“Blending Science with Literature”: The Royal Institution, Eleanor Anne Porden and *The Veils*

I

In 1815, Eleanor Anne Porden (1795-1825) made her poetic debut with *The Veils, or The Triumph of Constancy*. A curious mix of Spenserian romance and details of chemical processes, the poem is remarkable not just for the presence in equal parts of literary ability and scientific knowledge, but for the age of the poet who displayed this combination of talents—Porden was twenty when the poem appeared and had apparently composed it at the age of fifteen.

Porden attributed much of her scientific knowledge to her regular attendance of public lectures at the Royal Institution. The Royal Institution played no small part in establishing a new and distinct practice of science, not just institutionalising the role of ‘the scientist’ (although the term itself would only be invented in the 1830s), but promoting the popular image of scientific endeavour as a uniquely objective, important and therefore useful way of understanding the world (Fulford, Lee and Kitson 16). One could say that it systematised science into the discourse it is today. It pays, then, to read Porden’s poem within the context of such a systematisation, for underpinning it are assumptions about the nature and purpose of scientific activity and discourse; the relationship between these on the one hand and literary activity and discourse on the other; and the gender dynamics of this relationship. These assumptions as presented by Porden may be read not simply as affirmations of the Royal Institution’s ideals, but—particularly in their interrogation of the gender norms of science—as challenges to it.
This essay discusses the conditions and circumstances under which *The Veils* was composed, with a focus on Porden’s relationship with the Royal Institution. It next considers how the poem negotiates the perceived tensions between the discourses conceived as ‘science’ and ‘literature’, and—apparently inspired by the Royal Institution—attempts to resolve them. However, as I intend to show, the Institution presents as many problems as it does solutions for Porden as she undertakes this negotiation, not least in forcing her to confront the ambivalent relationship between science and gender, which she does so in her poem through her complex handling of the motif of the veil. I hope that my reading of Porden’s poem and its historical and literary contexts sheds light on the formation of scientific discourse in the early nineteenth century and its influence on the career of a poet who deserves to be better known.

II

Porden achieved considerable literary celebrity in her short lifetime.¹ She was the daughter of the eminent architect William Porden, and enjoyed from a young age much of his encouragement in pursuing her intellectual interests. In the year her father died, she declared to her fiancé, the explorer John Franklin, “To me the use of my pen was coeval with the power to hold it, else perhaps I might not have written such a cramped and unlady-like hand. My father wrote many a long, and now most precious letter to me before I was five years old” (letter to John Franklin, 18 Dec. 1822). Typical of the letters Porden received from her father is one that explains the merits of Homer over his translators, written to her just before her thirteenth birthday and when she already
possessed, thanks also to him, a passing knowledge of Greek and Latin (W. Porden, 30 June 1808).

Two milestones in Porden’s education took place at around this time. The first was the inauguration of the ‘Attic Chest’, an informal literary society comprised of the Pordens’ friends, who would meet at the family’s London home. Every winter from 1808 until 1815, the group met on Sundays to read aloud and discuss original poetry and prose. As her mother was often indisposed by ill health, the adolescent Porden played hostess. From its inception, she was designated the society’s ‘editress’ while her friend, Henry Elliott, was editor; Porden received manuscripts in advance of each gathering (in packets addressed respectfully to her father), compiled these to be read aloud, and prepared the preface to each meeting. Although the circle consisted of older and not undistinguished guests—artists, writers, and politicians such as the Flaxmans, Denmans, and D’Israeli—Porden’s poetry seems to have dominated the society and she was herself the subject of many of its writings.

In a second and not unrelated development, Porden began to attend lectures at the Royal Institution. No doubt this, like the formation of the Attic Chest, was at the encouragement and in the company of her father, for, although women could be subscriber-members of the Institution in their own right (Caroe 16; Forgan 32-35), Porden was at this point too young to attend on her own. Despite her age, however, her acquisition of scientific knowledge was very much a social—and sociable—activity. The Attic Chest notebooks and Porden’s letters suggest that many members shared her keen interest in scientific discovery, boosted by their avid reading of and conversations about the scientific information gleaned from periodicals. Porden attended Royal Institution
lectures with such friends; indeed, her correspondence with Franklin indicates that their meeting, courtship and marriage were partly a result of the Institution’s lively social scene.³

The close-knit Attic Chest provided a valuable stimulus for Porden not just to develop her scientific and literary interests, but indeed to combine them. Porden aired her scientifically-themed poetry at the Attic Chest from the start, with poems such as “The Flora Senate”, a botanical allegory of 1808; an early version of The Veils, which initially had the Popean title of “The Rape of the Veil” in 1810; and a poem entitled “The Restoration”, now lost (Attic Chest Notebooks, 1808-15). Nor were Porden’s scientific compositions all solo ventures, for the members of the Attic Chest often produced work in collaboration or in correspondence. Through the seasons of 1809 and 1810, Porden and several others presented recent scientific developments to the Chest in a series of letters written under the pseudonym of ‘Electromagus’; in 1815, Porden, Elliott and Anna Jane Vardill engaged in an exchange of poems entitled “The Voltaic Battery” (Attic Chest Notebooks, 1808-15), which Porden would later describe as a “scientific Burlesque romance” (letter to John Franklin, 12 July 1823).

