

✧ CHAPTER 1 ✧

Lancastrian inheritance

1 Putting up the shutters

One October evening in 1845 a familiar ritual was taking place in the ancient town of Lancaster. Autumn nights in that part of the world can have more than a touch of chill about them and late shoppers and work-people were scurrying home with nothing so much in mind as the need for warmth and supper. They would therefore have hardly noticed the actions of a young man outside the druggist's shop in Cheapside, for they had been part of every week-night's proceedings as long as they could remember. The youth in question was probably the junior of three apprentices serving their time at this establishment, and he was putting up the shutters of his master's shop. Yet his act, simple and unremarkable in itself, was laden with significance and symbolism for a fellow-labourer who was in all probability watching from within with that sense of responsibility that becomes a senior apprentice. For him the closing of the shutters meant the end of an apprenticeship and also the beginning of a wholly new life far away from his native Lancaster.

The senior apprentice was called Edward Frankland.¹ He was well known in the town for his muscular exploits with heavy goods (he once carried a record two cwt sack of barley up a 'steep and narrow staircase'), his efficiency behind the counter, his production of immaculately tied parcels, his dispensing of prescriptions in which (unlike some colleagues) he never made mistakes, and his extra-mural activities as tooth-extractor and unofficial prescriber of

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medicines, in which activity his grateful patients appeared to have greater confidence in him 'than in any of the duly qualified practitioners in the town'.² Now he was going, and the time had come to take a formal farewell of his master Stephen Ross.

What conversation passed between them we do not know. Frankland had quite enjoyed his work, especially towards the end, and (if the truth were told) had gained immeasurably from it. With the hindsight of another half-century he was to write a thoroughly demeaning account of his apprenticeship, 'six years' continuous hard labour, from which I derived no advantage whatever, except the facility of tying parcels neatly'.³ However in 1845 the iron had not entered his soul, and for at least two reasons. He had not then experienced the joys and challenges of chemical research and was therefore not in a position to prescribe appropriate courses of preparation for it, and to condemn those that were inappropriate; and he had not then conceived a world view in which the simple piety of his master Stephen Ross would have been deemed reprehensible. In any case nothing could extinguish his natural exultation at the prospect of freedom and adventure. By rights he should have served Ross until his 21st birthday in January 1846, but his master had generously remitted the last three months and even Frankland, for all the jaundiced perceptions of 50 years later, had to admit his kindness and his 'real interest in the welfare of his apprentices when they left him'.⁴ So it is likely that, with expressions of gratitude on one side and good wishes on the other, they parted.

The person who stepped through the shop doorway for the last time that night was of striking appearance. Silhouetted against the light he could be discerned to be a tall young man, of spare frame, with a largish head. At 5 ft 10½ in. he was in fact rather tall for his time. He had a fair and ruddy complexion and a mass of light brown hair.⁵ From his broad hands one could hardly have guessed at his extraordinary manual dexterity, though the thick glasses he always wore did not conceal an intensity of feeling and quickness of observation that marked him out from most of his fellows. But nothing in his appearance might have led a casual onlooker to recognise an individual whose restless energies and burning ambitions were to lead, or rather drive, him to the very pinnacle of his chosen profession. As he left the shop it is inconceivable that his mind was not thronged with memories from those long years that, to a young man of his vigour, must have seemed an eternity.

Cambridge University Press

0521545811 - Edward Frankland: Chemistry, Controversy and Conspiracy in Victorian England -

