FEMALE TRANSCENDENCE: CHARLES HOWARD HINTON AND HYPERSPACE FICTION

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Abstract

As far as nineteenth-century mathematician and writer Charles Howard Hinton was concerned, it was an unwillingness to explore beyond the boundaries of established epistemologies that prevented the conception of a fourth dimension or hyperspace. In this essay, I consider how Hinton employs the allegory of hyperspace to re-imagine women as transcendent. In the novellas, Stella and An Unfinished Communication (1895), he disavows not only a scientific epistemology that prevents a more expansive world view but also a gender ideology that constrains ideas of femininity. I argue that Hinton's radical re-imagining of the nature of the world, human consciousness and femininity leads him to create women who transcend a Victorian ideology that has defined them by their biology and the Hegelian sense of immanence in order to achieve higher consciousness. I draw comparisons between Hinton and New Woman novelists, who were writing at the same time, suggesting that both were engaged in re-imagining ideas of femininity and the kind of world women might occupy. But where nineteenth-century New Woman novelists anticipated individual transformation through a process of social and political change, Hinton envisaged social change as depending on an introspective, internal process of transcendence.

The English mathematician, Charles Howard Hinton, was only one amongst a number of nineteenth-century thinkers consumed with speculation about multi-dimensional space and the nature of consciousness. Georg Riemann and James Sylvester, both mathematicians, lectured on *n*-dimensional space to audiences in Germany and England in the mid-nineteenth century. Hermann von Helmholtz and James Clerk Maxwell were keen to consider the implications of extra spatial dimensions for physics, as was the German astrophysicist, Johann Zöllner, who used the concept of four-dimensional space to explain spiritualist phenomena. The fourth dimension became 'the favoured plaything' of spiritualists and occultists.[143] Speculations were to fuel the literary imagination too, with the publication of Edwin Abbott's *Flatland: A Romance of Many Dimensions* (1884), and later stories by H. G. Wells. It was in this context that Hinton's *Scientific Romances* appeared. Published in two series in 1886 and 1896, they are a collection of essays, lessons, allegories and fictional pieces that represent Hinton's exploration of the

[143] Mark Blacklock, 'The Higher Spaces of the Late Nineteenth-Century Novel', *19: Interdisciplinary Studies in the Long Nineteenth Century,* 17 (2013), p. 3.

concept of a fourth dimension or hyperspace.[144] Hinton's central thesis is that the intuition of hyperspace is hampered only by the retention of existing scientific epistemological frameworks to understand the world. These frameworks act as a barrier to recognising a hyperspace world of infinite possibilities.

In this article, I consider two novellas, published together as *Stella and An Unfinished Communication* in 1895, in which Hinton explores female transcendence or higher consciousness.[145] These stories deserve more critical attention than they have received. They constitute only one element of Hinton's wider project of expanding human consciousness, but their importance lies in the way they represent a radical challenge to prevailing gender ideology and, I believe, a profound sympathy for women.[146] In encouraging his readers to divest themselves of obstacles that prevent an intuition of hyperspace, he demands a rejection not only of scientific epistemology but also of pre-conceived notions of what it is to be a woman. I argue that, in *Stella and An Unfinished Communication*, Hinton sets out to disavow a patriarchal gender ideology that defines women by their biology. He takes a radical departure from the prevailing nineteenth-century notion of women that aligns them with Nature and embeds them in the material world, thereby denying them the opportunity for transcendence. By situating women in a space outside that which normally defines them, Hinton rejects the Hegelian concept of the immanent woman. Instead, he re-imagines femininity as transcendent. Luce Irigaray suggests that women can only escape the construction of immanence and create a subjectivity of their own once they have a space they can call their own.[147] With this idea in mind, I argue that in situating women in hyperspace Hinton is, in effect,

[144] Charles Howard Hinton, *Scientific Romances,* First and Second Series (London: Swan Sonnenschein & Co., 1886, 1896).

[145] I use the terms 'transcendence' and 'higher consciousness' interchangeably, to mean the fact of transcending or surmounting; of being above and independent of the ordinary limits of the world and of consciousness; and to be distinguished from immanence.

[146] In the preface to *Stella and An Unfinished Communication,* Hinton writes, 'One line, one feature, of the landscape of the land to which these thoughts lead, and only one, has been touched upon' (n.p.).

[147] Luce Irigaray, *An Ethics of Sexual Difference* (London: Athlone Press, 1993), pp. 34–42. Elizabeth Grosz discusses the significance of space and place in Irigaray's philosophy in *Sexual Subversions: Three French Feminists* (St.Leonards, NSW: Allen & Unwin, 1989), pp. 173–6.

providing them with their own space and thus the possibility of transcendence.

In these novellas, Hinton draws on other nineteenth-century conceptions of consciousness in an effort to overcome both the limitations to a literary representation of transcendence and the constraints of contemporary discourse. In challenging notions of femininity that support a separate spheres ideology, Hinton contributes to a debate that others, particularly New Woman writers, engage in elsewhere. Elizabeth Throesch makes the point that his project is 'surprisingly similar to the feminist project of rethinking of the ways in which sexuality, subjectivity, and the concept of emancipation are framed by discourse'.[148] The similarities are there but I argue that, by situating women in allegorical hyperspace, Hinton sets up a way to subvert ideological constraints. If women continue to be viewed through the lens of existing ideologies, this is because those gazing at them have failed to dispense with these outmoded ways of thinking. Hinton offers an imaginary spatial leap into the fourth dimension, a space in which the nature of womanhood is not easily defined for here anything is possible.