Her involvement with the Attic Chest and her experience of public lectures at the Royal Institution meant that Porden was engaged in literary and scientific activity in terms of community exchange rather than simply private cogitation. At a young age, she had come to poetry in the context of the fashionable salon, and to science in the context of the fashionable public lecture. Additionally, the constant replay of scientific information by Attic Chest friends underlined how scientific and literary discourses could exist, and indeed co-exist, as convivial coterie.
Yet, Porden was aware of a tension between the two discourses and practices, and particularly of the gender dynamics and imbalance that marked them. Her story of how she came to write *The Veils* captures this tension nicely; it emphasises her role as a student of scientific ideas over that of poet, and, in doing so, suggests her sneaking preference for the implicit masculinity of the one role over the femininity of the other. Although Porden could have celebrated both her scientific and literary activities as examples of community and conversation, I argue that she preferred to imagine science, and her part in it, as an individualist—and even masculinist—endeavour.

The immediate inspiration for *The Veils* was an incident involving Porden’s friend, Maria Denman, who, while out collecting shells, had her veil blown away in the wind. Indeed, the incident provoked a number of Attic Chest works, for, as the preface to one of the meetings of the 1810 season (a special summer season held to mark Porden’s fifteenth birthday on the 14th of July) informs us, “A new subject has arisen, which by the number of compositions we have received promises to be a fruitful one. They relate to a misfortune that has lately befallen some damsel while collecting shells and shining pebbles on the sea shore” (Attic Chest Notebooks, 1808-15). Years later, as a young woman on the verge of marriage, Porden sent a copy of *The Veils* to Franklin, remarking, “You may laugh as much as you will, at so large a volume having sprung from so trifling an incident as the loss of Miss Denman’s veil” (letter to John Franklin, 5 Jan.1823). This story of the poem’s provenance was formalised in 1815, when it was published; its preface states:

A young lady, one of the members of a small society which meets periodically for literary amusement, lost her Veil (by a gust of wind) as she was gathering shells
Significantly, it is in this preface that both the Attic Chest and Royal Institution are joined in tandem, for Porden immediately goes on to explain:

The author, who considers herself a pupil of the Royal Institution, being at that time attending the Lectures given in Albemarle-Street, on Chemistry, Geology, Natural History, and Botany, by Sir Humphry Davy, Mr. Brand, Dr. Roget, Sir James Edward Smith, and other eminent men, … was induced to combine these subjects with her story; and though her knowledge of them was in a great measure orally acquired, and therefore cannot pretend to be extensive or profound, yet, as it was derived from the best teachers, she hopes it will seldom be found incorrect.

(vii)

Yet, although it appears to place the literary activities of the Attic Chest alongside the scientific aims of the Royal Institution, this preface actually serves to privilege one over the other. It effects two tricks: it elides the poet’s writing of the poem before going on to emphasise her role in acquiring and conveying scientific knowledge. First, Porden, in her use of the passive tense, is careful not to call attention to herself as poet. The poet’s agency in writing the poem is diffused into the society of which she is a part, the incident of the veil resulting automatically in—‘giving rise to’—the writing, revision, and publication of the poem. Still, this is not necessarily a gesture of celebration of the Attic Chest coterie. When the poet is subsequently mentioned, she is in the act of attending the public lectures of the Royal Institution, which, because they ‘induce’ her to write and to
write about science, function to dissociate Porden from authorial agency while enabling her to assume a scientific persona. However, far from linking the community spirit of the Attic Chest with the public-mindedness of the Royal Institution, Porden allows a contrast between the Institution as a formal seat of learning and the Attic Chest as an informal and private affair. Although the public lectures (as we shall see) were fashionable social engagements and Porden concedes that through them her knowledge is merely “orally acquired”, she makes an effort to transform them into serious scientific dialogues between “the best teachers” and herself as their “pupil”; that is, having already effaced herself as poet, she attempts to appear solely as apprentice in the cause of science. At the same time, the poem too has ‘grown up’; from being a poem “in short cantos” presented to a “small society”, it has been “extended” in order to be “respectfully submitted to the public”. Significantly, the poem’s shift from its private circulation within the Attic Chest to its public form coincides with its incorporation of the scientific “subjects” about which Porden has been educated at the Institution. Finally, and perhaps most importantly, Porden has gendered the two realms of poetry and science, pitting the “literary amusement” of the society, figured by the “young lady”, against the “eminent men” of the Royal Institution. In publishing her scientific poem, Porden thus attempts to inhabit what may be termed a gender-neutral role—but is more easily construed as a masculinised one—within the scientific domain, rather than risk relegation to the feminised position of high-society poetess.

III
In a letter to Franklin in 1823, Porden describes the Royal Institution as “my Alma Mater” (4 June 1823; original emphasis), again ascribing to it the status of a formal educational establishment, before adding significantly, “It is certainly within its walls that I have imbibed a great part of the knowledge I possess, and above all the blending [of] science with literature”. In pursuing her literary ambitions in the context of her scientific interests, and in not explicitly relating her scientific interests to questions of gender, Porden chose to disregard the complex social and sexual politics of the Institution’s early ideals, objectives and practices. Yet, the gender dynamics of the Royal Institution were hardly neutral.

