

## 'De la science dans la fiction'<sup>1</sup>

### Elisa Brune's *Petite révision du ciel* and *Les Jupiters chauds*

Caroline Verdier

Belgian writer and journalist Elisa Brune (b.1966) is a versatile writer who has published in many genres (epistolary, documentary, biographic, scientific etc.) and, in most of her narratives, either adds a new twist to the genre in which she is writing, or combines several disciplines.<sup>2</sup> In the two novels under consideration in this article, she combines literary creativity and scientific knowledge with the aim of popularising science, as is clear from her statement that it is 'une motivation majeure que d'essayer de partager une passion qui est la mienne'.<sup>3</sup> She does so by centring her plots around the life of a man who becomes a scientist, and thus including elements of scientific discourse throughout the text. In *Petite révision du ciel* and its sequel *Les Jupiters chauds*, the main character Vincent turns his life around and goes from being employed by an insurance company to becoming an astrophysicist.<sup>4</sup> Although she acknowledges she is not the only one to do so, Elisa Brune is keen to mix science and literary writing, explaining that 'le romancier prend la liberté de [...] rassemble[r] dans un même espace narratif des disciplines que l'organisation académique sépare complètement'.<sup>5</sup> This article gives a brief overview of these two novels, examining how successfully science has been included in them and how effective both narratives are at popularising science.

---

<sup>1</sup> Elisa Brune, 'De la science dans la fiction', *RDT Info*, March 2004, <<http://www.elisabrune.com/pdf/ScienceDansLaFiction.pdf>> [accessed 5 October 2012].

<sup>2</sup> For Elisa Brune's bibliography, see her website, <[www.elisabrune.com](http://www.elisabrune.com)> [accessed 15 September 2012].

<sup>3</sup> Carmelo Virone, 'Le ciel de César, d'Alexandre et d'Elisa', *Le Carnet et les Instants*, 125 (November 2002-January 2003), pp. 18-21 (p. 19).

<sup>4</sup> Elisa Brune, *Petite révision du ciel*, 2<sup>nd</sup> edn (Paris: J'ai Lu, 2000); *Les Jupiters chauds* (Paris: Belfond, 2002). These editions are used throughout this article, hereafter referred to as PRC and LJC respectively. Brune's other scientific novel, *Relations d'incertitude* (Paris: Ramsay, 2004) cannot unfortunately be discussed in this article for reasons of space.

<sup>5</sup> Brune, 'De la science dans la fiction', op. cit., p. 1. In addition to this desire to bridge the gap between the two disciplines, Brune also believes that there is necessarily a link between the scientists' personal lives and their discoveries. See Virone, op. cit., p. 20.

*Petite révision du ciel* was Elisa Brune's first novel, and the unusual mix of narration and science found therein contributed to its success. To begin with, the structure of the novel itself is inspired by mathematics, since the book is divided into 256 numbered fragments – 4 to the power of 4 – spread over 16 parts. The name of the main protagonist, Vincent, is also a *clin d'œil* to numbers (vingt + cent). In addition, many fragments of the novel deal with 'des digressions sur la physique, les bizarreries mathématiques, ou encore la logique et ses apories' linked to Vincent's scientific and mathematical background.<sup>6</sup> Thus, the novel is a sort of analysis, interwoven with philosophical and scientific considerations about the life of the narrator, who tries to understand why he needed to leave everything behind and start afresh.

Throughout the narrative, Elisa Brune includes no fewer than twenty-five explicit references to scientists and to science (physics, mathematics, scientific theories and experiments). For instance she refers to mathematical concepts such as Gödel's incompleteness theorem (PRC 9, 169) and explains what 'palindromes numériques' are (PRC 121); she also mentions the theory of relativity (PRC 106, 107), Heisenberg (PRC 93-94) and Schrödinger's cat experiment (PRC 234). Brune aims to make science more accessible to a wider audience through this novel and its sequel<sup>7</sup> and believes that 'l'auteur capable de raconter la science en mots, en histoires, en intrigues, se met en mesure de renverser les résistances et de passionner [...] pour la conquête de Mars ceux-là même qui avaient exécré leurs manuels de science.'<sup>8</sup> However, in attempting to make science more accessible to non-scientific readers, there is a fine balance to be struck: a certain level of complexity could trigger their curiosity and encourage them to discover more independently, but too much could deter them from reading any further in the novel. If we now turn our attention to the way in which science is included in the narrative, we observe that Brune occasionally struggles to find this balance, introducing concepts which remain beyond the grasp of a reader lacking a solid scientific background.