One of Hinton's contemporaries, William Stead, journalist, activist and spiritualist, also envisaged a fourth dimension, or 'throughth': 'In the new world which opens up before us life becomes infinitely more divine and miraculous than it has ever been conceived by the wildest flights of imagination of the poet'.[149] This is a world in which past, present and future connect. Stead's openness of mind encapsulated not only a belief in the supernatural world, but also his appreciation of other movements that promised significant change in this world. As editor of *Review of Reviews*, Stead regularly reviewed and championed New Woman fiction. He comments that this form of writing has fostered in woman the discovery that 'she has really a soul after all', and that she no longer has to accept the position given to her in the world. Instead, he argues, 'All social conventions, all religious teachings, and all moral conceptions will have to be reconsidered and readjusted in harmony with this new central factor'.[150] Hinton's writings demand a similar radical reconsideration and

[148] Elizabeth Throesch, '"The difference between science and imagination?" (un)framing the Woman in Charles Howard Hinton's *Stella, phoebe*,' 18.1 (2006), pp. 75–98, p. 94.
[149] William Stead, 'Throughth; or On the Eve of the Fourth Dimension', *Review of Reviews* (April 1893), pp. 426-32, p. 427.
[150] William Stead, 'The Book of the Month: The Novel of the Modern Woman', *Review of Reviews,* (July 1894), pp. 64-74, p. 74.

readjustment of thinking about women. Where New Woman writers of the late-nineteenth century are mainly focused on the transformation of femininity through social change and activism, on re-shaping ideas of female sexuality, maternity and marriage, Hinton is concerned with the power of change from within. His feminism develops from speculating on hyperspace and the potential for a higher (female) consciousness, its development enabling the transformation of women's world. I begin by providing a short exposition of Hinton's hyperspace philosophy as set out in *Scientific Romances* and then consider his representation of female transcendence in *Stella and An Unfinished Communication*.

Hinton's Hyperspace Philosophy

Charles Howard Hinton (1853-1907) was a mathematician whose interest in abstract geometry led to his philosophy of hyperspace. His resistance to social and moral conventions and his irregular lifestyle was in tune with his belief that in freeing the mind we could be so much more than we are.[151] Hinton's philosophy is outlined in a series of speculative texts in which he explores the limits of Euclidean geometry, the notion of a fourth dimension, and the nature of consciousness and transcendence. The concept of consciousness was a difficult one for nineteenth-century thinkers to grapple with, many resorting to using a range of metaphors.[152] George Lewes writes of a 'stream' and, using the analogy of the waves on a lake, 'a mass of stationary waves', the patterns of which are in constant fluctuation caused by new sensations modifying them.[153] Herbert Spencer,

[151] Hinton was the son of James Hinton (1822-1875), a well-known surgeon and writer who considered himself also a moral and religious guide. James promoted a philosophy of altruism based on the belief that the experience of both pleasure and pain were essential to human life and spirituality, and to the spirit of altruism. He had a great love of women and advocated polygamy as a form of social control of sexual desire. Charles edited his father's papers after his death, and the influence of his father's philosophy of altruism can be seen in his own work. Like his father, Charles breeched the conventions of moral behaviour and thought: in 1886 he was sentenced to three days for bigamy, after which he and his family fled to Japan. In spite of this transgression, I believe that his writing expresses an understanding of and sympathy for women He had several jobs, some of which were as a maths teacher, and it was during one teaching job that he developed a set of cubes which enabled him to visualise the fourth dimension. He was also known for having invented the 'baseball gun', a device for practising hitting balls.

[152] See Jill M. Kress, *The Figure of Consciousness: William James, Henry James, and Edith Wharton* (Routledge: New York & London, 2002).

[153] G.H. Lewes, *The Physical Basis of the Mind* (London: Kegan Paul, Trench, Trubner & Co., 1893), p. 366.

employing various metaphors, realised that he could only refer to the substance of the mind in terms of symbols, suggesting that the mind is fundamentally unknowable.[154] William James uses 'stream of consciousness', but is concerned about the actual naming of consciousness. He would prefer a common term, but is unable to come up with anything that satisfies him. He turns to introspection, the most fundamental postulate of psychology, as the only process that one can rely on: 'All people unhesitatingly believe that they feel themselves thinking, and that they distinguish the mental state as an inward activity or passion, from all the objects with which it may cognitively deal'.[155] The unstable nature of representing consciousness gives a flavour to the task that Hinton takes on, one complicated by the fact that he starts with a mathematical abstraction – the idea of a fourth dimension. His intention in conceptualising space is less to do with its geometric possibilities than with its association with higher forms of consciousness. If it is possible to imagine hyperspace then, according to Hinton, it is also possible to experience transcendent or higher consciousness. In common with Sylvester, Helmholtz and other scientists who are keen to push the boundaries of knowledge by challenging Euclidean geometry, Hinton uses the concept of a fourth dimension to explore the extent of human consciousness.[156]

Hinton's essays and lessons on the fourth dimension are quite dense and difficult for the non-mathematical mind to comprehend. In using different forms of exposition, including diagrams, he clearly wants to enable the reader to make sense of hyperspace at the same time as acknowledging that this will involve hard work and the setting aside of any preconceptions. In his early essay of 1880, 'What is the Fourth Dimension?', Hinton writes that 'It is the object of these pages to show that, by supposing away certain limitation of the fundamental conditions of existence as we know it, a state of being can be conceived with powers far transcending our own'.[157] In arguing for the existence of a fourth dimension, he suggests that just as a two-dimensional being would be