The fundamental aims of the Royal Institution were set out at an historic first meeting at the residence of Joseph Banks in a proposal by its—eventually disgraced—founder, Benjamin Thompson, Count Rumford: “For diffusing the Knowledge, and facilitating the general Introduction, of Useful Mechanical Inventions and Improvements; and for teaching, by Courses of Philosophical Lectures and Experiments, the application of Science to the common Purposes of Life” (James 1). From the outset, the emphasis at the Royal Institution was on practicality, in firm opposition to the theoretical abstractions of the Royal Society and its gentleman amateurs (Berman xx-xxi; Caroe 12; Knight 106). Today’s historians of the Royal Institution may differ in approach, but they concur that these stated ideals of application and practice shaped the Institution from its inception in 1799 (Berman 1-31; Caroe 1-5, Knight 97-117). Moreover, the lectures that so defined Porden’s relationship with the Royal Institution figure early—and loom large—in this history of science as practice. As Morris Berman points out, the Institution’s focus was away from the style of lecture then common in London, in which “groups were small,
and largely motivated by the ideals of the gentleman amateur tradition”, towards the format that had become accepted in Scotland and northern England, where “lectures tended to focus on technology and what were taken to be the industrial applications of science” (20). It soon became apparent that the practicality and accessibility of these lectures had the added benefit of popularity, which would become central to the Institution’s survival. Sophie Forgan rightly comments on “how adroitly the Royal Institution attracted people, how it provided a range of both fashionable and up-to-date scientific subjects, and adapted when necessary” (34). The Institution’s philanthropic aims were quickly married to ideas of fashion; as Gwendy Caroe notes, “it is interesting to note how often the word ‘fashion’ appears in the early records. To attract Fashion, meaning the leaders of fashion, was essential to the Institution’s survival and growth” (4). Not surprisingly, the Royal Institution’s popular lecture series was specifically designed to attract women as much as men (James 7). For Caroe, “the pleasant social atmosphere at the RI has depended to a large extent on the presence and grace of the ladies”, and, accordingly, lectures “for serious students of science” were run alongside “general lectures, popular and amusing to attract fashion and please the ladies” (16). Eventually, the “Friday Evening Discourses” became “social occasions … of some elegance and interest” (Forgan 32). It is easy to imagine how Porden and her friends were able to participate in both the belle monde of these elegant Friday lectures and the Sunday conversations of the Attic Chest, and for one to provide the context for the other.

In order to cater to these fashionable audiences of ladies and gentlemen, the Institution’s professors and lecturers provided them with spectacular experiments and memorable rhetoric. None did so with more aplomb than Humphry Davy. Appointed to a
full lecturership in 1801 and then made Professor of Chemistry in 1802, Davy possessed the right combination of an eagerness to adhere to the practical aims of the Institution and an immense talent for performance. That these performances found favour with the women in his audience has been much commented on (Golinski, *Science as Public Culture* 194; James 7-8), but just as pertinent is Davy’s commitment to the Institution’s populist aims (Berman 24). The man whose scientific genius had both inspired and rivalled the literary visions of Wordsworth, Coleridge and Southey (Holmes 265-68; Levere 96; Ross 35-45) became not a poet himself but “England’s high priest of applied science” (Berman 70; see also Golinski, *Science as Public Culture* 194-95), applying his considerable talent for lyricism to propound the importance of science on behalf of the Institution. Davy’s introductory lecture saw him “Drawing on his previous exchanges with Coleridge about the ‘hopeful’ nature of scientific progress [in order to] put before his audience a vision of human civilisation itself, brought into being by the scientific drive to enquire and create” (Holmes 288).

Porden’s attendance at the Institution coincided with the last three years of Davy’s tenure at the Royal Institution and the apogee of his celebrity in London. It coincided too with the controversy that surrounded his—and the Institution’s—popular appeal to women. As early as 1803, the Whig reformer Henry Peter Brougham had complained: “We demand, if the world of science, which Newton once illuminated, is to be as changeable in its modes, as the world of taste, which is directed by the nod of a silly woman, or a pampered fop?” (qtd. in James 7). Indeed, an anecdote retailed in Porden’s own entry in the original *Dictionary of National Biography* reminds us that she was probably personally exposed to gender prejudice at the Royal Institution: “She was
always keen in the pursuit of knowledge and bright in conversation, but was qualified to retort one day at the Royal Institution, when she heard some one suggest that ‘the young ladies had far better stay home and make a pudding’, ‘We did that before we came out’” (Laughton).

Nonetheless, in her own descriptions of the Institution, and specifically of Davy, Porden pointedly disregards questions of gender. Preferring, as we have seen, to construct science as serious, individualist endeavour rather than mass audience appeal, she attends to Davy’s role not as a high entertainer but as what he would himself describe as a “campaigner” (qtd. in Berman 66). A letter written in 1812, on the day of Davy’s farewell lecture at the Institution, resonates with Porden’s enthusiasm for scientific discovery in the cause of general progress, and proclaims Davy the lion of such a cause (letter to Mary [Ann Flaxman?], 11 Apr. 1812). One notices here, particularly, how science, as represented by the Institution’s lectures and embodied by Davy, appealed to Porden’s literary imagination, and thus one catches sight of just how the Institution was able to inspire her in “blending science with literature”. The very idea of scientific endeavour as practical and public good reminds Porden of literary heroism. But we also notice that Porden is uneasy with the suggestion that Davy’s performance is enhanced by his personal charm and the presence of females in the audience, that anything like sex appeal could be relevant to someone who seems to have been anxious to regard herself as a “pupil” rather than as a “silly woman”.

