Apparent truth and false reality: Michael Crichton and the distancing of scientific discourse

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Introduction

This article began as an inquiry into the relation of FASP, or professional-based fiction, to professional reality. I was interested in elucidating the ways in which this reality, which formed the basis for such fiction, was transformed by the writer in his/her work and the reasons behind the transformation. Since my own professional activity has been related to the sciences, I chose to study the novels of Michael Crichton, a commercially-successful writer whose credentials and practice qualify him as an author of professional-based fiction as defined by Michel Petit in his 1999 article “La fiction à substrat professionnel: une autre voie d'accès à l'anglais de spécialité”. However, the two texts I will be examining were written as techno-thrillers, a subgenre of science fiction. Although science fiction and scientific professional-based fiction are both grounded in science, I would like to propose some preliminary remarks on fiction and its relation to reality as well as on the fictional genres just evoked before discussing The Andromeda Strain (1969) and State of Fear (2004), whose use of scientific discourse I will study so as to define the limits of the techno-thriller as professional-based fiction.

Fiction and reality, proximity and distance

According to Plato, fiction may be an imitation of nature (mimesis), a narration of it (diegesis) or a combination of the two. Reality and fiction are both understood and even constructed through language, yet reality is understood as being "true" whereas fiction is
synonymous with artifice and invention. When we seek to measure to what degree fiction re-presents reality we are in a very real sense comparing two linguistic constructions.

3 Plato's account of Socrates' metaphor of three beds in Book Ten of *The Republic* offers an image of the relation of reality to fiction. According to the metaphor, the first of these exists in nature; it is the ideal bed, one "made by God". The second is made by the artistic imitator of God's idea, the carpenter, and the third by the painter or poet, who when copying the carpenter's work in his/her work becomes an imitator thrice removed from the truth. This artist imitator is only copying a representation of the first level of reality, and so is "a long way off the truth" (Buchanan 1977: 663).

4 If we apply this metaphor to our object of inquiry, Michael Crichton's fiction and his representation of a scientific field of work, we may say that the first bed is the natural world itself, i.e., what scientists study; the second is science, i.e., an expert formulation of the natural world; and the third bed is Crichton's fiction, the author's portrayal of this specialized understanding. Plato goes on to note that, from a distance, the artist's bed may deceive children or simple persons who will fancy it real; he also notes that any man who claims to know all the arts and all things better than any other man is mistaken, and that artists themselves (who must know their subjects well in order to compose) may be deceived by imitations made without any knowledge of the truth. Let us keep these notions in mind as we move on to a consideration of literary genre and to two of Michael Crichton's novels.

**Science, fiction and FASP**

5 Michael Crichton is usually discussed as writing within the confines of science fiction. His techno-thrillers are a subgenre of science fiction, which is itself an "odd genre" in its mix of strange and familiar elements.¹ According to the *Cambridge Companion to Science Fiction*, science fiction is simply fiction in which some element of speculation plays such an essential and integral role that it can't be removed without making the story collapse, and in which the author has made a reasonable effort to make the speculative element as plausible as possible. (James & Mendlesohn 2003: 186)

6 Indeed, for Thomas Clareson (1971), fiction is part of the realist tradition whose origins date back to 18th-century rationalism. According to Clareson, the Gothic movement revived the mystical, demonic and/or irrational narratives eclipsed by it (1971: 4). Referring to William Dean Howells' theory of literary realism and the writing practices of Charles Reade and Emile Zola, Clareson establishes a parallel between the scientist and the writer of fiction in their use of an empirical methodology: "The novelist with his faithful, representational effigy; the scientist with his inexorable physical analysis: and so they described the reality of the world." (1971: 6-7). Science fiction fuses the rationalist and empirical traditions with the Gothic and Romantic, describing the uncanny while respecting the codes of realism so as to render the novel (in both senses) plausible.