[154] Herbert Spencer, *The Principles of Psychology* (New York: D. Appleton and Company, 1896), p. 162.
[155] William James, *The Principles of Psychology*, 2 vols, vol I (London: Macmillan, 1891), p. 185.
[156] Blacklock, p. 1.
[157] Charles Howard Hinton, 'What is the Fourth Dimension?', in *Scientific Romances* First Series (London: Swan Sonnenschein, Lowrey & Co., 1886), pp. 3-32, p. 4. Further references are given after quotations in the text.

unable to perceive a three-dimensional object, it is difficult for us to imagine a four-dimensional being, but not impossible if only we could rid ourselves of pre-conceived limitations: 'Why, then, should not the four-dimensional beings be ourselves, and our successive states the passing of them through the three-dimensional space to which our consciousness is confined?' (p.18). Of course the difficulty for Hinton, and for others speculating on the fourth dimension, was trying to make manifest an abstract concept. In *A New Era of Thought* (1888) he proposes 'a complete system of four-dimensional thought – mechanics, science, and art', the necessary condition of which is 'that the mind acquire the power of using four-dimensional space as it now does three-dimensional'.[158] For this to happen, we must set aside self-regard and adopt a 'thorough-going altruism':

> Pure altruism means so to bury the mind in the thing known that all particular relations of one's self pass away. The altruistic knowledge of the heavens would be, to feel that the stars were vast bodies, and that I am moving rapidly (p. 92).

Dispensing with established ideas that have shaped the way we live and setting aside self-regard is what he means by 'casting out the self'.[159] 'One's own particular relation to any object, or group of objects, presents itself to us as qualities affecting those objects – influencing our feeling with regard to them, and making us perceive something in them which is not really there' (p. 210). He instructs us to divest ourselves of spatial relations that inform a viewpoint and sense of identity associated with self-interest, in order to move into a space of selflessness and altruism. As one reads Hinton's texts, it becomes clear that abstract geometry is merely a framework for developing a moral and ethical philosophy that demonstrates the influence of his father's philosophy of altruism.

In his essay 'Many Dimensions', published in the same volume as *Stella and An Unfinished Communication*, Hinton speculates that, 'by passing deeper and deeper into absolute observation of matter', there is 'a glimpse of a higher world' and the realisation that 'all we think, or do, or

[158] Charles Howard Hinton, *A New Era of Thought* (London: Swan Sonnenschein & Co., 1888), p. 86. Further references are given after quotations in the text.
[159] Charles Howard Hinton, 'Casting Out the Self', in *Scientific Romances*, pp. 205-22, p. 211. Further references are given after quotations in the text.

imagine, lies open'.[160] This idea echoes the geologist Edward Hitchcock's notion that 'every impression which man makes by his words, or his movements, upon the air, the waters, or the solid earth, will produce a series of changes in each of those elements which will never end'.[161] Hinton also employs the Nietzschean concept of 'eternal recurrence', the theory that events are repeated endlessly. This is associated with what Nietzsche termed *amor fati*, the acceptance of one's fate, transforming life from what has passed into what one has willed to pass.[162] This openness to and revelation of life's events suggests not only the suspension of time and space as we know it but also a moral impulse. It is through this openness, Hinton says, that 'we treat each other in the service of truth, as if we were each members of that higher world'. In realising the unity of past and future, we experience a higher form of consciousness. We might represent this to ourselves as a day of reckoning or as 'an omnipresent and all-knowing mind' (p.43).[163] This idea of duration and an overarching consciousness also suggests, as Throesch indicates, the influence of William James's concept of a cosmic consciousness based on Gustav Fechner's panpsychic view of the universe, in which individual consciousness is envisaged as only one part of a higher-order consciousness.[164] James says:

> [T]he drift of all the evidence we have seems to me to sweep us very strongly towards the belief in some form of superhuman life with which we may, unknown to ourselves, be co-conscious. We may be in the universe as dogs and cats are in our libraries, seeing the books

[160] Charles Howard Hinton, 'Many Dimensions', in *Scientific Romances*, 2nd Series (London: Swan Sonnenschein & Co., 1896), pp. 27-44, .p 42. Further references are given after quotations in the text.

[161] Edward Hitchcock, *The Religion of Geology and Its Connected Sciences* (Boston: Phillips, Sampson, and Company, 1859), p. 412.

[162] See Friedrich Willhelm Nietzsche, *Thus Spoke Zarathustra* (New York, 1917). See also Elizabeth Throesch, 'The *Scientific Romances* of Charles Howard Hinton: The Fourth Dimension as Hyperspace, Hyperrealism and Protomodernism', (2007) <http://etheses.whiterose.ac.uk/id/eprint/371> [accessed 5 May 2015], p. 250. Throesch indicates the influence of Nietzsche's philosophy on Hinton. Further references are given after quotations in the text.

[163] There is a day of reckoning for the narrator in 'An Unfinished Communication' when his life passes before him and he must acknowledge his sins, particularly those against women (pp. 175-7). It is tempting to speculate that this might reflect Hinton's own remorse for his bigamy and a desire to put things right.

[164] In her thesis, Throesch discusses the interest that Hinton and James took in each other's intellectual ideas, pp. 272-284.