Porden begins this letter by noting that the lecture will be memorable for being Davy’s first since having been conferred his knighthood the day before, although it was not immediately apparent that it would be his last before his marriage to Jane Appre
and his departure for Europe. She then reports Davy’s remarks on the “advantages of Science”: “he said that the period of the scientific was always that of the political glory of nations which he illustrated with many examples from the history of Greece and Rome” (11 Apr. 1812). In an imaginative leap from this, however, and with Davy’s recent honour in mind, Porden juxtaposes scientific good with political good:

If this Lecture was his last you will ever regret the having been absent from it and indeed it is but too probable that the flattering tho’ transitory splendour of rank and fortune and the éclat of being the caro sposo of Mrs Apprece may draw him from those studies which had he pursued them might have immortalized him as one of the greatest and most successful adventurers in the path of scientific discovery. (11 Apr. 1812)

According to Porden, political or public advancement represents a mere “transitory splendour”, instead of which Davy could—and should—work entirely towards scientific discovery and the immortality this would bring. Certainly, one could imagine that Davy has also been lured away from his female admirers of the Institution by a more particular romance—and here the erotic is only just present through association with the exotic, in a dash of French and Italian—but the two main temptations which Porden considers in her analysis are the political and the scientific:

If so the beginning of his rank will be the end of his greatness. … there are many Knights in England but there is but one Mr. Davy. Or rather the Prince may make a man a Knight Earl or Duke but he cannot make a Davy. He was greater as the Professor of Chemistry to the Royal Institution and the first Chymist of Europe courted and admired by all, the men of science in his and every country, than as
Sir Humphry Davy Knight with four thousand a year. I wonder what he would have said if any Cornish witch had told him when he was serving in the Apothecaries Shop in Truro what would be his future elevation. I think the name of Felix might properly be given him.

“So may he flourish favoured by the Gods
“In youth with happy nuptials and in age
“With silver hairs and fair descent of children

(11 Apr. 1812; original emphasis)

In short, Davy could be a mere “Knight Earl or Duke” on the one hand or “one of the greatest and most successful adventurers in the path of scientific discovery” on the other, the one belonging to this world and therefore prosaic, the other romantic and potentially literary, replete with signifiers of magic (in the “Cornish witch”) and the language of poetry (paraphrased from Matthew Prior’s “Second Hymn of Callimachus”). One could say that, in a gesture central to a reading of a scientific romance such as The Veils, Porden pits modern knighthood, redolent of political preferment and the demands of the material world, against a romantic, chivalric and fanciful vision of a knight errant of science.

One wonders too whether Davy as Porden’s knight of science would be required to take a vow of chastity, such is her wariness of the insinuations of foppishness and flirtatiousness that contemporaries made against him. Porden seems alert to the slipperiness of the gender dynamics surrounding Davy’s public persona, which, as Jan Golinski has shown, meant that his masculine appeal to the Institution’s audiences was conflated with accusations of effeminacy, precisely because it was directed at women
(“Sexual Chemistry” 3). As Golinski notes, Davy had become notorious for a “contrived oratorical style” that, according to one contemporary observer, included “a certain tuning or pitching of the organ of speech to a graver key, thrusting his chin into his neck, and even pulling out his cravat” (Science as Public Culture 195). Porden’s letter expresses relief that Davy’s lecture has avoided the dandyish mannerisms of which she, her family and her friends had apparently tired: “It had no new matter in it but was delivered in a modest and proper and natural manner without any of the pomposity and rolling about which he has affected lately and his voice was clear and distinct that we think you would have heard him” (11 Apr. 1812; original emphasis). Modesty, propriety, and an attention to content over form are here favoured over pomposity and affectation. The Davy that Porden went to hear could be in no danger of emasculation; this Davy, after all, was a ready model for the knights of Porden’s own poem.

IV

Porden’s vision of science, inspired by Davy and enabled by the Institution’s disseminative practices, is built on notions of heroic quest and glory, and is therefore readily adaptable to the literary conventions of poetic romance. Porden’s insistence on scientific endeavour as gender-neutral—and, one is tempted to speculate, masculinist by default—paves the way for a narrative of science as chivalric quest.

The Veils, because little read, deserves a brief synopsis. In six books of heroic couplets, the narrative concerns three ladies—Maria, Miranda, and Leonora—and their knights—Henry, Alfred, and Alonzo (Maria and Henry, who form the central couple of the poem, can be identified with Porden’s Attic Chest friends, Maria Denman and Henry
Elliott). Each couple undertakes a quest whose twists and turns occur within a Rosicrucian supernatural machinery very much like that of Pope’s *Rape of the Lock* (1712-14). These spiritual beings consist of sylphs, representing the air; gnomes, of the earth; nymphs or *hydidae*, from the sea; and salamanders or *pyridae*, who are creatures of fire. Throughout, the interactions of these elemental beings are conveyed in painstakingly faithful allegories of chemical processes. The ladies and knights encounter these beings as they quest to recover the ladies’ veils, each of which has been stolen by a king of the earth, the sea, and fire respectively: Albruno is the sulky gnome king, very much in the mould of Milton’s Satan; Pyros is the hot-tempered prince of fire; and Marino is the cold but ultimately just ruler of the oceans. The fourth king, called Ariel (making obvious the allusion to Pope) is king of the air, and aids all three couples in their quests. In every quest, the villainous king has obtained the veil as a pledge of marriage, having surprised the lady, stolen her veil, and locked it away. The veil becomes part of a magic spell, according to which the lady will be forced to marry the king at the end of twelve months. The spell can only be broken by the king himself surrendering his claim, and that surrender can only be achieved by the lady’s journeys to his lair, whether deep underground, at the bottom of the ocean, or in the depths of a volcano. Thus, each lady quests to reclaim her veil in order to break the forced engagement and to win the freedom to marry her beloved knight.

