

Astronomy and the novel: William Hale White's naturalist imagination

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Abstract

In Victorian Britain the relationship between literature and the sciences is tense. On the background of the rise of the natural sciences in the nineteenth century, literature sees itself on the defence. The discipline of astronomy faces similar problems in opposition to the life sciences. The developments in astronomical knowledge in the nineteenth century lead to the question in how far this knowledge is relevant for the lives of human beings. Literary narratives seeking to incorporate astronomical knowledge into their plots thus face the dual problem of relating the increasingly abstract knowledge about the universe to the human experience and at the same time fending off claims made by natural scientists that literature cannot contribute to the relevant issues of the time. This situation brings about a self-reflexive turn in the narratives. This self-reflexivity will be discussed via examples from Henry Mayhew's *The Peasant-Boy Philosopher* (1857), Thomas Hardy's *Two on a Tower* (1882), and William Hale White's *Miriam's Schooling* (1890). These texts deal with some of the major questions of the Victorian novel, centring around the individual, on the background of astronomy; they offer a largely disregarded insight into the potentials of a literary approach to the two cultures debate in the late nineteenth century.

Introduction

Perhaps I could have concluded all I had to say [on art] in one word. Our actual experience, not what we can invent or dream; and no step a hair's breadth beyond what is real and solid for us, proved and again proved. This should be the character of all our speech.¹

This quote rings of naturalism. According to the initiator of naturalism, Émile Zola, naturalist writing is writing by the scientific method.² Late in life White told his son that 'the objective life of scientific investigation would have suited him better than any other, and that, if he had been given the necessary training in his youth, he would have given up everything for science.'³ In his novels, he advocates the scientific intellect and celebrates its moral superiority. Considering these statements, it strikes me as curious that Hale White chose to write novels in his free time instead of pursuing at least a gentlemanly version of becoming a scientist.⁴ Instead, while working as a clerk in the Admiralty, he became a writer of fiction.

¹ Letter dated 29 Aug. 1893 in 'William Hale White 'Mark Rutherford' 1831 – 1931. Letters written to his Second Son and his Second Son's Wife,' Letter 22, p. 14. TS. Copies in the Bedford Public Library and in the Bodleian Library, MSS. Eng. Misc. c. 445-447, quoted in: Anita Grossman, 'Truth, Fiction, and the Search for Belief: The Writing of William Hale White (Mark Rutherford)' (PhD Thesis, University of California Berkeley, 1978), p. 83.

² cf. Émile Zola, *Le Roman Expérimental* (Paris: Garnier-Flammarion, 1971).

³ Private Notes of John Harry White, Hale White's second son. Typescript, in possession of Dr. Reginald Hale-White. Stone's personal copy of the typescript p. 9. Quoted in Wilfred Stone, *Religion and Art of William Hale White ("Mark Rutherford")*, Stanford University Press, 1954. p. 117.

⁴ Gentleman scientist: A term used since after the Renaissance to describe scientists without formal training, who pursue their career without financial support; 'as a hobby'.

During his lifetime he wrote six novels. How then does he accommodate his proclivity for science with his artistic endeavours? The key to the answer lies in his understanding of naturalism. Writing by the scientific method to create art calls for a concept of imagination which differs from that professed by the paragons of the Romantic imagination. What kind of imagination is needed to produce and understand naturalist writing? The answer to this question lies in White's discussion of astronomy.