> and hearing the conversation, but having no inkling of the meaning of it all.[165]

This 'superhuman life' is analogous to Hinton's hyperspace, a higher consciousness of which many, like James's dogs and cats, are as yet unaware.

If the ability to intuit the fourth dimension is evidence of superhumanity, then Hinton may have recognised it in his 18-year-old sister-in-law Alicia Boole's ability to grasp four-dimensional geometry.[166] Preternatural ability in women has traditionally been associated with the mystical. James, for example, refers to the higher powers of the 'feminine-mystical mind'.[167] Stead makes a similar connection using the analogy of the Conscious Personality as husband and Unconscious Personality as wife. In contrast to the husband, who is 'vigorous, alert, active', the wife keeps house, storing up impressions, remaining passive until her husband sleeps when she is free to act:

> Deprived, like the wife in countries where the subjection of woman is the universal law, of all right to an independent existence, or to the use of the senses or the limbs, the Unconscious Personality has discovered ways and means of communicating other than through the recognised organs of sense.[168]

Stead's analogy of female consciousness rising up against male subjection reflects his feminist sympathies. He believed that clairvoyance, thought-reading and automatic writing were examples of Divine revelation mediated through the feminine unconscious, representing 'rifts in the limits of our three-dimensional space through which the light of four-dimensional space is pouring in upon us'.[169] James describes the glimpses of higher consciousness in a similar vein: 'The fence is weak in spots, and

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[165] William James, *A Pluralistic Universe: Hibbert Lectures at Manchester College on the Present Situation in Philosophy* (London: Longmans, Green and Co., 1909), p. 309.
[166] Alicia Boole discovered the fourth dimension by using a set of cubes that Hinton had made for teaching purposes. Boole went on to become a well-respected mathematician.
[167] William James, 'What Psychical Research Has Accomplished', in *The Will to Believe, and Other Essays in Popular Philosophy* (New York: Longmans, Green and Co., 1921), pp. 299-327 (p. 301). These essays were published in original form in *Scribner's Magazine* in 1890, *Forum* in 1892, and *Proceedings of the Society for Psychical Research* in 1896.
[168] William T. Stead, *Real Ghost Stories* (New York: G. H. Doran Co., 1921), p. 23.
[169] Stead, 'Throughth', p. 427.

fitful influences from beyond break in, showing the otherwise unverifiable common connection'.[170] Although James associates the female mind with a mysticism usually ascribed as passive, both Stead and Hinton represent women with these higher powers as both active and transcendent. Hinton addresses the ideological and epistemological obstacles to the conception of both transcendent woman and the fourth dimension in *Stella and An Unfinished Communication.* He represents women as possessing a natural predisposition that enables them to mediate the rifts in the borders between three- and four-dimensional space. This gives them access to a world in which they can become free subjects, untrammeled by definitions of passivity or weakness.

'**Stella**'

In 'Stella', Hinton uses hyperspace to explore a version of femininity unconstrained by the three-dimensional visible world. [171] Stella, a young woman made invisible through the reduction of her coefficient of refraction to one by her now-deceased scientist uncle, Michael Graham, meets Hugh Churton, the executor of Michael's will. Having fallen in love with Stella, Hugh is intent on returning her to visibility so that she can be a proper Victorian wife and mother. Stella's story is related several years later by Hugh to the narrator. Hugh, described as a man with 'even more than the average English incapacity for ideas', reflects Hinton's despair at man's ability to intuit hyperspace (p. 107). One must, therefore, read Hugh's analysis of events through a veil of limited intellectual curiosity. Hugh is unable to see any potential in Michael's experiment with hyperspace, preferring to view Stella as the latter's victim and in need of rescuing. Throesch argues that Stella is subject to a phallocentric framing both by Hugh, who needs a fully-embodied woman as his other, and by Michael, who justifies her invisibility as his experimental subject.[172] Michael believes that visibility was the penalty Eve paid for eating the fruit of 'the tree of being seen and known' (pp. 32-3), the desire to be seen now part of woman's fallen nature. He wishes to help Stella towards a state of transcendence by casting off her vain corporeal self so that she

[170] William James, 'The Confidences of a Psychical Researcher', *The American Magazine* (1908), n.p., cited in William McDougall, 'In Memory of William James', *PSPR* 25 (March 1911), pp. 11-29, p. 27.
[171] C. H. Hinton,'Stella', in *Stella and An Unfinished Communication: Studies of the Unseen* (London: Swan Sonnenschein & Co., 1895), pp. 1-107. Further references are given after quotations in the text.
[172] Throesch (2006), pp. 83, 94. Throesch uses the concept of 'framing' in Luce Irigaray's sense of woman being framed by man as his Other.

can return to an original, prelapsarian self, one untainted by vanity. His aim is to free Stella from the constraints he believed visibility placed on women, but the notion of invisibility was just as problematic in the nineteenth century. Women were expected to be unseen, their visibility being carefully prescribed. Throesch argues that Hinton uses Stella's invisibility to problematise the idea of liberation of the self. I prefer to see this as Hinton using invisibility as a way of facilitating liberation by asking the reader to 'see' Stella differently.