7 Techno-thrillers, science fiction and scientific FASP share a common denominator, the use of science and its specialized discourses. Science fiction "grows" out of scientific concepts,² but writers may transform these in unexpected ways. To quote author Norman Spinrad, "the sf writer is practicing an art form that requires playing fast and loose with the scientific facts in order to exist at all. In a sense, when you do it yourself, you know it is all done with mirrors, with compromises and fudges and technique." (1990: xiv) According to this author, science fiction writers are "freewheeling extrapolators who
could not care less about degrees of probability.” (1990: xvi) For fellow author Thomas Disch, Michael Crichton uses science to render plausible speculations that are themselves based on science.

Since the publication of *The Andromeda Strain* in 1969 until today, as *The Lost World* sets new box office records, Crichton has been, in a commercial sense, the most consistently successful SF writer of the late 20th c. In large part this is because he has not been labelled as an SF writer, and thus worthy of adult attention. The plots of his bestsellers have featured viral plagues from outer space, lost tribes in darkest Africa, electronic behavioral control, berserk robots, UFO crashed in the ocean, and dinosaurs terrorizing modern cities – all venerable SF topics, but somehow not SF when Crichton handles them. Why is this? Because they aren’t set on spaceships or other planets but in a plausible present, modified in only the one particular the book focuses on. Even then, the novelty he offers is something his audience already half-believes in. When the film *Jurassic Park* first appeared, all the media hype was designed to make it seem that science was on the brink of resurrecting dinosaurs, for Crichton, and the marketing machinery behind him, realizes that a whopper is not enough. People want to believe such fictions. Hence, the authenticating “science” in the compound “sf,” with its implicit guarantee that this dream may come true, as against the surreal or supernatural events of fantasy and fable. (1998: 3)

The speculative element may be of a utopian or dystopian nature, and the prophetic and didactic aspects of the genre are related to these. Science fiction may be seen as “a unique kind of story whose purpose is to teach and prophesy. For that reason it concerns itself with the future” (Clareson 1971: 2).

Crichton uses science to “authenticate” his fiction, to anchor it in reality, and this notion leads us to a consideration of “authenticity” in professional-based fiction. To quote Michel Petit,

> [c]es romans […] permettent au lecteur de pénétrer et de circuler à l’intérieur des milieux judiciaires, militaires, financiers, etc., d’en suivre les acteurs dans leur vie professionnelle quotidienne, d’assister à leurs discussions professionnelles, etc. Il s’agit donc d’une représentation du milieu professionnel en action, tel qu’on pourrait le connaître de l’intérieur si l’on en faisait partie, présentant a priori toutes les garanties d’authenticité tant en ce qui concerne la langue et le discours que la culture (2004 : 10).

Professional-based texts, in order to represent scientific pursuits most convincingly (i.e., aiding the reader in his/her suspension of disbelief), incorporate various discursive forms and technical explanations, linking the progress of the plot to the specialty knowledge of the characters and their mastery of the milieu's specific codes. This fiction thus presents readers with an array of textual forms and concepts, some of which may require background in the field in order to be deciphered. The specialized discourse functions to keep the fiction within the confines of realism, but I would venture to say that, paradoxically, the degree of “authenticity” or “truth” of this fiction will be measured by the degree of opacity presented to the reader: the less comprehensible the technical descriptions and concepts, the greater the sense of reality communicated.

The non-specialist reader of professional-based fiction is thus at a disadvantage in that his/her knowledge of the field described is probably limited, more so than in other forms of fiction, which may paint life on a fishing boat or in a 19th century textile mill but do not necessarily incorporate the specific discourses of these areas of work, nor will the plot’s progress depend upon them or upon any knowledge specific to the occupation or activity. This ignorance on the part of the reader results in greater distance from the
fiction and a greater dependence on the narrator, whose role is enhanced. He/she is an intermediary, a guide, a filter. She/he may be a character with links to both worlds, speaking both languages, general and specialized. The narrator may identify the missing pieces of the puzzle for the reader or, on the contrary, retain certain keys to the understanding of the text since the degree of authenticity may be proportional to the degree of comprehensibility. The guide may leave the reader sufficiently ignorant so as to maintain the necessary suspension of disbelief.