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Excerpt

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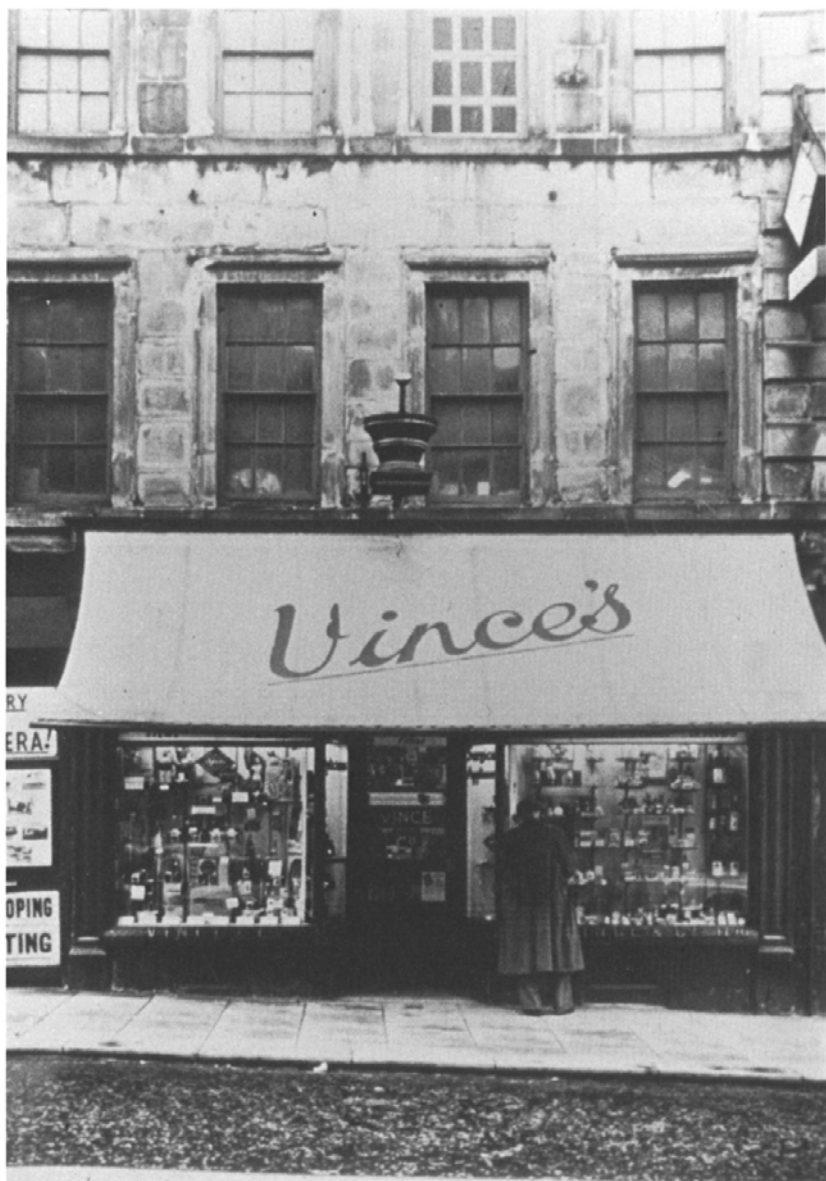


Fig. 1.1. The chemist's shop where Frankland was apprentice.
(J. Bucknall Archives.)

Glancing up at the shuttered windows he could see the familiar totem of a pestle and mortar displayed above the lintel. Another pharmacist in the town displays one to this very day. They were symbolic not only of a druggist's trade but also of an apprentice's drudgery. Ruefully the ex-apprentice would reflect on much

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larger versions of the same equipment installed on the premises, one 20lb iron pestle being rotated by a vertical rod extending through the ceiling. With apparatus of this kind he had spent hours at a time grinding mixtures as various as cocoa, ‘Spanish flies’ (cantharides), and mercury and lard to make mercury ointment. Not all his duties were so demanding on his considerable physical stamina. They had ranged from the selling of tea, coffee and nutmegs across the counter on a Saturday evening in ‘tidy’ dress, to the vending of ‘all dirty and disagreeable articles’, of which the three constituents of shoe blacking were typical: bone black, treacle and oil of vitriol. As he gained in seniority he was allowed to serve drugs as well as groceries and to make medicines. The precision, accuracy and tidiness required and developed by the last responsibility were to serve him well in the years ahead. But he was not to know that then.

