

Knowledges in Publics

Edited by

Lorraine Locke and Simon Locke

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CHAPTER TEN

HOW POPULAR CULTURE ENGAGES AND DEBATES SCIENTIFIC THOUGHT: SCIENTIFIC AND SUPERNATURAL NARRATIVES IN LATE VICTORIAN GOTHIC

KATHERINE ROACH

Fictional representations of science and scientists form a substantial proportion of the contact that non-scientists have with science and its practitioners. Yet with notable exceptions, the body of work on science in fiction tends toward too simple an account of the way in which readers interact with fiction. Much as Adorno and Horkheimer (1997 [1944]) argued in 1944 of a mass culture absorbed wholesale by the populace turning their fighting spirit to docile acquiescence, so studies of science in fiction have had a tendency to assume a passive audience that soaks up meaning from texts in a direct and naive way. There has also been an emphasis on a single, frightening image of science, often referred to as the “mad scientist”, which is too readily taken as a straightforward expression of negativity and fear of science indiscriminately mopped up by the masses.

Here, I will begin with the observation that in the early 20th century, *the* towering figure of mad science, Mary Shelley’s *Frankenstein*, was continually paired with another scientist of equal and opposite status—the occult scientist, vampire hunter and *Dracula*’s destroyer, Professor Van Helsing of Bram Stoker’s *Dracula* (1997 [1897]). Stoker’s scientist gets short shrift in studies of science in fiction probably because supernatural investigation becomes science’s “other” in 20th and 21st century terms.

Indeed, by placing the mad scientist as a (rightful) example of Alfred Schutz’s (1967) typification, then it becomes clear that the lack of attention paid to occult science arises because the occult is no longer a typical object of science as it was in the 19th century. Further, Schutz’s

phenomenological turn places fictional images as part of the warp and weft of social knowledge, which we use to create meaning and to make sense of the world. So the question shifts away from the naïve, “what does fiction do *to* people” to, “what does fiction do *for* people”.

Having established that these stock characters bubble up from social knowledge, it is clear that they are not simply to be enjoyed. They serve a purpose as cultural tools with which we can debate and think through the meanings of science in society (an issue not reserved for academics). The continual pairing of *Dracula* with *Frankenstein* engages a compelling discourse about the disenchanting (or not) effects of science and rationalism on the social world. When paired, these two narratives encompass the enchanted and the disenchanted and as such have come to mean more together than they do alone.

Moving on, I explore the vampire hunter in more depth and show that Professor Van Helsing is *the* abiding example of an “occult detective”, the one remaining model from a number of examples of similar characters who tested the boundaries of the natural and supernatural in the late 19th century. Where did enchantment end and disenchantment begin? The question was a focus of frenzied activity across several domains of fin de siècle culture and, as part and parcel of the social world, fiction offered its own brand of tools for thinking it through, in ways that I go on to explore.

A notable fictional forerunner of the occult detectives was Dr Hesselius from Sheridan Le Fanu’s (1993 [1872]) short story collection *In a glass darkly*. Despite being an inspiration for Stoker’s *Dracula*, Le Fanu’s tales are sophisticated reflections on the authority of rationalism, which is never given complete ascendancy. The line between enchantment and disenchantment is left undrawn and the question unresolved. In comparison, Stoker’s *Dracula* takes on the narrative arc of a detective story, which resolves in the detection and destruction of the vampire.

There are synergies between the narrative structures of science itself and detective fiction, and between detective fiction, science and the way in which readers attend to the chronology of fictional narratives more generally. Science or detection tells a good story because it reflects patterns of narrative processing that non-scientific readers employ to understand stories. All are reliant upon the dependable chronological passage of time. Causes are followed by effects and not vice versa.

Yet the supernatural disrupts the natural passage of time. Ghosts, ghouls and vampires constitute an invasion of the past into the present. The rational investigation of supernatural causes destabilises the scientific turn of mind. When time is disordered, cause cannot be relied upon to precede effect—with one plausible exception that is: the vampire has a

material body and materiality allows for a seeming, if superficial, process of rational cause and effect. Although ancient, capable of shape-shifting and all manner of magical doings, the vampire's body lends a veneer of plausibility to empirical detection. The body can be hunted down whether it is enchanted or not. Bram Stoker's story manages the impossible in combining the cogency of cause and effect with a dash of belief in mercurial magic. The mix allows Professor Van Helsing to succeed in vanquishing evil where Victor Frankenstein disregards the supernatural and fails. The trouble with evil is that it always returns, so what is needed next time? Will it be science or will it be magic? Quite a hefty debate for such low-brow fictions.