The poem’s first book sets up the quests of the poem, when the various knights and their ladies stop at a castle and the couples explain their quests and narrate the stories behind the loss of each veil. In the subsequent books, taking place after the night at the castle, the knights are lured away from the castle underground, undersea, or into the
volcanic lair, of Albruno, Marino and Pyros respectively. Because the elemental kings, their respective kingdoms and the beings who inhabit them provide the basis for scientific allegory, and because the knights are each positioned as rivals to these kings, the quests can be interpreted as incursions into the territory of nature and hence of science. It is no accident that Alfred, for example, has a scientific mind, as Miranda’s account of the theft of her veil makes clear. As she relates it, she has her veil stolen while walking with Alfred, who has been guiding her through some elementary botany:

The youth was skill’d in vegetable lore,
I ask’d the history of a little flower,
Graceful its form, and bright its lilac hue,
And like the crane’s long beak its ripening pistil grew;
The study pleas’d, and from the river’s side,
Innumerous flowers our various theme supplied (26)

More tellingly, the struggle between Henry and Albruno offers itself as an analogy for science figured as man’s investigation into the secrets of nature. The knight and the king fight an initial battle that is finely balanced—“They met—alike by love and hate impelled, / And one in skill, and one in strength excelled” (50)—until Albruno, finding himself unable to defeat his enemy, resorts to trickery by feigning injury and attacking Henry unawares:

Bent o’er the king, victorious Henry tried
To draw the weapon from his bleeding side,
When lo! two sinewy arms enwreathed him round,
And bore him struggling, thro’ a gulph profound,
Down to a central cave, and there in fetters bound.
In this black vault, no ray of cheerful light
Pierced the thick gloom of everlasting night (51)

Thus imprisoned, Henry is eventually helped by Ariel to escape. Together, disguised as gnomes, they find their way through Albruno’s cavernous palace to its centre, where Maria’s veil lies:

Through many a spacious gallery Ariel led;
Their steps a small secluded chamber staid.
Before a throne of ruby hue behold
An emerald tripod grac’d with sculptur’d gold,
Where firmly bound by adamantine chains,
A crystal vase the fatal Veil contains.
Beyond, its beams a wondrous mirror gave,
That both illumines and reflects the cave,
Like that strange gem instinct with life and light,
The self suspended shines and chases night.
Unconsciously as Henry near it stood,
Himself restor’d to native form he view’d. (103-104)

Thus, Henry journeys from his fettered state in the darkness of Albruno’s dungeon, through the wondrous gem-filled galleries of Albruno’s palace, to find the object of his quest illuminated by a magical mirror. It is in this mirror that he accidentally, and no doubt significantly, sees his true self reflected back at him.

Importantly, this process—in which an ignorant wonder at precious metals gives way to a realisation that the secrets of nature miraculously resemble none other than the
human mind—recalls the narrative of scientific progress that had been posited by Davy himself, in his inaugural lecture at the Institution in 1802 (which, published as *A Discourse, Introductory to a Course of Lectures in Chemistry* several months after it had been presented, was widely available to readers such as Porden). In the *Discourse*, Davy describes the shift from the superstitions of alchemy in the seventeenth century to the science of chemistry in the present time as just such a journey from darkness to light: “These views of things have passed away, and a new science has gradually arisen. The dim and uncertain twilight of discovery, which gave to objects false or indefinite appearances, has been succeeded by the steady light of truth, which has shown the external world in its distinct forms, and in its true relations to human powers” (18-19).

In Davy’s account, as in Porden’s, the act of scientific investigation is best described as man’s penetration into nature’s secrecy or seclusion. Additionally, for Davy, as for Porden’s Henry as he looks in the mirror, nature’s secrets are intricately linked to the workings of man: “And who would not be ambitious of becoming acquainted with the most profound secrets of nature, of ascertaining her hidden operations, and of exhibiting to men that system of knowledge which relates so intimately to their own physical and moral constitution?” (20). Thus it is that Davy, Porden’s original knight of science, prefigures the knights errant of her scientific romance.

Yet, Davy’s presence in *The Veils* is not restricted to such cameo appearances. He is conspicuous throughout, for his name occurs in many of the poem’s notes, most of which detail the scientific processes at work. Significantly, too, the earliest mention of Davy’s name in the notes coincides with the narrative’s focus on Henry as he fights with and is captured by Albruno. Henry’s imprisonment coincides first with Albruno’s council
of war and then with a battle between Albruno’s gnomes against the allied forces of Pyros and Marino, the former enabling stories of provenance for various warrior gnomes and the latter offering opportunities for one-to-one battles involving gnomes, salamanders and nymphs. Both episodes, importantly, provide a wealth of material for scientific allegory. For example, the gnome, Oreichalcon, representative of brass and therefore an alloy of copper and zinc, has a parentage that explains such a process: “His father Calchos [copper] lov’d in early youth / Fair Calamina [zinc] with unshaken truth” (61).