Thus, in terms of proximity and distance in FASP, we may say that the narrator’s function is to constantly adjust the distance between the non-specialist reader and the reality represented in the text. The narrator must provide sufficient information so as to guide the reader through the text as the plot advances, while at the same time clothing this information in language sufficiently opaque as to render it “authentic”. Such fiction may thus create and maintain greater distance between reader and textual reality than fiction does generally. These ideas already undermine the assumption that professional-based fiction offers readers greater proximity to occupational reality. Let us now turn to the two novels we wish to examine in light of these considerations.

### Crichton and the distancing of scientific discourse


*The Andromeda Strain* tells the story of an American space experiment gone wrong. A satellite returning from a mission to outer space to gather bacteria for advanced biological weapons crashes in a small western town. Soon, its deadly microscopic payload kills everyone it contacts. The government eventually retrieves the satellite and isolates it in an underground laboratory. There, a crew of scientists races against time to discover a cure before a plague destroys the world’s population. (Trembley 1996: 31)

The reader of *The Andromeda Strain* opens the book to find the first page of a top secret classified file. According to the Acknowledgements, “the book recounts the five-day history of a major American scientific crisis.” The author adds that although it is impossible to write about the events without offending some of the participants, “it is important that the story be told;” “I believe it is useful for the public to be made aware of the way in which scientific crises arise, and are dealt with.” Crichton thanks various members of the US military, NASA, the President’s Science Advisory Council and academics for their help in “elucidating the background of the Wildfire Project.” He also thanks participants of the project who granted him interviews and notes that he was able to consult transcripts of their debriefing, more than fifteen thousand pages of typewritten manuscript. Interestingly, the author anticipates the problems readers may encounter in deciphering his text, and positions himself as a mediator between specialized discourse and the lay reader:

This is a rather technical narrative, centering on complex issues of science. Whenever possible, I have explained the scientific questions, problems and techniques. I have avoided the temptation to simplify both the issues and the answers, and if the reader must occasionally struggle through an arid passage of technical detail, I apologize. (Crichton 1993: 5)

So, we are confronted with a fiction which is apparently anchored in “reality”, based on “true” scientific facts, involving “real” scientists who have documented a “real” incident. The References at the end of the book constitute a veritable bibliography on the crisis and...
reinforce this sense of rapprochement between text and reality. The narrative itself is filled with government communications, laboratory analyses, top secret documents and computer graphics. There are detailed explanations of sterilization procedures, transcribed interactions between characters and computers and lengthy descriptions of scientific tests carried out by state-of-the art robotics. In addition, Crichton's narrator attempts to increase the reader's proximity to the reality represented by letting him/her in on knowledge not yet accessible to the characters themselves. In this way, readers recognize the characters' misjudgements and errors before they do (Trembley 1996: 37-38).

If the fiction were based on fact, FASP researchers could investigate the proximity of the representation of the crisis with the actual documentation of it and extrapolate on Crichton's talents as an artist imitator. The crisis, however, never occurred. According to the author, it was invented in collaboration with his editor Bob Gottlieb (who also edited Catch 22), based on an idea unearthed in a footnote in George Gaylord Simpson's The Major Features of Evolution (1953) and using the non-fictional writing style of Walter Sullivan of The New York Times. The use of false documents in literature goes back to the 16th century and Michael Crichton's use of them to his college days. The author once plagiarized an essay by George Orwell, handing it in as an experiment to see if his professor's marking was fair. He has published under pseudonyms but, most importantly, his Eaters of the Dead (1976) is a fabricated recreation of a Beowulf tale disguised as a scholarly translation of a 10th century manuscript by Ahmad ibn Fadlan. Jurassic Park (1990) also incorporated fictionalized scientific documents in the form of diagrams, computer output, DNA sequences, footnotes and bibliography. Paradoxically, the crew working on the film adaptation of The Andromeda Strain, thinking it was real, discovered many true elements (an underground base, computer programs, bio-metric security measures), prompting Crichton to write "after a while I stopped telling people that I had made it all up, because it turned out that it was based on true things. But I didn't know that when I was writing the book."