Textual analysis

In *Miriam's Schooling*, published in 1890, the protagonist Miriam Tacchi is characterised as highly imaginative. From the beginning of the novel, her imagination works independently: Contrary to the other inhabitants of her hometown, who according to tradition, describe a certain formation of hills as 'the Old Man's Nose'⁵, she disagrees and sees in it 'a mug' turned upside down⁶. The narrator adds that "'mug," it must be explained, mean[s] not only a drinking utensil, but in very vulgar language a human face'⁷. The episode thus serves to illustrate Miriam's unusually independent imagination. Moreover, it qualifies the kind of imagination: Miriam's particular strand of imagination is marked by a strong rhetorical component. She does not only establish a new reference for the rock formation, but she additionally increases the complexity of the reference by her exact choice of word: the 'mug.' Her new reference nullifies the previous one while simultaneously commenting on it. She creates a double image: that of the mug and that of a human face. As both are turned upside down, it underlines the subversive role of her imagination. She turns the former image of an old man's nose upside down, literally and metaphorically. The episode ends with the narrator stating that 'the resemblance to the nose disappeared, and what was most strange, could no more be imagined'⁸ – once more emphasising the power of Miriam's imagination. Throughout the novel, this imaginative talent is underlined. However, while she is gifted with imagination, it requires schooling: 'She could not settle beforehand that she would think upon a given subject, and step by step disentangle its difficulties, and pursue it to the end. That is the result of continuous training, and of this she had had none'⁹. To gain some training, and follow the tradition of the bildungsroman, Miriam leaves her hometown for London, accompanied by her brother. While there, her brother begins to work as a clerk for their uncle and Miriam is supposed to assist as a housekeeper. An unhappy and exploitative situation, she and her brother leave their uncle. Social decline sets in and Miriam is forced to work as a seamstress. She comes close to falling out of society completely by associating herself with a young man who tries to seduce her. While her brother slips into alcoholism and is eventually sent back to their father, she attempts to rebuild her morale by starting out at a hospital. Her aim is to become a nurse. She is expected to begin by cleaning the wards of the hospital before she is allowed to begin her nurse's training. She fails in conforming to that situation and eventually returns to her hometown as well. There she meets a farmer and marries him. Her marriage remains unhappy as she once again cannot adapt herself to her position in society.

Her strong imagination, highlighted repeatedly over the course of these developments, does not receive the lacking education. Towards the end of the novel she only applies it to what the narrator portrays as negative ends: imagining herself into the world of Shakespeare's *Romeo and Juliet*. While, up to this point in the character's life, she 'had never been much of a

⁵ William Hale White, *Miriam's Schooling and Other Papers* by Mark Rutherford (London: T. Fisher Unwin, 1892), pdf version, p. 53.

⁶ White, *Miriam's Schooling*, p. 53.

⁷ *ibid.*

⁸ White, *Miriam's Schooling*, p. 53.

⁹ White, *Miriam's Schooling*, p. 58.

reader'¹⁰, it becomes obvious that her imagination thrives on literature. The stories are her only consolation for an unhappy life. She relies entirely on these books for comfort. Reading *Romeo and Juliet* 'she became fully aware of what she could have been'¹¹. Her wanderings through London and all her previous attempts to find her place in life had failed; now she identifies with these fictional characters 'as in a trance'¹². The narrator, however, is quick to point out the evanescent character of these kinds of identification: 'Ah, God! what is the count of all the men and women whom, since it was first "plaid publicly with great applause," this tragedy has reminded of the *what might have been!*'¹³. The narrator mocks this kind of romantic imagination. The romantic imagination does not lead Miriam to integrate herself in society but only offers a means to escape it.

The narrator instead professes a different kind of imagination: one that is focused on natural science. I will call this the naturalist imagination. In the novel, it is represented by the image of a sphere rotating on an inclined axis. In Hale White's terms the naturalist imagination is the highest form of imagination; and it poses a challenge to the imaginatively gifted Miriam: '[T]o Miriam, although she had so strong an imagination, it was unimaginable. It was odd that she could create Verona and Romeo with such intense reality, and yet that she could not perform such a simple feat as that of portraying to herself the revolution of an inclined sphere'¹⁴. How can the kind of imagination be defined which is needed here?

The narrator introduces his concept of imagination via a number of characters from the parish where Miriam lives with her husband. The vicar of the parish, Mr Armstrong, introduces astronomical facts into his sermons and thereby confronts the different members of his parish with that science. This ploy is being used to create a hierarchy of characters and their respective imaginative capabilities: The 'poor people' of the parish equate religious and scientific imagination. They 'somehow connected heaven with the stars, and Mr Armstrong [the vicar] never undeceived them'¹⁵. Arguably the only form of education they have ever received was religious¹⁶: hence any intellectual effort falls into the same category: imagination can only be religious imagination. While this group of characters does not recognise the inherent dangers in pairing religious and naturalist imagination, it is due to the fact that they cannot distinguish between potentially adverse forms of imagination.

Mrs Bullen on the other hand, a parish member who has received a slightly better education, is outraged at the pairing of religion and science. Installing a telescope at the top of the church tower appears as a threat to her: it would be an 'appropriation of the sacred edifice to secular purposes'¹⁷. Primarily shedding light on her understanding of religion, this quote also illustrates her view on imagination: While she realises that there is a difference in the forms of imaginative efforts, whether they are directed towards the heavens or the sky, she only accepts the religious kind as righteous¹⁸.