In the context of the Victorian private sphere, women's invisibility included divesting themselves of desire and self-interest and putting the needs of family first. Returning to visibility at Hugh's request, Stella simply exchanges one form of invisibility for another. In being re-defined by Hugh as the (in)visible Victorian wife and mother, she senses that she 'cannot be quite happy often' (p. 106). Michael's intention in making Stella invisible was for her to cast off self, thereby mediating Hinton's principles of altruism and selflessness in the pursuit of science. Her apparent sacrifice of self could, therefore, be seen as no different from the trope of Victorian woman's self-sacrifice for husband and family. Indeed, being in thrall to Michael and, on one occasion, being easily duped by a fraudulent spiritualist, would support this. I believe, however, that Stella's route to transcendence lies in her allowing Michael to make her invisible. His death means that he cannot complete his plan for her, hence the reader being given only glimpses of her higher consciousness. Michael's death is a useful device for Hinton to emphasise the difficulties that exist in achieving higher consciousness. In his notes, 'oddly enough under the subject of religion' (p. 98), Michael suggests that Stella will return to visibility with spiritual insights gained through her transcendent invisibility. Hugh recognises her special insight into eternity and the universal soul: 'To find your eternal self is not to find yourself apart and separate, but more closely bound to others than you think you are now' (p. 29). This eternal self suggests James's cosmic consciousness. Reading Michael's notes, Hugh discovers that the vision of the self beyond three dimensions is to be found 'in the consideration of ourselves as given with others, of ourselves as changing' (p. 50).

> There is a consciousness in us deeper than thought, which is directly reached, which is reminded of the higher existence by the clear depths of waters, by the limitless profundity of the night-time sky. A crystal thrills us with a sense of something higher, saying as it were, 'Confined as you and I are to this earthly state, still letting fall

> away the encircling barriers of obscurity that with us this being is, I show myself to you even as you and I and all are to the higher vision' (pp.51-2).

Hugh can only conceive of Stella as Michael's 'emblem', someone to be rescued rather than as a woman of many dimensions as suggested by Michael's reference to the crystal. Stella's femininity transcends definition as Michael's experimental subject or as Hugh's wife. There are glimpses of her multiplicity in the suggestion of spiritual insight, in her clairvoyant capacity to foresee danger on the sea journey to China and her strength and bravery saving the crew and passengers, and in her capacity for sympathy with those different from herself.

Stella's transcendent multiplicity is emphasised through the association in the above quotation with the sea and sky, allusions to the mythological interconnectedness of femininity, a female lunar deity and menstrual cycles. [173] In Hinton's representation of women, there is a tension between their apparent subjugation to natural forces and an association with higher consciousness. The legacy of ancient mythology certainly risks reducing women to Hegelian immanence. Hegel's concept of woman has been critiqued by several feminists, some celebrating her rootedness in nature, others foregrounding her rational transcendence and urging her liberation from an association with nature.[174] It would be easy to dismiss Hinton's women as rooted in nature, but I believe that a more careful reading reveals a more nuanced representation. Just as Hinton's essays and lessons in *Scientific Romances* demand a great deal of concentration to begin to intuit the fourth dimension, so a close reading of the novellas is necessary to understand women's multiplicity. Rather than negate woman's affinity with nature, I think that what Hinton does is show how limited this three-dimensional view of her is. To envisage a four-dimensional woman is to view a woman whose relation to nature must be re-defined in relation to her capacity to achieve higher consciousness. We must read Hinton's reference to deep waters in terms of the Jamesian analogy to deeper levels of consciousness. As Ornella Moscucci points out, the dichotomy of rational, cultured male and immanent female 'had no foundation in 'nature': it was based on

[173] See Ornella Moscucci, *The Science of Woman: Gynaecology and Gender in England 1800-1929* (Cambridge: Cambridge University Press, 1990), p. 33. Further references are given after quotations in the text.
[174] See Antoinette M. Stafford, 'The Feminist Critique of Hegel on Women and the Family', *Animus*, 2 (1997), pp. 64-92, p. 68.

ideological oppositions which are deeply entrenched in western thought' (p.28). Hinton's project is to deconstruct these assumptions. The fourth dimension provides the space that Irigaray argues woman requires in order to discover her true subjectivity which, in Hinton's story, is transcendence. Escaping the constraints of a three-dimensional world is not easy however, as Stella makes clear at the end of the story as she expresses her unhappiness.

'**An Unfinished Communication**'

'An Unfinished Communication' is a novella in which the male narrator seeks redemption through a Nietzschean form of *verlernen* or unlearning.[175] On his journey to find the 'Unlearner' he encounters three women, all of whom appear to have experienced some form of transcendence. As in 'Stella', it is the male protagonist who must strive for a higher truth, women appear already to have access to it. Part of the process of his unlearning appears to be encountering women who challenge pre-conceived binaries of gender, of immanence and transcendence. The story begins with the narrator wandering through a squalid part of New York in search of the Unlearner. On the latter's doorstep, he encounters a woman with two small children; she appears shabby and unkempt, 'but her form, strong and substantial, had a touch of antique grace. Comely but unanimated features surmounted her deep bosom'. She tells the narrator that the Unlearner 'did say as I was a better one in his line than he was himself, but I guess that was one of his ways' (p. 113). The narrator misinterprets this to mean that women, like children, are good at forgetting. He identifies this woman, with children clinging to her skirts, as an example of Hegelian immanent woman, embedded in maternity and the materiality of life.[176] From this viewpoint, woman's immanence precludes transcendence. She represents stability, a solid centre in which men can forget themselves and from which they rise