The fiction works because of Crichton's mastery of the codes of scientific discourse – or at least his representation of them – which must correspond to that of the popular mind. The various documents which make up the narrative texture appear authentic since they respect the formal rules of argumentation and style. The narrator's interventions appear to explain the technical aspects of the intricacies of the plot. But the fiction also works because of the reader's suspension of disbelief, which is maintained in large part by the fact that he/she knows that the author has a scientific background, that he has access to experts in the field and has done thorough research and so, presumably knows what he is talking about. In addition, the readers themselves want to "believe" such fictions, as Thomas Disch noted in the passage cited earlier. Of course, the historical moment reinforced the fiction's credibility at the time of publication. The Andromeda Strain was published the year of the American landing on the moon, in the context of a Cold War space race, with the fear that germs might be brought back to Earth. The novel was written at a time when the U.S. government and established scientific institutions were under public scrutiny: the Cuban Missile Crisis, the Bay of Pigs, and the Vietnam War all contributed to this climate of suspicion (Trembley 1996: 36). Today, the fiction continues to function because the crisis is plausible: we know that organic molecules exist in space. So, while Crichton feigns authorial proximity to scientific reality and his narrator feigns proximity to the reader, he is actually pulling the wool over our eyes and spinning a yarn
a tale which is “a long way off the truth”. The novelist's use of fictitious fact may be compared to the publication of fabricated experimental results by unscrupulous scientists, or to the many humoristic parodies of scientific articles, both of which rely on a similar mastery of the codes of scientific discourse.


In State of Fear, Crichton imagines a series of “natural” catastrophes staged by a well-funded eco-terrorist group which will finally be stopped, but only after the hero and the reader are educated as to the “truth” about global warming. In this novel, the author is concerned about how political pressure – pressures from the media or personal opinion – might cause scientists to distance themselves from rigorous scientific method. He is especially worried about the influence of politics on science and, in the case of global warming in particular, feels scientists are constructing false representations of a very complex natural order. State of Fear incorporates authentic scientific documentation, among these numerous graphs and footnotes, two appendices and a twenty-page bibliography. But, in this text, didactics come to the fore: the narrative has a pedagogical, if not a political, aim. The narrator seeks to convince the reader, not of the veracity of the documents selected, but of the truth they claim to present.

The book prompted much media attention and provoked a strong reaction from the scientific community it targeted. Global warming sceptics praised the work as even-handed and the American Association of Petroleum Geologists attributed their 2006 Journalism Award to Crichton, despite the fact that State of Fear was published as a piece of fiction, albeit a didactical piece. Larry Nation, communications director for the organization, said “it is fiction, but it has the absolute ring of truth.” Crichton was invited to speak before the Senate committee on the Environment and Public Works by Senator James M. Inhofe, Oklahoma Republican and chairman of the committee, on Sept. 28, 2005. According to this senator, global warming is “the greatest hoax ever perpetrated on the American people.” So, while the novel has been confused with journalism, the author has been taken for a climate change expert. He appeared on numerous television talk shows, such as NBC's Today Show and ABC's 20/20, replacing real climatologists. The Natural Resources Defense Council was frightened by the way “some media and policymakers (could) take a work of science fiction and confuse it with science. That's what is happening with State of Fear, in which Crichton builds a fantasy world where global warming is not a real threat, but global warming scientists are.” The NRDC added “what is truly scary is the willingness of some major US media to accept a sweeping dismissal – from a novelist – of scientists' conclusions from decades of research. [...] the state of fiction and science seem to be merging – and that is not good for our nation.” Climate change scientists published critiques of the book, including corrections of Crichton's errors. The Union of Concerned Scientists published a list of the novelist's mistakes, underlining the existence of a real consensus among climate change experts and challenging Crichton's biased selection and presentation of scientific data.