---

<sup>6</sup> Daniel Arnaut, '(Méta)physique des passions', *Le Carnet et les Instants*, 111 (January-March 2000), pp. 52-53 (p. 53).

<sup>7</sup> Virone, op. cit., p. 19.

<sup>8</sup> Brune, 'De la science dans la fiction', op. cit., p. 2. Brune has also been described as 'une enthousiaste soucieuse de vulgariser la science tout en peignant notre époque qu'elle observe avec sympathie, d'un œil vif, parfois caustique', in Colette Nys-Mazure, 'Elisa Brune, *L'Unité de la connaissance, Les Jupiters chauds, Penser c'est autre chose*', *Indications* online, <[www.indications.be/brune59.html](http://www.indications.be/brune59.html)> [accessed 1 November 2005].

Brune often takes an insignificant event in Vincent's life as a starting point for a scientific explanation. For instance, when Vincent starts considering the fact that the Japanese eat the best part of their meal first in case of an earthquake, he ends up pondering quantum physics:

dès que j'y pense, je ne sais plus très bien que penser, ni quel ravioli attraper. Ce qui me mène tout droit à la physique quantique et au principe d'incertitude d'Heisenberg. Heisenberg dit: quand on observe le comportement d'une particule, on ne peut faire autrement que de modifier son comportement. (PRC 93)

In this instance the inclusion of science within the narration is effective, as it is easy enough for any averagely educated reader to understand this basic explanation of Heisenberg's theory, however unrelated the context leading to the simple scientific explanation may be. With regard to Heisenberg's theory, it is worth commenting here on Vincent's conclusion that 'observer, c'est modifier, du moins à l'échelle individuelle' (PRC 94). This might be read as an explanation of what Brune intends to do in her novels, that is to say, observe and report on human behaviour and by doing so perhaps modify her readers' behaviour (towards science in this instance): in other words, to apply Heisenberg's theory to her readership.

However, she is not always as successful in achieving her aim of sharing and popularising specific items of scientific knowledge, as the readership needs to have a certain level of knowledge to really understand and appreciate some fragments of the novel. There are thus instances where this insertion of science does not truly function as part of the story, and seems disconnected from the text surrounding it. One example is fragment 162, which begins abruptly with an explanation of infinity that lasts the whole fragment (PRC 150-52):

Il faut que je revienne sur l'infini, la pire des impasses logiques, celle qui n'a cessé de me hanter depuis l'adolescence. [...] Georg Cantor s'est fait une spécialité de distinguer plusieurs sortes d'infinis. [...] Ce type de démonstration par appariement (ou bijection) est devenu un grand classique et produit de nombreux paradoxes fondés sur l'ambivalence de tout avec l'une de ses parties. (PRC 150)

This fragment does not have any link with the ones before or after it, and does not contribute anything to the plot. It is as though Elisa Brune absolutely wanted to include a reference to infinity in the novel, but did not know how to introduce it. In addition, this fragment, whilst discussing what is a standard reference for scientists, is highly complex and possibly too difficult to be fully grasped by non-specialists, suggesting that Elisa Brune is not always successful in making science accessible in her work.<sup>9</sup>

Let us now examine *Les Jupiters chauds*. In this novel Elisa Brune returned to the character of Vincent, but this time used her own experience of the scientific sphere, combined with elements of scientist David Charbonneau's life and research, as a basis for the narrative. Indeed, in the acknowledgments at the end of the novel, Elisa Brune reveals that 'Vincent, c'est lui. Il a accepté de s'effacer derrière ce personnage qui existait déjà, et sur lequel j'ai enfilé comme un gant la fabuleuse histoire de la découverte du premier transit extra-solaire' (LJC 435). That is, Vincent evolved from a purely fictional character in *Petite révision du ciel* to a 'host' for Charbonneau's real-life story.