[175] C. H. Hinton, 'An Unfinished Communication', in *Stella and An Unfinished Communication*, pp. 109-77. Further references are given after quotations in the text. For more on *verlernen,* see Robin Small, *Friedrich Nietzsche: Reconciling Knowledge and Life* (Yarra, Victoria: SpringerNature, 2016), p. 75, in which Small defines *verlernen* as the process of unlearning, one element of which is the need to overcome moral prejudices and to give up thinking in terms of responsibility, guilt and blame. Another element is to rid oneself of dualisms, such as health/sickness, pleasure/pain, that dominate life. Unlearning is not the same as forgetting, it is instead related to relearning or *umlernen.*

[176] See G. W. F. Hegel, *The Philosophy of Right*, trans. T. M. Knox (Oxford: Oxford University Press, 1967), p. 166.

to flourish in the public sphere. But the narrator's three-dimensional perspective is mistaken. Rejecting this narrow view of woman's conjunction with immanence, Hinton reveals a woman of multiple dimensions. As someone better than the Unlearner at unlearning, this woman transcends a world dominated by Hegelian oppositions to re-define herself. She becomes, instead, a form of 'goddess spirituality', a term used by Shari Neller Starrett to re-frame Hegel's image of woman into one who embodies the divine with an awareness of 'life as a cycle of creative rebirths'.[177]

The second woman the narrator encounters is Nattie. She is a mysterious young woman. Washed up on the shore following a storm, 'miraculously preserved', she is taken in and cared for by a fisherman in the village (p. 146). Her story resembles the miracle of the Virgin Mary saving from shipwreck and drowning a woman about to give birth, which Marina Warner suggests makes 'the metaphysical analogy between the watery mass from which form emerges into life and the actual birth of a child, between the ocean and the maternal womb'.[178] There is no indication that Hinton based Nattie on this myth, but in her singularity, her independence and oneness with nature, she clearly has 'nothing in common with these heavy fisher folk. Who was she? – singular, wild girl, living on the sands by the sea' (p. 148). Nattie's demeanour suggests some special insight. The narrator recognises the powerful affinity she has with the sea and the land, a landscape that has both saved and cherished her:

> [F]or who else had taught her that ineffable grace? who else had breathed into her soul those premonitions of life's deep passion? who else had taught her to catch the thoughts of those high souls, whose words, faintly echoed, leave all unmoved the slumbering world? The courage of the storm, the grace of each pale flower of the strand that gives all its tender beauty to its arid spot of sand – all was hers; and she moved breathing life and meaning into all around her (p. 150).

This association of Nattie with nature suggests not the three-dimensional immanent woman but a multi-dimensional one. Nattie is at one with nature as she breathes 'life and meaning into all around her', at the same

[177] Shari Neller Starrett, 'Women, Family and the Divine', in *Feminist Interpretations of G. W. F. Hegel,* ed. by Patricia J. Mills (Pennsylvania: Re-Reading the Canon Series, Pennsylvania State University Press, 1996), pp. 253-74, p. 264, cited in Stafford, p. 77.
[178] Marina Warner, *Alone of All Her Sex: The Cult of the Blessed Virgin Mary*, 2nd ed. (Oxford: Oxford University Press, 2013), p. 272.

time as seeing beyond the natural world to commune with 'those high souls' imperceptible to the rest of the world. The narrator's discovery that Nattie's full name is Natalia reinforces her association with re-birth and multiplicity. Her emergence from the waves suggests her transcendence. There is more to Natalia than meets the eye but without access to higher forms of consciousness the narrator is unable to comprehend her true nature, a further reference to the limitations of a three-dimensional view of woman.

Hinton's third depiction of womanhood comes in the form of a vision the narrator has when drowning. In a strange but significant interlude, he witnesses an encounter between a woman and St. Paul and St. Simeon Stylites. She asks for their judgment, dropping the bundle she carries, saying, 'I have stolen these' (p. 163). Her bundle reveals all the beauties of the Romantic world, the sensual adornments of human grace and beauty that have turned Nature into something unnatural – 'all was there, not the substance of things, but the show of them'. She says,

> But men wove robes and garments, inventing light and colour, placing light and colour and sound before me. They praised me, calling me Nature and wonderful, beautiful. I, because I liked their praise, put on these robes that were none of mine, making pretence to be as they would care to see me; all that you see I put on, feigning to be what men praised – I, who all the while have no part in any of these things, whose it is to move the atoms on their ceaseless wheeling (p.164).

Everything that is natural and true in woman is contaminated by man's construction of her, clothed by his desire, like Stella in her visible form. Man has made woman into something to suit his carnal purposes, but in a way that conceals her true nature. In this vision, however, she is told to leave the garments she has dropped so that she can return to her true self, 'not clothed in the feigned robes she wore before, in which, because man had woven them, there was of his evil' (p. 165). Stripped of man's construction, woman can return to her original state. As an allegory of womanhood, reduced to her essence and freed of the desires of others, Nature is no longer framed by notions of immanence and passivity. This episode marks the dawning of a new day: 'The light of dawn, the sunset of even, no longer were what man put on her; but were of Nature's own' (p. 165). This is the day and place that Hinton imagines when the expansion of consciousness enables woman's alignment with nature to be seen not as delimiting but as offering the possibility of transcendence. At the end

of the story, the narrator foresees a time when he and Natalia will be reunited as equals. This can only happen once he too has experienced transcendence through unlearning, 'for it is only in the world-regard in the care for all life that souls can walk together perfectly, and only so now will Natalia and I walk together' (p.176). Man must also find his own space. To quote Irigaray, 'If any meeting is to be possible between man and woman, each must be a place, as appropriate to and for the other, and toward which he or she may move' (p. 40). The transcendence of a limited world-view that defines man as subject and woman as his other offers, instead, the possibility of subjectivity for both.