In contrast, Miriam 'had been brought up in no such divine school'¹⁹. As has been discussed above, she rather represents the literary imagination. But like Mrs Bullen she fails at mastering the scientific imagination. She does not however rush to judgement on the different

¹⁰ White, *Miriam's Schooling*, p. 128.

¹¹ White, *Miriam's Schooling*, p. 129.

¹² *ibid.*

¹³ *ibid.*

¹⁴ White, *Miriam's Schooling*, p. 142.

¹⁵ White, *Miriam's Schooling*, p. 135.

¹⁶ Anne Digby and Peter Searby, *Children, School and Society in Nineteenth-Century England* (London: Macmillan, 1981).

¹⁷ White, *Miriam's Schooling*, p. 135.

¹⁸ White, *Miriam's Schooling*, p. 136.

¹⁹ White, *Miriam's Schooling*, p. 62.

forms of imagination. Her literary imagination leads her into 'a trance'²⁰ whereas the aim of the naturalist imagination is to understand, 'not to gape'²¹. While she struggles with mastering this kind of imagination, it functions as an 'initiation'²² for her. Training the naturalist imagination opens her mind to be 'intrusted at least with the preliminary secrets of her community'²³.

The men represent the group of people who exercise the naturalist imagination without effort: Miriam's husband, Mr Farrow, 'comprehended without the slightest difficulty'²⁴; the vicar as their teacher and the narrator as the interpreter are the masters of the naturalist imagination. The narrator as focaliser represents the highest form of naturalist imagination: he teaches the reader the relevance of science while dismissing romance simultaneously. He aims at making the reader understand, not 'gape'. With telling the story of the novel, he implements the naturalist imagination and comments on it. White then creates a story which does not tell 'what might have been'²⁵ but which rather aims at accurately portraying a story by means of astronomical models.

With his two comments on imagination, the first one on *Romeo and Juliet* and the second comment on the rotating sphere, the narrator contrasts science with literature via the means of imagination. He suggests that the two areas of thought require two different types of imagination. According to the narrator, literature seems to influence its readers negatively, offering a means of escape instead of a means to cope with life. Science on the other hand turns out to improve Miriam's life. It leads her to respect her husband, who has no trouble understanding the scientific excursions presented to him and his wife, and results in final reconciliation between the couple. Unfortunately, Miriam herself falls short of fully adopting this kind of imagination.

From these excursions it can be observed that the naturalist imagination presented in this novel has two prominent aspects which can only be laid out briefly here: gender and religion. In White's novel, the talent for exercising the naturalist imagination rests with the male gender. The female characters on the other hand, Miriam and Mrs Bullen, are incapable of exercising the naturalist imagination fully. Miriam is challenged to understand it; it is the only passage in the bildungsroman in which she receives an education. This education presented to her by male characters leads her eventually to accept her position in society: as her husband's wife. This constellation of male and female characters is frustrating from a feminist point of view, but cannot be discussed further within the scope of this paper. For an insightful discussion of gender and astronomy in Victorian novels I recommend Pamela Gossin's conclusion to *Thomas Hardy's Novel Universe*.

The religious component of the naturalist imagination is discussed via several means. White's concept of naturalist imagination is based on Puritan beliefs. The passages from the novel that have been quoted so far have all born religious connotations. Notions of non-conformism, the ideal of understanding theology rather than experiencing religious transcendence, and, most significantly, mistrusting art, shape White's concept of naturalist imagination. Miriam is portrayed as non-conforming in the broadest sense when she re-invents the image seen in the rock formation²⁶. This non-conformism also surfaces in a passage illustrating her moral integrity when she tries to save someone from legal pursuit which she believes to be unjust²⁷.

²⁰ White, *Miriam's Schooling*, p. 129.

²¹ White, *Miriam's Schooling*, p. 139.

²² White, *Miriam's Schooling*, p. 143.

²³ *ibid.*

²⁴ White, *Miriam's Schooling*, p. 139.

²⁵ White, *Miriam's Schooling*, p. 129.

²⁶ White, *Miriam's Schooling*, p. 53.

²⁷ White, *Miriam's Schooling*, p. 62.