Cheapside was an ancient thoroughfare, the mediaeval Pudding Lane. It runs south from Market Street and soon dissolves into Penny Street, an even older road in which Frankland and his parents had their residence. As he stepped out into the darkness and at once turned right Frankland may well have spared a thought for his former companions at Ross’s shop. They were an odd collection, though no odder than any other group of working lads assembled to learn a trade. Had he but known it that tiny shop was to produce from the apprentices during his own half dozen years there no less than three leaders of Victorian chemistry. He often recalled them. There was Robert Galloway, ‘rather gloomy and ascetic in disposition’ who was later to follow in Frankland’s footsteps and then become Professor of Practical Chemistry at the Museum of Irish Industry in Dublin. More congenial company had been afforded by George Maule, ‘full of jocularly and spirits’ whose subsequent adventures with synthetic dyestuffs made him a captain of the British chemical industry. He became wealthy enough to devote early retirement to hunting and field sports. Several other fellow-apprentices achieved more modest success in their later years.

Chiefly, however, Edward’s thoughts would turn to Stephen Ross. As he rapidly passed from Cheapside to Penny Street he could make out the recently erected church of St Thomas, in the building of which Ross had been ‘one of the moving spirits’. Unashamedly Low Church and uninhibitedly evangelical St

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Fig. 1.2. Penny Street, Lancaster, the young Frankland lived in a house in this street. (Lancaster Public Library.)

Thomas's reflected the values of Stephen Ross that were, in later years, to be such a problem to Edward Frankland. But at this turning-point in his life he cherished no such antipathy, for he himself had recently embraced a similar form of evangelical Christianity, though in the context of nonconformity, not Anglicanism. At High Street Congregational Chapel he had embraced this faith with the enthusiasm that marked all his activities. He attended meetings, exhorted his parents and taught in the Sunday School; only one month previously he had been recorded as 'one of the most regular attenders' since January 1844.⁶ Ross would have approved and encouraged, providing, of course, that it did not interfere with his duties.

Such reflections (if indeed they were entertained at this moment) would have been rapidly cut short by his arrival at no. 55, the terraced house that, since he was ten years old, had been home. Small and unpretentious, it was adequate for the modest demands of the three inhabitants: Edward, his mother and step-father. Margaret Frankland had lived in Lancaster since her son was five years old, taking in boarders for a living. One of these gentlemen was William Helm whom she married within the year. He was

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Fig. 1.3. Margaret Helm, *née* Frankland, mother of Edward Frankland.
(J. Bucknall Archives.)