Hinton and New Woman Fiction

Scientific Romances is an example of a highly experimental and speculative form of writing in the sense that it focuses on 'presenting modes of being that contrast with their audiences' understanding of ordinary reality'. [179] In Hinton's writings, as Bruce Clarke argues,

> [M]athematical physics morphs into incipient science fiction. He was essentially a scientific romancer on the order of Verne or Wells, as yet too enmeshed in scientific and philosophical agendas to cut his texts loose as pure fictions.[180]

And yet, *Stella and An Unfinished Communication*, although emanating from the mind of a mathematician with a strong didactic purpose, is also from 'the world of imagination and dream'. [181] It is a form of romance in the way that it seeks not to copy reality but to represent, in the words of Henry James, 'experience liberated, so to speak; experience disengaged, disembroiled, disencumbered, exempt from the conditions that we usually know to attach to it'.[182] These stories resist the constraints of rationalism, stretch the boundaries of scientific epistemology and engage with the romantic imagination. In conceptualising a world of four dimensions, Hinton conjoins his knowledge as a mathematician and scientist with 'the beautiful circuit and subterfuge of our thought and our desire' (p. 32), that is, a desire to make real through fiction an expansive world of infinite possibilities. There are parallels between the way shifting

[179] R. B. Gill, 'The Uses of Genre and the Classification of Speculative Fiction', *Mosaic*, 46.2 (2013), 71-85 (p. 73).
[180] Bruce Clarke, 'A Scientific Romance: Thermodynamics and the Fourth Dimension in Charles Howard Hinton's "The Persian King"', *Weber Studies*, 14.1 (1997), para. 22.
[181] Gillian Beer, *The Romance* (London: Methuen & Co., 1970), p. 7.
[182] Henry James, *The Art of the Novel: Critical Prefaces* (London: Charles Scribner's Sons, 1895), p. 33. Further references are given after quotations in the text.

conceptions of time and space in the late-nineteenth century enabled Hinton to imagine a four-dimensional world, and the way that the cultural and socio-economic climate provided an impetus for other writers, particularly New Woman novelists, to imagine a world in which women's lives are transformed. There is also that romantic strain in New Woman fiction to represent experiences that are 'liberated' from the conditions that normally apply. In choosing to compare Hinton's fiction with that of New Woman writers, I do not want to suggest that the latter constitute a homogenous group – far from it, there are some distinct divisions both in style and form of writing and in the importance they give to different aspects of women's lives. I am interested, however, in the ways in which Hinton's and New Woman writers' engagement in the discourse on femininity and gender involve challenging established epistemologies in order to radically re-imagine the world.

The spaces in which Hinton and New Woman writers situate women can be described as utopian. Utopia is, according to Jean Pfaezler, a 'nowhere' space not necessarily because of its unreality, 'but because it contains more truth, more information – hence more political possibility – than does everyday reality'.[183] The imaginary worlds that Hinton and New Woman writers create are developed out of the worlds in which they live. Their purpose is to challenge the status quo and offer better alternatives. For many New Woman writers social change is central to their agenda with, for example, novelists such as Olive Schreiner and activists like Eleanor Marx envisaging a utopian world in which women and men live as equals. The stifling of female intellect by men is challenged in stories such as Schreiner's 'The Buddhist Priest's Wife', and the binary of male dominance and female helplessness is inverted in many of George Egerton's stories.[184] In common with these stories, female resistance to subordination by men is an important theme in *Stella and An Unfinished Communication.* The struggle for equality is often hard-fought in New Woman fiction, with many heroines meeting a sad end through

[183] Jean Pfaezler, *The Utopian Novel in America 1886-1896: The Politics of Form* (Pittsburgh, University of Pittsburgh Press, 1984), p. 158, cited in Matthew Beaumont, *Utopia Ltd: Ideologies of Social Dreaming in England 1870-1900* (Chicago: Haymarket Books, 2005), pp. 118-9.

[184] Olive Schreiner, 'The Buddhist Priest's Wife', in *Daughters of Decadence: Women Writers of the Fin-de-Siècle*, ed. by Elaine Showalter (London: Virago, 1993), 84-97. See also Gail Cunningham, ''He-Notes': Reconstructing Masculinity', in *The New Woman in Fiction and in Fact:* Fin-de-Siècle *Feminisms*, ed. by Angelique Richardson and Chris Willis (Basingstoke: Palgrave Macmillan, 2002), pp. 94-106.

death, illness or suicide.[185] Like Stella, they struggle against established thinking, rarely finding true happiness. Although Hinton shares with New Woman writers a faith in the written word to change minds, the promise of the narrator to tell Stella's story is no guarantee that life will improve. Matthew Beaumont suggests that one of the reasons feminist utopias tend to fail is because most of them remain framed by Victorian patriarchy.[186] The utopian hope underlying Hinton's fiction is constantly up against more powerful established ways of thinking that define both nineteenth-century scientific thought and gender ideology. There are no happy endings for either Stella or Natalia, suggesting that the struggle for a vision of a new world is a formidable one.