Reading these experts' reactions, we get the feeling that Crichton is himself guilty of a lack of scientific rigor, for although State of Fear is a fiction, it is didactical in nature and relies on scientific fact to support its representation of the “fiction” of global warming. In light of the testimony of the majority of climatologists, the text appears as a biased fiction based on a partial and selective truth. And although the writer adopts a stance of
proximity to his audience in order to educate, his didactical positioning reveals authorial confidence and thus distance. Paradoxically then, in a novel based on authentic scientific literature, the representation of reality is perhaps false and fiction may in fact preside. The scientist-turned novelist-disguised as a scientist is indeed a fiction writer, and his use or misuse of fact and fiction becomes ever more problematic for the lay reader. For, if certain scientists read *State of Fear* as an accurate representation of their understanding of the natural order, others regard the book as not just pure, but polemical fiction. How is the non-specialist reader to decide which bed to lie in? The author has proven himself to be a master of scientific codes and concepts: he has constructed an apparently true representation of a false reality (*The Andromeda Strain*) and an apparently false representation of actual reality (*State of Fear*). So while we may be tempted to trust his expertise, we are also wary of his many disguises and so may vacillate between proximity and distance, between belief and disbelief, between trust and mistrust.

**Conclusion**

In both texts the author depends on the reader’s ignorance of science in order to weave a (tall) tale. By blurring the borders between false documents and hard data, Crichton’s texts reveal scientific discourse to be a mere construction, like any fiction. It obeys certain codes and for this reason can be easily imitated. Indeed, to return to Plato’s metaphor, evoked earlier in this paper, children and simple persons may at a distance imagine the artist’s work to be real, just as readers imagined the crisis of *The Andromeda Strain* to be real. And although poets cannot compose without good knowledge of their subject, they themselves may be deceived by imitators, as Crichton perhaps was in researching for *State of Fear*. “Or, after all, they may be in the right, and poets do really know the things about which they seem to the many to speak so well” (Buchanan 1977: 664).

In any case, the study of these two examples of techno-thrillers read as professional-based fiction reveals, I hope, the uncertain relation between the representation of a specific milieu and its reality. It demonstrates that, while ESP scholars may privilege an analysis of the portrayal of a particular field of activity, the portrayal remains firmly anchored in the world of literature. It is in this sense that the techno-thrillers of Michael Crichton should be handled with care. For if they are assumed to offer an authentic representation of a scientific field of work, they are first and foremost science fictions rendering novelty plausible and catering to a particular market. Although the specialized discourse serves to anchor the speculations in reality, the fact that it is itself a fictional imitation, as demonstrated in *The Andromeda Strain*, or only a partial truth, as in *State of Fear*, cannot but undermine the reality represented. In addition, we must not forget the influence of the market on such writing. As Norman Spinrad reminds us, “more artistic decisions are economically determined than are dreamt of in the genteel groves of academe” (1990: xi). Spinrad was referring to both the novelist’s personal financial needs and the ways in which the huge market of sf fans influences what gets written. We may wonder to what degree the representation of a scientific milieu is itself determined by the desires or expectations of the techno-thriller readership, which are themselves determined by literary convention. After all, the scientist has become one of the standard characters of fiction: a clear-eyed observer, he is capable of seeing through sentimentality to truth and even capable of saving the world through the “ultimate
metal”, the “ultimate energy” or the “ultimate weapon” (Clareson 1971: 15-16). In the case of the two texts discussed here, the political contexts in which they were composed constitute an additional element, guaranteeing media coverage and commercial success. Finally, the speculative and didactic elements present in such works may also affect the representation of the professional environment, placing it within a utopian or dystopian vision and transforming its participants into mere mouthpieces for a particular point of view. In sum, lay readers would do best to remain wary as to the tales a narrator tells.