However, she is also contrasted with another literary figure: Jeanie Deans²⁸, a character in Sir Walter Scott's *The Heart of Midlothian*.²⁹ This passage serves to establish the naturalist element in her characterisation. While Miriam is described by Puritan ideals, she still has much to learn. Even at the end of the novel, she does not live up to the ideal of Jeanie Deans. While alluding to Sir Walter Scott's romantic hero, this passage demonstrates Miriam's 'flaw': her independence leads her to bear false witness to save her neighbour. At the outset of the novel, she 'did not comprehend how society necessarily readjusts the natural scale of reward and punishment'³⁰. This 'flaw' is elaborated on over the course of the novel and establishes what kind of education is needed. It also links the religious and naturalist ideals: while Puritan beliefs are laid out in her character, she is not romanticised like Jeanie Deans. A second means of creating a steadfast link between the naturalist and the religious imagination is the introduction of science via the character of the vicar. Infusing his sermons with astronomical excursions presents no conflict; neither does the mounting of the telescope on the church tower. The only character taking exception to that event is Mrs Bullen, who is described as adhering mulishly to Anglican orthodoxy.

To summarize, the religious aspect of White's concept of naturalist imagination is informed by Puritan ideas. It presents a means of criticising religious convictions, such as Anglican orthodoxy, and to criticise a Romantic view of art simultaneously. The naturalist imagination offers a more diverse application of the imagination than Anglican doctrine would allow while professing a Puritan tendency to mistrust art. Consequently, it provides an intellectual alternative to the Romantic dichotomy of reason and imagination.

As Zola has elaborated in his *Roman Expérimental*, naturalism attempts to portray society by means of natural sciences. By drawing on astronomy to do so, White builds on specific characteristics of the motif of astronomy: space. Miriam's 'flaw', as mentioned above, is that she 'did not comprehend how society necessarily readjusts the natural scale of reward and punishment'³¹. She only learns her lesson via astronomy at the end of the novel.

To portray the forces at work in a society from a naturalist's point of view, White might have chosen other natural sciences. Most popularly, Victorian writers chose biology or geology to achieve this end.³² However, the individual sciences differ and offer distinct points of view on the details of how society readjusts itself from a naturalist's point of view. From an astronomical perspective, especially with the focus on the solar system, relationships between individuals can be emphasised. Moreover, the individual's place in society is characterised by one key aspect: gravity. Hence, the planets of the solar system present a model of society in which interdependent movement occurs constantly and in which 'gravity', i.e. a mutual influence on each other's course of action, is ever present; the planets revolve around a centre and their respective positions to each other shift constantly. In addition, the planets of the solar system have also been called wandering stars (Greek *πλανήτης* (*planētēs*): I wander) due to the fact that they change their position in relation to the 'fixed stars', i.e. the constellations of the night sky.

Accordingly, Miriam moves through the space of the novel. For instance, she takes her brother along to London, so she could go there herself, influencing his course of action while

²⁸ *ibid.*

²⁹ Jeanie Deans is the protagonist of Sir Walter Scott's novel *The Heart of Midlothian* (1818). The novel tells the story of a Presbyterian lower class woman (Jeanie Deans) journeying to London to ask the Queen to pardon her sister from being charged with infanticide.

³⁰ White, *Miriam's Schooling*, p. 56.

³¹ White, *Miriam's Schooling*, p. 56.

³² cf. Gillian Beer's analysis of George Eliot's *Middlemarch* and Thomas Hardy's novels concerning their use of biological concepts. (Except for Hardy's *Two on a Tower*, in which he also explores the astronomical point of view)

being influenced herself by her new acquaintances. It is only by training her naturalist imagination that she learns how society 'readjusts' itself; she then is capable of finding her own place within that society. This emphasis on the 'gravity effect' of individuals on each other, the constant evolution of their relationships with each other, and the sense of safety once a balance between them is established can only be conveyed via the means of astronomy.

Conclusion

Another term for 'naturalist imagination' should briefly be mentioned: Matthew Arnold's 'imaginative reason'. Arnold coins this term in the essay 'Pagan and Medieval Religious Sentiment' in his *Essays in Criticism*. He argues that 'the main element of the modern spirit's life is neither the senses and understanding, nor the heart and imagination; it is imaginative reason'³³. Arnold's concept breaks with the Romantic concept defined by Coleridge. He creates a form of imagination that draws on both areas: reason and imagination. I have chosen the term 'naturalist imagination' over Arnold's 'imaginative reason' to underline White's emphasis on imagination, rather than reason. Resonating with Tyndall's 'Belfast Address', White's concept highlights the imaginative effort in all intellectual endeavours.

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³³ Matthew Arnold, 'Pagan and Medieval Religious Sentiment', in *Essays in Criticism* (1903), p. 212.