And in the spectacular three-way battle, each gnome is personified as a metal, a precious stone or a chemical element, and therefore its encounter with a nymph or a salamander demonstrates the result of the exposure of various elements to moisture or heat. When the gnome Carbon, symbolising charcoal, does battle with Pyros, he is able to withstand the fiery king much longer than any of his compatriots:

Next, in his sable hauberk, Carbon came,
And stopt awhile the impatient Lord of Flame,
Without a wound, his fiercest blows withstood,
And then retir’d, repulsed, but unsubdued. (75)

Porden’s note refers the reader to Davy’s lectures and experiments at the Royal Institution, duly explaining what happens to charcoal under the application of heat: “No artificial heat has hitherto been sufficient to fuse charcoal, but under the action of the immense Voltaic apparatus at the Royal Institution, directed by Professor Davy, it became much hardened, and a small portion assumed the gaseous form” (75).

However, the prevalence of Porden’s notes suggests a key problem in her blending of science and literature (a problem in which, as we shall see, Davy as a meta-
textual model for her textual knights of science is implicated). In the very act of combining the scientific and the literary, Porden’s text constantly divides them, for the attentive reader is never allowed to lose sight of either of the two sides of her allegory, the supernatural beings and the elements they represent constantly signifying to us the divide between the magic of romance and the facts of science. Moreover, the appearance of Porden’s text on the page reinforces this split, the poem’s heroic couplets progressing relentlessly through its plot as the notes just as tirelessly disrupt it. It is because the fantastic is a key element of romance that such a tension is so evident in The Veils, for the gap between the fantastic and scientific, between the supernatural and natural, is constantly opened up by the poem’s reliance on science. As long as the reader remains within the literary world of the poem—quite literally, within the bounds of the body of the text—its gnomes, sylphs, nymphs and salamanders are supernatural beings whose actions provide the obstacles; they are, indeed, what Patricia A. Parker identifies as the “deferrals” that help to define the form of romance (5 ff.). In narrative terms, such deferrals keep the tension of romance going; in spatial terms, they take the heroes and heroines on tangential or circuitous paths as they explore the romance’s locus of fairyland; and in temporal terms, they prolong the quest, and hence the scope and length of romance narrative. However, once the reader steps out of the narrative, in this case in order to read the many scientific notes, these supernatural beings become, abruptly, merely natural processes.

The tension between (romance) literature and science leads to a tension in Davy’s presence in the poem. Specifically, it means that Davy possesses a dual identity in the poem, both as the inspiration for Henry and his fellow knights, and as the historical
“Professor Davy” whose authority shores up the notes. This leads us to contemplate another curious duality, that of the co-existence of two authorities in the poem, for once one attends to the presence of Davy as professor of science, one is aware of the presence of Porden as pupil. And then, in another moment of recognition of the bridge between literature and science, one is additionally aware of Porden’s literary creativity as a response to—or perhaps even a correlative of—Davy’s scientific creativity.

One is led to ask, then, whether Porden deliberately problematises the suspension of disbelief required to read romance, as this is no longer straightforwardly viable in a scientific world, and wilfully disrupts this with science, thanks to her ubiquitous notes and her persistent display of scientific knowledge. It is as though Porden is insisting that the way to enjoy her scientific romance is not to immerse or to insulate oneself in the romance, but to appreciate both the science and the romance at once. The only way to do this is to acknowledge Porden’s presence both as poet and as aspiring pupil of science, and hence to consider Porden to be the kind of enlightened, curious, creative type that Davy, in his *Discourse*, insists that the man of science had to be:

Man, in what is called a state of nature, is a creature of almost pure sensation. …

And, unable to discover causes, he is either harassed by superstitious dreams, or quietly and passively submitted to the mercy of nature and the elements. How different is man informed through the beneficence of the Deity, by science, and the arts! … Science has given to him an acquaintance with the different relations of the parts of an external world; and more than that, it has bestowed upon him powers which may be almost called creative; which have enabled him to modify
and change the beings surrounding him, and by his experiments to interrogate nature with power. (15-16)

Davy’s contrast of benighted man of faith with enlightened man of science is directly relevant here. As we have seen, Porden, inspired by Davy, recognises the imaginative, literary appeal of scientific discovery, but, again following Davy, opposes this against ignorance and superstition. The fantasy of literature, therefore, is to be underpinned—in this case, literally underwritten—by scientific knowledge in the form of textual notes. These notes render Porden’s authorial intelligence—or, one should say, authorial knowledgeability—omnipresent, supremely responsible for creating, modifying and changing the poem in the way that Davy’s model man of science modifies and changes nature. In the final analysis, the poem acknowledges Porden’s power as poet of science, and as ultimately more heroic than the knights of science of her poem, because she, more so than they, follows a Davyean “path of scientific discovery” and dissemination, by creating and modifying both science and romance into the rare genre of scientific romance.

