' Isobel said.

'Genesis Chapter One tells how the Almighty's first act was to divide light from darkness, a great splitting such as you've had these children perform, and in Chapter Nine we learn that he fashioned a rainbow to seal his covenant with Noah.'

'True,' Isobel said, 'but doth not Christ in Matthew Chapter Six bid us imitate God in all things?'

'Aye, and yet—'

'To mimic the Almighty is not perforce to mock Him.'

Mr Mapes grinned, and from this gentle arc there came a musical laugh. 'So, Lady Mowbray, you have once again out-scriptured me.' His mouth reassumed the horizontal. 'Confect these spectra if you must, but keep mindful that true creation is the enterprise of our Heavenly Father alone.'

'Entirely mindful,' Isobel said.

'God's the author of all things, and Christ the cause, but 'tis Lucifer uses the world as his workshop,' Mr Mapes said, slipping out of the

crystal-gazing parlour. 'We must be ever vigilant, lest we become the Devil's apprentices.'

For the watching of Alice Sampson, Walter had been planning to use the normal venue, Granary Street Livery, and so he was keenly disappointed when Mr Pound informed him that the building had burned down the previous summer, a disaster most plausibly ascribed to Satanic mischief. No sooner had the magistrate finished deploring this diabolism, however, than Mr Greaves stepped forward and volunteered his own barn, presently dedicated to the raising of poultry. Though Walter was not eager to spend his afternoon in an atmosphere of chicken droppings, he elected to accept this turn of fortune without complaint. He'd become a demonologist for the glorification of his Saviour, not for the gratification of his senses.

Shortly after the midday meal, Walter, Dunstan and Mr Greaves retrieved Mrs Sampson from the gaol, carted her down Mill Lane, and chained her to a rusting plough in the furthest corner of the constable's barn. Upon Greaves's departure, Walter deployed an empty rooster-pen within inches of the suspect, then sat on the dirt floor beside his son and poured water from his leather flask into a tin cup. He drank. The barn was even worse than he'd anticipated, as malodorous and inhospitable as a chamber-pot, the hot sun conspiring with the poor ventilation to breed a stifling heat. Splotches of pale speckled excrement lay everywhere, and grimy brown feathers covered the ground like the moult of a winged imp.

Great was Walter's pride when, instead of lamenting this miserable environment, Dunstan merely took up his sketching-folio and proceeded to render Greaves's largest goose in pen and ink. There was a kind of holiness, Walter felt, in the way Dunstan could exercise his draughting talent whilst sitting but ten feet from an accused witch. For his immediate future, obviously, Dunstan would pursue the cleansing profession, but after he'd been installed in Heaven, posterity might very well declare him a saint.

From his son's potential canonization Walter's thoughts turned naturally to the tantalizing and auspicious fact that England's present king was a Papist. For while the master pricker was Church of

England pate to paunch, he had to admit that the most impassioned rationale for cleansing wasn't Protestant in origin – like Perkins's *Discourse on the Damned Art of Witchcraft* or Glanvill's *Full and Plain Evidence Concerning Witches and Apparitions* – but Catholic: the *Malleus Maleficarum*, that great Bludgeon against Evil-Doers, that mighty Hammer of Witches, written two hundred years earlier by the Dominican friars Krämer and Sprenger. Assuming James the Second survived his present political difficulties, it seemed reasonable to suppose that he would heed Walter's petition, chartering the post of Witchfinder-Royal and filling it with Walter himself.

But until the dawning of that blessed day, Walter's authority would derive from one source only, the woefully flawed Parliamentary Witch-craft Act. True, this sorry statute had improved on its predecessor of 1563, making the Satanic covenant a crime in itself, but the 1604 law was still keyed to *maleficium*, to evil-doing, with the result that the average English jurist demanded to hear evidence of diabolical inter-vention – a blighted crop, a miscarried foetus, a murderous lightning-bolt – before sending a sorcerer to the gallows. On the Continent, meanwhile, witch-cleansing remained a more enlightened enterprise. Not only did the Papal Inquisitors understand the stake to be a more appropriate execution method than the noose, they never confused mere *maleficium* with a witch's ultimate depravity: her worship of Lucifer, her *X* in the Devil's register.

Dunstan had finished drawing the goose. A ripe time, Walter decided, to test the boy on his *Malleus*. If Dunstan was to prosper in his destined occupation, he must know his Krämer and Sprenger chapter and verse.

'What three classes of men do the friars identify in Part Two, Question One?'

'The friars name those persons whom a witch can ne'er injure,' Dunstan replied, setting his folio aside.

Walter offered a nod of approbation. 'And who are the first class?'

'Men who engage the powers of Christ and Cross in performing exorcisms.'

'Aye. And the second class?'

'Those who in various and mysterious ways are blessed by the Holy Angels.'

'And the third?'

'Those who administer public justice against the Devil!'

'Such a remarkable pupil!'

As dusk came to Saxmundham, the two prickers' sufferings were finally rewarded. A lewd black snake wriggled out from behind a barrel of poultry feed and sinuated towards Mrs Sampson. Walter rose, lurched forward, and grabbed the familiar, shuddering as its dry supple body coiled about his forearm. Such a valuable beast, he thought, shoving the snake into the rooster-pen – worth two crowns to Isobel Mowbray and perhaps a thousand times that much to Lucifer.

'Look ye,' he said, bringing the imprisoned snake before Mrs Sampson. 'I've caught your slithery servant.'