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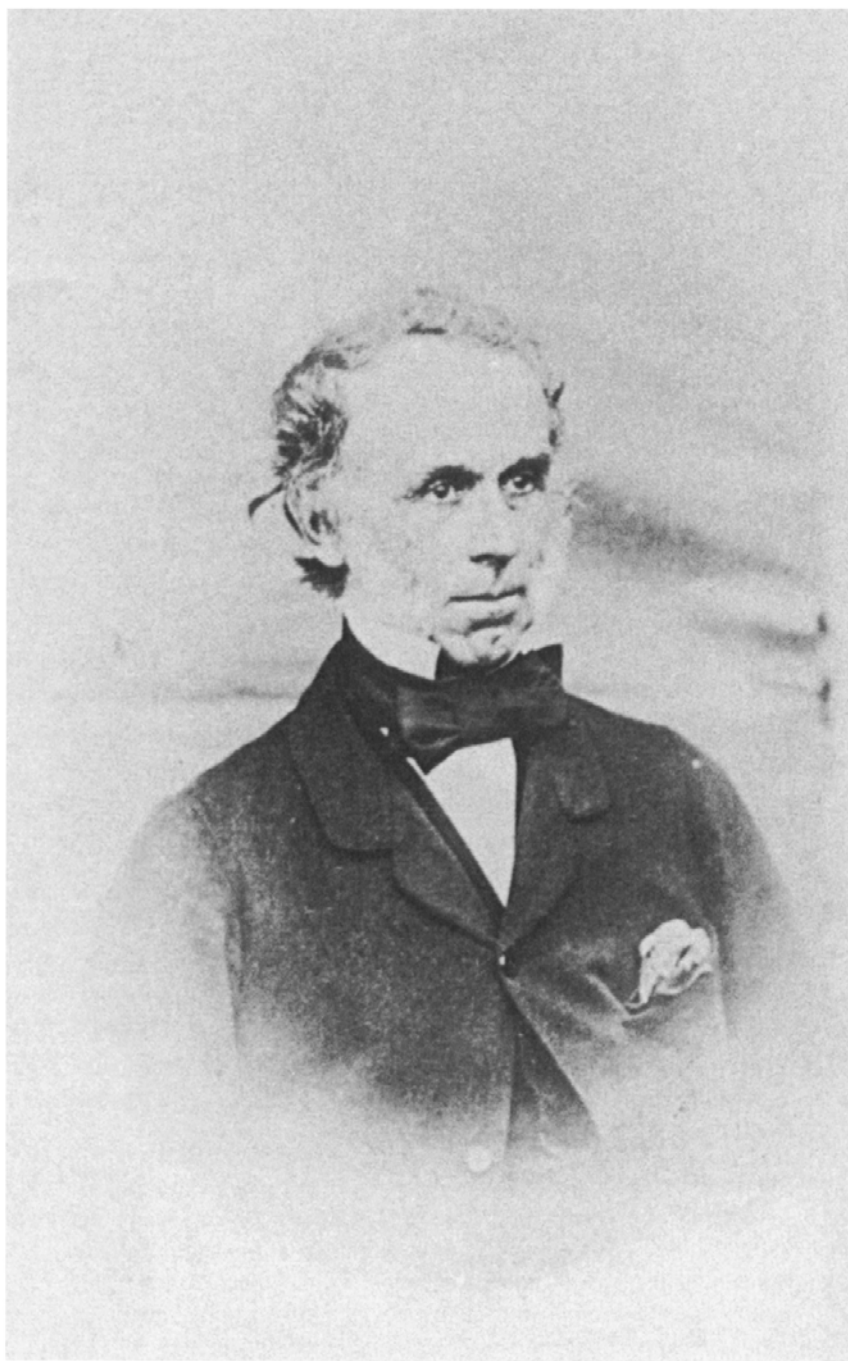


Fig. 1.4. William Helm stepfather to Edward Frankland. (J. Bucknall Archives.)

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eleven years younger than she but, despite the disparity in age, the marriage was happy and long-lasting. Edward Frankland was devoted to them both throughout their lives, and indeed owed them a great deal. William Helm is a classic example of a trend that his step-son was to demonstrate in a more spectacular manner: upward mobility. In successive Directories or census returns he is described as :

- cabinet maker
- railway guard
- victualler
- agent
- gentleman

Cabinet-making had long been a strong tradition in Lancaster, with fine woods a staple imported commodity. The most famous firm was Gillows, though William Helm does not seem to have ever been associated with it. At this time, in 1845, he had already acquired the title of ‘railway guard’ but legacies of his former trade remained. Some of his furniture survives, very competent examples of careful craftsmanship. He had already passed on many of his woodworking skills to young Edward.⁷

After Helm had entered the family circle Frankland recalled that he ‘was rather severe with me, and, with a thin stick, gave me many a beating which I probably well deserved’. Yet good relationships ensued and William and Margaret Helm are frequently encountered in the next 38 years of Edward’s life. His mother Margaret (of whom more anon) had been the dominating influence in the development of her son’s character. Despite ‘a very scanty education’ she taught him to read, imbued him with a love of nature and was always ready with an answer to the ceaseless flood of questions. Writing 30 or so years later he described her thus:

She is stout and symmetrical and has had almost uniformly robust health from birth to the present time. She has brown hair which is not yet grey, fair and ruddy complexion, a nervous and sanguine temperament . . . Considering her most deficient early training my mother is a woman of most remarkable intellect and of great energy and decision of character.⁸

It is interesting that in another draft of the document from which these words were extracted several of the phrases are identical to those he actually used about himself. There can be no doubt that

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her son inherited from his mother more than just a certain physical likeness.