In this narrative, Brune continues with the combination of fiction and science, however there is a stronger sense of alternation than in the previous example. This is reflected in the structure of the novel, which is divided into eight parts that alternate between the narration of Vincent's life in Belgium on the one hand (parts 1, 3, 5 and 7) and his trips around the world for his research and to conferences on the other (parts 2, 4, 6 and 8). This is combined with observation and reports on the scientific community and 'de larges pans de reportages scientifiques (visite d'observatoire, rencontre d'astrophysiciens etc.)'.<sup>10</sup> Quantitatively, the content of the book is thus more science-related, and the alternating and more extended rhythm with which science appears in the novel is different from *Petite révision du ciel*, with its occasional injection of science. This results in much longer passages focused around the theme of science — especially astronomy — and scientists. This unusual alternation and mix of genres has been remarked upon by critic Ghislain Cotton, who decried the novel as one in

---

<sup>9</sup> Jean-François Haït comments that 'Elisa Brune en profite pour vulgariser autant que faire se peut [...] [mais] on n'a pas toujours tout compris [...]', in 'Le goût piquant de l'univers', *Ciel & Espace*, 410, July 2004, no pagination.

<sup>10</sup> Isabelle Burgun, 'La Muse scientifique', *Science pour tous*, 90 (April 2003), <<http://www.sciencepourtous.qc.ca/bulletin/2003/90/articles3.html>> [accessed 24 November 2006].

which ‘science et fiction romanesque [...] s’intriquent étroitement et où l’auteur joue du télescope de l’astronome et de la loupe du naturaliste avec la même maîtrise’.<sup>11</sup>

The four parts dedicated to science and conferences are evocative of Elisa Brune’s scientific essays.<sup>12</sup> The style of these sections is almost journalistic, with passages reporting purely what has been said or how an experiment was run. For instance, a passage in part 2 reads:

Jean-Philippe Beaulieu [...] a observé l’événement MACHO-97-BLG-41, et bien plus en détail. Lui aussi a observé le pic anormal dans la séquence d’amplification lumineuse de l’étoile cible. [...] Une lentille double ne fonctionne pas comme une lentille simple. Il faut prendre en compte la rotation du système pour modéliser la variation de lumière observée. Ses calculs produisent exactement le profil qui a été observé, sans devoir introduire la moindre planète dans le système.

(PRC 84-85)

The difficulty and specificity of the science described in some parts of *Les Jupiters chauds* is reflected in the regular use of explanatory footnotes, more usual in academic writing and specialised articles than in a novel targeting the wider public. This is another example of genre mixing, and yet another indication that science and scientific ideas are not necessarily straightforward to explain and convey. However, these sections of the novel are also an observation of and report on the scientific community, which enables the reader who is not familiar with the world of science to discover the nature of the scientific working environment, its processes and conventions. Moreover, since Brune uses elements of David Charbonneau’s life for Vincent’s character, but also draws on her own experience, and keeps the real names and features of the scientists she includes, the fictional component in the scientific parts of the novel appears marginal. This further enables Brune to fulfil her intention of providing her readers with an accurate account of the scientists’ lives, their work and of their point of view. This is ‘une petite sociologie de la science’,<sup>13</sup> which represents not only the results of science but also how it is produced and linked to the human beings that are

---

<sup>11</sup> Ghislain Cotton, ‘Merci, docteur!’, *Le Vif/L’Express*, 6 September 2002, p. 100.

<sup>12</sup> Elisa Brune, *L’Unité de la connaissance* (Brussels: Bernard Gilson, 2002); *Le goût piquant de l’univers* (Paris: Le Pommier, 2004).

<sup>13</sup> Virone, op. cit., p. 20.

behind it.<sup>14</sup> In the main, Brune gives a positive view of science and scientists, even though she does not fail to voice some of the concerns of the scientific community when it comes to their heavy workload. Indeed,

pour mener à bien l'activité de recherche elle-même, expérimentale et théorique, l'enseignement, les tâches administratives et la course aux publications, les chercheurs sont le plus souvent portés à travailler comme des forçats. Si en plus il faut s'occuper du public, on va devenir fous, disent certains. (LJC 137)

So although scientists are aware that making science accessible to the general public is a positive thing, they feel they have little time to do so, which is where novels of scientific popularisation such as Brune's may be regarded as valuable.

Yet is *Les Jupiters chauds* an accessible novel of scientific popularisation? According to Pierre Maury, it is. In his view, when a writer tackles science, usually either s/he masters his/her topic but quickly loses his/her readers, or s/he does not master it and 'le plaque artificiellement sur le reste de matériau fictionnel.' For Maury this is not the case for Elisa Brune, who 'se situe ailleurs: son sens de la vulgarisation [...] lui permet de nous faire comprendre sans efforts apparents les données les plus complexes de l'astronomie'.<sup>15</sup> Not everyone shares this view. Whilst this may indeed be an entertaining book if the reader is fond of astronomy, the interest of the novel is greatly diminished for the reader who is not interested in scientific explanations and the search for new planets. As for the non-scientific part of the story, which makes up half of the novel, critics such as Guy Duplat and Colette Nys-Mazure comment on the regrettable predictability of the plot.<sup>16</sup> For it is true that from the very start the reader expects Vincent to make a scientific discovery, suspects that his love life may not be as straightforward as he thinks, but is sure that everything will work out for him in the end.