'A drink,' she rasped. 'Prithee, good sir, some water.'

'Even if you retract your confession, Mrs Sampson, other evidence will send you to the assizes . . .'

'A drink, sir.'

'That blotch on your shoulder . . .'

'I beg ye. A drink.'

'And now this incontrovertible serpent.'

'I thirst.'

Walter winced. *I thirst*: the very words Christ had spoken from Calvary's summit. After pondering the problem a full minute, he decided that her irreverence was unintended. He would give the wretch what she wanted.

'Dunstan, bring a cup of water hither!' he cried.

'Bless ye, master pricker,' Mrs Sampson muttered.

It took the boy but an instant to decant a pint and bear the tin cup across the barn. He passed the cup to Walter, who in turn pressed it to the suspect's lips.

'Enjoy this measure whilst you may,' Walter said as Mrs Sampson gulped down his charity, 'for in Hell you'll partake of naught but kippers soaked in brine, and you'll get nary a swallow of sweetness till Eternity is come and gone.'

Elated by her success in replicating Isaac Newton's *experimentum crusis*, Elinor Mapes took to gloating, a demeanour she maintained during the

midday meal and throughout the afternoon's first lesson, which had the girls ascending to the conservatory, studying pieces of dissected insects through the microscope, and draughting what they beheld with pen and ink. For Jennet it proved a congenial enough exercise, though she wished that Dunstan was at her side, likewise sketching the creatures. What grace he would have bestowed on the facets of the honey-bee's eye, the crenellations of the grasshopper's leg, the lattice of the locust's wing, or the feathery splendour of the moth's antenna.

Elinor's gloating stopped shortly after the second lesson began, for its matter was the Latin language.

'Last night I composed a letter to Mr Newton himself,' Aunt Isobel announced upon ushering her charges down the stairway and back into the crystal-gazing parlour. From the writing-desk she retrieved a piece of vellum, its surface covered with the florid coils and ornate curves that characterized her penmanship. 'The version that reaches his eyes must for courtesy's sake employ the language of Virgil.'

She set the vellum on the table, anchoring it beneath a prism, then equipped her pupils with paper, goose-quills, ink-pots, stationery, and Seylet's *English-Latin Dictionary*. Together Jennet and Elinor studied Isobel's letter, and briefly they became compatriots in misery, for the required translation would be no Roman teething ring, no *amo amas amat*, but a missive of Ciceronian complexity, awash in accusatives, beset by ablatives, and replete with verbs whose conjugations varied intolerably from tense to tense.

13 April 1688

Dear Professor Isaac Newton:

I write to you as a Woman whose deepest Passion is to know the Secrets of Nature, such as those you have reveal'd in your recently print'd Principia Mathematica.

Perusing this admirable Treatise, I am mov'd to an Hypothesis concerning the Phenomenon of Witchcraft. I believe that your various Theorems and Propositions may have inadvertently disclosed the Mechanisms by which Wicked Spirits, once summon'd by Sorcerers, undertake the malevolent Varieties of (as we Philosophers term it)

'Action at a Distance', namely the Raising of destructive Moon-Tides, the Conjuration of Hail-Storms, and the Blasting of Crops and Cattle with Lightnings from Heav'n.

My Brother-in-Law, Witchfinder-General for Mercia and East Anglia, hath document'd these and other unholy Activities with scrupulous Thoroughness, and he would gladly provide you with such Attestations and Proofs as you may require. An Exchange of Letters on the various metaphysical Conundrums posed by Witchcraft would please me greatly, but if you would first address my immediate Conjecture, I would be evermore in your Debt.

Isobel, Lady Mowbray,
Mirringate Hall,
Ipswich

Word by wretched word, phrase by onerous phrase, Jennet struggled to accomplish her translation, her weariness compounding steadily, as if the bag of musket-balls from the previous day's Galilean demonstration lay upon her neck. When at last both girls were finished, Aunt Isobel, ever the adjudicator, announced that she would favour neither rendering but instead amalgamate them into a third. By the time Mr Mapes returned to the manor, the letter was ready for posting.

Upon learning that his daughter had Latinized an epistle intended for Isaac Newton, the Vicar proposed to secure its delivery, his present house-guest being none other than Robert Gutner, Rector of Trinity College. Isobel eagerly accepted Mr Mapes's offer, explaining that her nascent correspondence with the Lucasian Professor of Mathematics might ultimately yield precious insights into the *modi operandi* of fallen angels.

'Will Mr Newton write back?' Jennet asked after Elinor, the Vicar, and the momentous missive had departed.

'Most probably.' Isobel strode across the parlour and, reaching the east window, pulled the curtain shut. 'True, he subscribes to the deplorable Arian faith' – she removed the circular patch, admitting a shaft of the setting sun – 'but I'll warrant he's still a proper soldier in the war against Lucifer.'

Jennet said, 'For all he made a jest of it, Mr Mapes seemed truly to

take umbrage when you mentioned Newton in the same breath as our Saviour.'

'I shall ne'er again press the point in the Vicar's presence, though I've heard that Newton himself doth not forswear the comparison. And why should he? Both were born on Christmas Day. Each apprehended more of light than any soul around him. And thanks to my letter 'twill not be long ere Newton realizes that he, like Christ, hath been appointed a scourge of demons.'

Aunt Isobel lifted a prism from the table and, catching the solitary sunbeam, painted the day's last rainbow on the wall.