That night the little family must have had much to discuss, and doubtless did so. For not only had Edward finished his apprenticeship, he now had an opportunity that would take him far away from the town in which he had grown up, and there were many preparations to be made. Maybe in the small hours they allowed themselves to reflect on the changes that had befallen them in their adopted town. And it cannot have escaped their notice that Lancaster itself was beginning to experience changes that would be as profound as those already affecting just one insignificant family.

2 The Lancaster of Edward Frankland

At this time Lancaster⁹ was far from the bustling provincial centre that might have been expected to nourish indigenous scientific talent. In fact it was just the opposite. Its 1841 census recorded less than 15 000 inhabitants. Always the poor relation of its historic rival York, it never possessed an Anglican cathedral and did not become a city until 1937. Religion in Lancaster was marked by one or two thriving nonconformist chapels, a long-established tradition of Catholic recusancy and the endowment and opening of a few new Anglican churches; the Tractarian movement from Oxford made little mark in this northern outpost (1845 was the year in which Newman made his historic pilgrimage from Canterbury to Rome). Culturally the town was beginning to awaken. The Lancaster Choral Society was founded in 1836, an early example of a movement that was to sweep many provincial towns in the 1840s. Frankland began to learn singing by the sol-fa method following a visit to the town from the singing-teacher John Hullah (1812–84) in 1843. This enabled him to join the Choral Society and take part in several concerts, including one in which the soloist was the famous contralto Maria Hawes (1816–86).¹⁰ One part of Frankland's Lancastrian inheritance was an enduring love of music, particularly that of Handel, Haydn and Mendelssohn. Even an apprentice of Stephen Ross had some time for leisure.

Towering over the town is its historic castle, home to the Assize court where, for example, trials of the militant chartists began two years previously. Yet too much should not be deduced from this;

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Lancaster experienced little industrial unrest for the simple reason that the vast Lancashire textile industry never reached quite so far north. There had been some expansion of cotton manufacture in the 1830s but stagnation after the depression of 1841/2. The port of Lancaster, once famous for its imports from the West Indies of mahogany and other fine woods, and infamous for its slave trade, had gone through hard times and was to experience worse in the future. The year 1833 was the first since at least 1750 when no ship from the West Indies called at Lancaster. The silting up of the River Lune and the opening up of rival ports, particularly Liverpool, were to contribute further to its industrial decline; indeed in the very year that Frankland left his native town its imports reached a temporary and final maximum.¹¹ Industrial progress did reach Lancaster in due course, even at the domestic level, as may be illustrated by the arrival of gas-lighting at the Parish Church in 1844.¹² Four years earlier an Exhibition of Arts and Manufacture displayed such prodigious novelties that it remained open for four months. Yet mortality rates were considerably worse than the national average, a major contributor being the primitive means of sewage disposal, whether by drains or cess-pools.¹³ It was commonly stated that life-expectancy in Lancaster at that time was lower than that in the worst parts of London.¹⁴

However in one important respect the old county town was experiencing modernity at first hand. By the early 1840s it had become connected to Preston by rail, irreversibly damaging the business of the canal which since 1797 had linked the two towns; no less than 63 packet horses were sold off by the canal company in 1842.¹⁵ The Lancaster and Preston Junction Railway¹⁶ terminated at the top of Penny Street, the old station now being a home for nurses. It must have been this company which acquired the services of William Helm for no other line had reached the town in the early 1840s. In 1845 the Railway Mania was at its peak and plans were afoot for a new line northwards, the Lancaster & Carlisle Railway. The river Lune was bridged, and the 'old' station by-passed, in the following year. For young men looking further afield for improvement the prospects of life beyond Lancaster had never been more inviting or more realistic. The important thing was to go!

How then did a place as economically and culturally backward as early nineteenth century Lancaster offer any prospects of scientific advancement? For Edward Frankland attendance at no less than