---

<sup>14</sup> See note 5. *Relations d'incertitude* provides the most striking example of this link between the scientist's personal life and trajectory and his research.

<sup>15</sup> Pierre Maury, 'La musique des sphères', *Le Soir*, 25 September 2002, no pagination.

<sup>16</sup> Guy Duplat, 'Les étoiles peuvent aveugler', *La Libre Belgique*, 26 September 2002, <<http://www.lalibre.be/culture/livres/article/81804/les-etoiles-peuvent-aveugler.html>> [accessed 1 November 2005]; Nys-Mazure, op. cit.

If the amount of science covered deters some readers, while the plot proves too straightforward for others, this leads us to wonder about the kind of public that reads *Les Jupiters chauds*. We know that Brune sent copies of the narrative to the scientists she met and portrayed in the book, and according to her,

ils ont adoré ça. Ça les change un peu de leur quotidien. [...] Ils ne lisent pas beaucoup de romans. Là, tout à coup, ils se rendent compte qu'on peut parler de science de façon tout à fait exotique pour eux, et en général ça les met en joie.<sup>17</sup>

So scientists are enthusiastic about the novel and its mix of genres (and perhaps also about appearing in a novel). As for non-scientific readers, though, it is harder to say if they really enjoy the combination. Little information is available and, although most reviews are positive, they appear to have been written by readers who have an interest in the scientific content of the narratives – as far as we can tell from literary forums and recommendations left on websites such as *Amazon*: ‘Ce livre est à posséder par toutes personnes intéressées par l’astronomie’ writes a visitor to the website who enjoyed the novel; according to another ‘c’est la science qui fait le cœur du roman’ which provides the reader with ‘une véritable fresque de l’astronomie contemporaine’.<sup>18</sup> These comments suggest, as we ourselves believe, that this novel is only recommended for those with some interest in astronomy. Yet ultimately, the rather restricted readership enjoying Brune’s publications may come as no surprise to the author. She has Vincent explain in the novel that ‘la vulgarisation scientifique n’est évidemment une cause noble que pour autant que le public soit consentant’ (LJC 137), which suggests that although keen to popularise science and to report on the activities undertaken by the scientific community through her novels, she is not blind to the practical limitations of this rather idealistic enterprise.

This short overview of two of Elisa Brune’s scientific novels has aimed to show how Brune integrates scientific content in her work in an attempt to both popularise science for a wider readership, and to give more visibility to the scientific community. Our brief analysis has also demonstrated that, although very keen to explore new combinations and to use the novel as a medium for popularisation which, ‘face aux publications spécialisées, [...] a l’avantage de

---

<sup>17</sup> Virone, op. cit., p. 20.

<sup>18</sup> <<http://www.amazon.fr/jupiters-chauds-Elisa-Brune/dp/2804023133>> [accessed 11 February 2011].

toucher un public autrement large',<sup>19</sup> Elisa Brune is not always – and probably never really expected to be – fully successful in making 'hard' science accessible to and/or interesting for all. This may be one of the reasons why Elisa Brune, wishing to please a wider readership, subsequently turned to another more commercial and accessible field of science, by exploring female sexuality in several novels and essays which have indeed proven more popular with the wider public.<sup>20</sup>

---

<sup>19</sup> Brune, 'De la science dans la fiction', op. cit., p. 2.

<sup>20</sup> See notably Elisa Brune, *Alors heureuse...croient-ils! La vie sexuelle des femmes normales* (Paris: Le Rocher, 2008); Elisa Brune and Yves Ferroul, *Le secret des femmes: Voyage au cœur du plaisir et de la jouissance* (Paris: Odile Jacob, 2010). Although no sales figures are currently available, the latter publication appears to have attracted more attention than most of her previous work, in August 2010 even making the cover of *Le Nouvel Observateur* which also devoted a seven-page article to it. See *Le Nouvel Observateur*, n°2389, 19-25 August 2010, pp. 9-16.