V

However, the exemplar offered by Davy is a man of science, while the poet who is omnipresent in this case is, clearly, a woman. As we have seen, Porden seems to reject the overt gender dynamics of the Institution, and she appears, moreover, to grant herself the gender-neutral persona of scientific pupil. In doing so, she explicitly rejects the role that had hitherto been carved out for the scientific woman while implicitly challenging the superiority of the scientific man.
An alternative, feminised tradition of scientific knowledge existed for Porden in, for example, the prominence of women in certain fields of science such as botany (Shteir 33-58) and conchology (Gould 31-38). In a letter to her sister in 1811, Porden shows that she was well aware of this gender stratification. Responding to her sister’s concerns that references to botany in her earlier scientific poem, “The Restoration”, were overtly sexual and therefore improper, Porden remonstrates, “I have always heard Botany considered as a study peculiarly suited to the elegance and delicacy of female minds …. Indeed many Ladies have written on Botany, and a much greater number have been distinguished as Botanists, yet I never heard any of them censured” (letter to Sarah Henrietta Kay, 25 Oct. 1811). Yet, although Porden acknowledges in her letter the possibility of such gender boundaries, she protests in an angry post-script not just that botany should be considered a suitably feminine subject but that no branch of science should be restricted on the grounds of gender:

I cannot help thinking the opinion of the impropriety of Botany, must have originated with those who think all knowledge unfit for the female mind and indeed as coloured glass changes the hue of every thing that is seen thro it, so there is no department of Science or of Learning, which the eye of Prejudice may not lay under a similar imputation. … What then is to be done. Surely you who have tasted the pleasure and the advantages of superior education, cannot wish our sex to return to its ancient ignorance and oppression. (25 Oct. 1811)

Nor was Porden unaware that the forms, as much as the content, of scientific writing were heavily gendered. The “many Ladies [who] have written on botany” were part of an emerging trend of women’s didactic and dialogic scientific writing (Gates 289-306;
Rauch 335-42; Shteir 79-104). Where women made forays into other scientific
disciplines such as chemistry and astronomy, as with Jane Marcet and Margaret Bryan
respectively, they did so as educators and not as discoverers (Benjamin 38-44; Fara 21-
22; Myers 43-60). This gendered approach to women’s scientific writing may be linked
directly to the somewhat sexualised nature of the Institution’s lectures, for, as Golinski
remarks, Davy’s view that women “were expected to absorb and transmit science as part
of a general cultural education, but not to attempt to penetrate into the realm of the
specialist … was subsequently to inspire Jane Marcet to compose her Conversations on
Chemistry after attending one of Davy’s courses” (Science as Public Culture 194).
Porden, as we have seen, implicitly rejected the gendered subject position enforced by
Davy’s performances; she also rejected the form of scientific discourse—didactic
literature—associated with such a position, by turning instead to poetry as a vehicle for
science.

In doing so, Porden may be said to have chosen a gender-neutral form of
scientific writing over a feminised one, just as she assumed the gender-neutral persona of
Davyean scholar rather than devotee. In making this claim, I am aware that I should gloss
the phrase ‘gender-neutral’. I suggest that Porden embraced a model of scientific
participation that is gender-neutral in as much as it aspires to be gender-blind. The Veils
illustrates such a model of participation. Porden’s heroines are just as entitled to the full
range of scientific knowledge and endeavour as are her knights; indeed, they complete
the quests in which their knights so conspicuously fail. Porden’s poem, as I have noted,
foregrounds her agency in creating, manipulating, and directing her narrative and the
beings that inhabit it. Porden, heroically questing for both scientific knowledge and
literary fame (and indeed for scientific knowledge that undergirds her literary fame) is identifiable with these damsels in distress.

The crux of this identification lies in the motif of the veil, that almost too heavily laden signifier of female chastity. The theft of each veil represents a symbolic rape, for which the ladies, venturing with their knights, initially seek a timid redress. However, when, one by one, their knights are captured by the elemental kings, these ladies set out both to rescue the knights and to complete their quests. Significantly, these unveiled ladies are able to reclaim the symbols of their chastity, and thus appear to reinstitute and reconstitute themselves as virginal brides to their lovers. The poem suggests that female chastity, rightfully, is the lady’s to give to her lover, as Maria apparently has intended to do in giving her veil to Henry. Perhaps, then, the veil signifies not so much female chastity, but also the male’s assumption that he has the right to dispose of female chastity as he sees fit. Small wonder that the veil is connected to confinement and restraint, as when Maria recalls her attack by the gnome king Albruno and describes the veil in negative terms: “The fatal veil which late my locks confined, / That veil so closely with my fate combined” (11).

Not unsurprisingly, the ladies are engaged in the acceptably feminine pursuits of botany and conchology before they are robbed of their veils. After their unveiling, they possess a freedom to roam, to enquire, to confront. The right to journey either literally or metaphorically into the regions of science, the initial risk one faces of accusations of being chaste and unfeminine—it is tempting to speculate that such themes resonated acutely with Porden as she attempted to negotiate scientific knowledge on her own terms. These unveiled heroines who quest literally into hidden depths to confront the elements
would seem to correspond to the type of avowedly unfeminine pupil of science that the young Porden proclaimed herself to be. Certainly, the ladies’ incursions into the loci of earth, water and fire, occurring at the narrative level of epic romance, are paralleled by Porden’s frequent swervings into scientific discourse at the meta-narrative level of the footnote. While her ladies venture boldly into these unknown worlds, Porden asserts her right to access and to display scientific knowledge.