BIBLIOGRAPHY


NOTES

1. See John J. Pierce (1994). Pierce notes that it is difficult to define science fiction (sf), and asserts that it is not just a question of ideological controversies: it is an “odd” genre (1994: 12). It is the juxtaposition of the strange and the familiar that creates the sense of time and place in sf. As for the techno-thriller, it is “a new genre that encroaches on the traditional territory of sf and has virtually coopted the near-future sf subgenre [...]. Most readers of techno-thrillers, men’s adventures in an sf mode, or futuristic romance, do not read genre sf, however much those new genre or subgenres may borrow their ideas and images from sf. Yet this genre-crossing is nothing new; there have been close ties between science fiction, satire, fantasy and horror – some dating back to the very origins of sf.” (Pierce 1994: 3-4)


5. Apparently, the first such text was García Rodríguez de Montalvo's first printed edition of *Amadís of Gaul* (Zaragoza 1508), based on a Portuguese narrative, the fourth book of which he claimed to have found in a buried treasure chest transported from Constantinople to Spain by a Hungarian merchant. See <http://en.wikipedia.org/wiki/Amadis_de_Gaula>.


7. Robert Wise directed the 1970 film adapted from Crichton's novel. The quote is taken from Crichton's official website mentioned above.


12. See, for example, Jeffrey Masters article on <http://www.wunderground.com/education/stateoffear.asp>.

13. The Realclimate.org site also dissects the author's arguments, correcting misconceptions and poor editing. *The New York Times'* Cornelia Dean quotes both Stephen H. Schneider of Stanford and Daniel P Schrag of Harvard as debunking Crichton's claims: “demonstrably garbage” according to the first, and “a total embarrassment” for the second, who adds “I think it is unfortunate when somebody who has the audience that Crichton has shows such profound ignorance.” See <http://www.nytimes.com/2006/02/09/national/09prize.html>.

14. The fiction turned out to be true, but Michael Crichton didn't know this at the time of writing, as mentioned earlier.

**ABSTRACTS**

In FASP or professional-based fiction, the representation of an occupational milieu is assumed to be reliable. This assumption is based on the fact that the author was trained in or has strong links to the field portrayed. Two of Michael Crichton's novels, *The Andromeda Strain* (1969) and *State of Fear* (2004), which may be read as professional-based fiction, undermine this assumption in their use of false documents and their misuse of real scientific articles. Crichton’s blurring of the borders between fiction and fact pose a particular problem for the non-specialist reader, since his/her dependence on the narrator is enhanced in such literature. Referring to the metaphor of three beds used by Plato to illustrate the concept of mimesis, and to the related notions of proximity and distance, we will discuss the use of scientific texts in the two novels. We will attempt to demonstrate that reading such techno-thrillers as professional-based fiction can be problematic.

La représentation d'un milieu professionnel dans la FASP est censée être authentique dans la mesure où l'auteur est de façon générale issu du milieu décrit et/ou jouit de liens privilégiés avec ce dernier. Deux romans de l'auteur américain Michael Crichton, *La variété d'Andromède* (1969) et *État d'urgence* (2004), qui se prétendent à une lecture en tant que FASP, minent quelque peu cette supposition. Le fait que l'auteur a recours à de faux documents et à de vrais articles de recherche...
brouille les frontières entre fiction et données scientifiques. Le lecteur non-spécialiste doit se fier au narrateur qui y joue un rôle plus important. En faisant référence à la métaphore des trois lits utilisée par Platon pour illustrer le concept de mimésis, ainsi qu'aux notions de distance et de proximité, nous proposons d'étudier l'utilisation de textes scientifiques dans ces deux romans de M. Crichton. Nous essayerons de démontrer que l'étude des techno-thrillers en tant que FASP peut s'avérer problématique.

INDEX

Mots-clés: Crichton (Michael), FASP, faux document, mimésis, science-fiction, techno-thriller

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