In both New Woman and Hinton's texts, the impulse is for women to transcend the world in which they live. For many women writers this involves taking control of their own bodies, whether in the form of promoting free love, or the social purity agenda of novels like Sarah Grand's *The Heavenly Twins* (1893).[187] (Stella is a good example of the risks women take when they allow men to control their bodies.) Some writers give priority to the maternal function as part of a eugenic project to ensure that women take the lead role in human evolution. George Egerton sees woman's role in evolution as a way of celebrating her primal, sexual self, with the close conjunction of women and nature as a form of corporeal transcendence.[188] Mona Caird, on the other hand, opposed the way in which Darwinian evolutionary ideas were being used to justify what she saw as the barbaric practices of eugenism. Like Hinton, she resists the idea of woman's affinity with nature confining her to the private sphere. This conjunction is 'a mere register of the forces that chance to be at work at the moment and of the forces that have been at work in the past'.[189] Although Hinton does not engage in the debate about sexual freedom or eugenics, he is interested in the discourse on the embodied woman and her role in the service of others. For example, he questions whether Stella is merely Michael's 'emblem', his experimental

[185] See Sally Ledger, 'Ibsen, The New Woman and The Actress', in Richardson and Willis, pp. 79-93, p. 83.
[186] Beaumont, p. 104.
[187] Sarah Grand, *The Heavenly Twins* (New York: Cassell Publishing Company, 1893).
[188] See Angelique Richardson, *Love and Eugenics in the Late Nineteenth Century: Rational Reproduction and the New Woman* (Oxford: Oxford University Press, 2003), p. 157. See also George Egerton, 'A Cross Line', in Showalter, pp. 47-68.
[189] Mona Caird, 'Suppression of the Variant Types', in *The Morality of Marriage and Other Essays on the Status and Destiny of Woman* (London: George Redway, 1897), pp. 195-21, pp. 197-8.

subject, or a 'crystal', the multiple and transcendent woman. Although Michael dies before his experiment is completed, the implication is that Stella's self-sacrifice is in the service of female transcendence.

I believe that where Hinton differs from most late-nineteenth-century New Woman writers is in the introspective turn his fiction takes. He is less interested in the ways in which social and political change might affect female consciousness than in the power of subjective, internal transformation to influence wider changes. Introspection was to become a focus of early Edwardian feminism. As Lucy Delap points out, the belief in self-actualisation and individualism was at least as important as fighting for women's rights and freedoms, and was strongly influenced both by Nietzsche and by Max Stirner's *The Ego and His Own*.[190] In his discussion of slave mentality, Stirner argues that submissiveness would not be reversed through revolution but by internal transformation. This idea was popular with Edwardian feminists like Dora Marsden, editor of *The Freewoman*, but there is also evidence of it in Hinton's hyperspace philosophy. Just as James suggests that it is only through introspection that we can know what consciousness is, so Hinton argues that it is the introspective turn that allows for the experience of higher consciousness. Stella is liberated from her corporeal self, and therefore divested of external temptations that might detract from self-knowledge. In 'An Unfinished Communication', it is the internal, psychological process of unlearning that is the route to higher consciousness. Although the introspective turn in feminism focused on individual change, for some 'the dual focus on self-development and duty' would be to the benefit of all (p. 111). Similarly, Hinton foresees the casting out of self as in the interests not only of individual consciousness but also of dispensing with old epistemologies in order to open the mind to new ways of thinking and being in the world.

Hinton's novellas make a significant contribution to discourses in the late-nineteenth century on gender and consciousness. Femininity was still largely defined in terms of the body and woman's maternal function, the fragility of the relationship between mind and body, and a quasi-mystical belief in women's inherent spirituality. The idea of women's

[190] Lucy Delap, *The Feminist Avant-Garde: Transatlantic Encounters of the Early Twentieth Century* (Cambridge: Cambridge University Press, 2007), p. 113. Further references are given after quotations in the text. Max Stirner, *The Ego and His Own*, trans. Steven T. Byington (New York: Benj. R. Tucker, 1907).

immanence, their natural state being an affinity with Nature and their maternal function, ensured them a fixed position within the private sphere of home and family, this position justified and elevated by its association with women as the spiritual and ethical centre of family life. Denied access to civil society, women achieved individuality only through the subjectivity of another. Through the allegory of hyperspace, Hinton re-imagines women as transcending the ideological limitations that restrict their self-realisation. By situating women in four-dimensional space in *Stella and An Unfinished Communication,* Hinton reinforces the central point of his hyperspace philosophy – that a three-dimensional worldview provides only a partial understanding of the world's expansiveness, and that the ability to transcend this perspective opens the door to a radically altered world. Freed from the constraints of a Victorian ideology that determines who and what women can be, Hinton disavows the Hegelian idea of immanent woman. He rejects the association of feminine mysticism and spirituality with passivity to conjoin these qualities with women's propensity for agency and transcendence. I have argued that Hinton's project demands a radical re-thinking of the nature of the world, human consciousness and femininity. In this respect he can be compared with New Woman writers who also wished to create a world in which women would be free to explore their subjectivity. Although Hinton's fiction can be seen as a precursor to science fiction in the way that it mixes science and imagination, he later came to the conclusion that we do exist in a four-dimensional world: we just need to learn how to experience it. Hyperspace becomes not simply a fantastic space of the imagination. His rejection of prevailing epistemology and ideology is based on a belief in the reality of a world experienced as more expansive and open-ended. This extends to the way in which female consciousness and identity are understood, allowing for the emergence of a form of femininity that is complex, multiple and transcendent.

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