It is worth comparing, then, the type of scientific female represented by Porden to the man of science who inhabits Davy’s ideology. For Davy, men set about ravishing a feminised nature by “slowly endeavouring to lift up the veil concealing the wonderful phenomena of living nature” (18); meanwhile, Porden’s motif of the veil shows how unhelpful such a model of scientific discovery was to women. Nature, far from feminised by Porden, is signified by the malevolent and notably masculinised sprites of her poem, in what seems to be a demonstration of how the scientific exploration of nature was being institutionally masculinised in the very moment it was being shaped as a discourse. The veils become a potent signifier—and *The Veils* a telling critique—of the barriers that women faced to any advancement in science.

VI

This essay has noted that Porden heroicises the scientific poet, deriving that sense of valour from the innovative fusion of science and literature. Thus, it is worth remarking, by way of conclusion, on how such self-heroicisation affects any understanding of the literary context in which Porden wrote. If Porden appears to the modern reader as a singular instance in the history of the relationship between science and literature (not to mention gender), it is perhaps partly because she positioned herself as such.
Although Porden’s poem gains its power from revealing the problem of gender prejudice, its solution, acted out by the poet in life, was for women to affect gender neutrality. Perhaps unsurprisingly, Porden paid little heed to the literary fortunes of fellow women poets, even though she shared with them the difficulties of negotiating the constraints of gender. Porden’s efforts in defining a new generic space for her poetry are paralleled in the work of many women in the Romantic age, including writers as diverse as Joanna Baillie, in her explorations of the intersections of history and drama; Anna Laetitia Barbauld, whose verse forays into political commentary, for example, in *Eighteen Hundred and Eleven* (1812), often exposed her to critical attack; and Charlotte Smith, whose sonnets redefined the accepted boundaries between lyric and authorial voices. Yet, Porden’s voluminous correspondence, even while it records her thoughts on the likes of Byron, Scott, and Wordsworth, says little about their female counterparts. The only discernible sign of any debt to a woman poet is Porden’s undated juvenile poem, “Elegy on a Mouse”, a possible echo of Barbauld’s popular “Mouse’s Petition” of 1773.

Yet, in venturing on to the rarely trodden ground of scientific poetry, Porden distanced herself from the most obvious male pioneers as well—Pope, whose *Essay on Man* (1732-34) was regarded in her time as a verse explication of the moral philosophies of the previous century and whose *Rape of the Lock* is clearly an inspiration, and Erasmus Darwin, whose *Botanic Garden* (1791) brought together *The Loves of the Plants* (1789) and *The Economy of Vegetation* in an extensive two-volume botanical allegory. Porden’s preface to *The Veils* acknowledges but pointedly eschews such precursors, particularly by distinguishing her use of Rosicrucian terms from theirs:
The machinery is founded on the Rosicrusian [sic] doctrine, which peoples each of the four elements with a peculiar class of spirits, a system introduced into poetry by Pope, and since used by Darwin, in the Botanic Garden; but the author believes that the ideal beings of these two distinguished writers will not be found to differ more from each other, than from those called into action in the ensuing Poem. (vii-viii)

Porden implies that her allegorical treatment incorporates a scientific rigour not found in those of her literary forebears (notwithstanding Darwin’s own considerable scientific expertise), for she notes of her supernatural beings that “She has there endeavoured to shew them as representing the different energies of nature, exerted in producing the various changes that take place in the physical world” (viii). Again, what is at stake is Porden’s heroicisation of her particular endeavour. In insisting that she has blended science and poetry in equal measure, she insists too that such a mix of science and poetry has occurred sui generis. Thus, any forerunner exists only in the imagination, as a perfect and thus impossible compound of scientist and poet, who “should possess the scientific knowledge of Sir Humphry Davy, and the energy and imagination of Lord Byron and Mr. Scott” (viii).

Porden’s *The Veils* is a celebration of science as romance that could not be wholly blind to the peculiar challenges with which ladies—rather than knights—of science had to contend. Inspired by the Royal Institution, but uneasy about the gender norms it promulgated, this text valorises scientific endeavour through a strongly personal subtext about a young woman’s heroic efforts to negotiate scientific knowledge. While it reveals
much about the history of the institutionalisation of scientific discourse in opposition to
the literary in the early nineteenth century, it is also, ultimately, an insistently unique
contribution to that history by a remarkable woman and poet.

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1 See, for example, Porden’s obituaries in the periodicals of the time: “Biography”; “Contemporary Poets”; John; “Obituary”.
2 The Attic Chest readings were not published; they are held amongst Porden’s personal papers and correspondence at D3311, papers of the Gell Family of Hopton, Derbyshire Record Office, Matlock. Subsequent references to the notebooks occur within the essay as “Attic Chest Notebooks, 1808-15”.
3 Some of Porden’s correspondence with Franklin has been reproduced in Gell.
4 Indeed, two of Porden’s heroines participate in such activities: Miranda, as we have seen, discusses botany with Alfred by the river and explicitly describes herself as pursuing ‘the paths of science’ (29) as she does so, while Maria (inspired by the real-life example of Maria Denman) is engrossed in collecting shells when she has her veil stolen.