Frankenstein's Foil

The mad scientist is an icon of popular culture as familiar as a cup of tea or a can of soda, common enough in fact to have an entry in the *Oxford English dictionary*.¹ He, for male he usually is, shares a narrative with Mary Shelley's (1994 [1818]) character, Victor Frankenstein. An ambitious scientist turned misanthrope manufactures a man, bomb or other being which disastrously runs out of control. The ubiquity of the image is a likely reason for the strong emphasis that studies of science in fiction have placed upon mad, bad and dangerous types. The import of the icon is further underlined by a slow but steady stream of writing that flows from the scientific community bemoaning a perceived dearth of decent scientists in popular culture (Baldick 1987; Basalla 1976; Cohen 1981; Frayling 2005, 2006; Haste 1997; Haynes 1994, 2003, 2006; Jackson 2008; Jones 2001; Jörg 2003; Millhauser 1973; Rose 2003; Schummer 2006; Skal 1998; Toumey 1992; Tudor 1989; Turney 1998; Weart 1988; Weingart 2006; Weingart *et al.* 2003; Weingart and Pansegrau 2003; and for scientists on fiction, see Emsley 2001; Sir David King in Frayling 2006; Gilbey 2008; McDonald 1989; Pollack 1998; Rohn 2006).

Each seam of writing supports the other in a near exclusive focus on an unruly, unkempt and unsafe scientist. A narrow vision indeed, given that almost no part of our lives, in the west at least is left untouched by science and technology, from food and shelter to health and communication. It would then be extraordinary if the sum total of our imaginative response to science were concentrated in such a fearfully negative image.

Indeed, this is not the case. There are other scientists who claim equal status in the ancestry of fictional science. In the 20th century, *Frankenstein* gained a partner in *Dracula*. Although *Dracula* is not reckoned to be a story about science in an obvious way as *Frankenstein* perhaps is, the

novel has a powerful scientific protagonist. Where Victor Frankenstein creates a monster, Stoker's Professor Van Helsing destroys one. Bram Stoker's (1997 [1897], 147) story tells of a vampire hunt in which Van Helsing, "a philosopher, a metaphysician, and one of the most advanced scientists of his day" saves humanity from the curse of the "undead" by injecting a shot of calm empiricism into the mission to lay such dangerously disturbed souls to rest.

A now time-honoured affiliation between the two 19th century horror stories had humble beginnings in December 1927, in twin stage adaptations of Hamilton Deane's repertory company, which toured the UK provinces bringing double demonology to a West End debut in 1930. Soon afterwards, Universal Studios famously took an interest and the two great horror icons drifted into popular culture as a matching set in horror double bills, compendium story books, comics, television shows, games and all manner of cultural products (Skal 1993). Few on-screen scientists can have rivaled Victor Frankenstein for air-time more than Van Helsing has in the 20th century. Jon Turney (1998) finds over 40 film adaptations of Frankenstein up to 1982 and in Stephen Jones' (1993) movie guide compiled a decade later, he counts 400 films loosely based on the same story. A quick count of movies listed by the same author reveals that there are 664 vampire films made before 1990 that include a character based on Van Helsing.

Such a profusion of products arising from the demonic duo exemplifies the kind of economically driven cultural homogenisation that so appalled Theodor Adorno and Max Horkheimer when they wrote about the culture industry. In the simplest of terms, their argument, the bones of which Adorno (1975) reiterates, hinged on the fact that "art" whether literary, musical or visual had become a saleable commodity and as such was no longer created in the purpose of stirring the conscience, but simply as a product to be "enjoyed". Instead of galvanising the dissatisfied to fight for their cause or at least to reflect upon it as art could, the culture industry delivers an escapist activity that supports rather than questions the status quo and replaces "consciousness" with "conformity" among the masses (Adorno 1975, 17).

This element of the concept of a culture industry has echoes in discourses past. Chartists, radical writers and pamphleteers from the 1840's onwards were generally suspicious of burgeoning weekly "penny fictions", because they believed that they offered up imaginary answers for genuine social problems and were a distraction from the real work of social change. Morag Shiach (1989) has described two poles of response to "popular" culture in this period: at one end she finds this radical view;

at the other end were educators, reformers and religious campaigners who argued that cheap fictions were a bad influence on the morals of the masses. Hepworth Dixon, writing in the *Daily News* in 1847, felt that they could

poison the very fountains of human life...by corrupting...the basis of morals...[that] offer the only guarantee for the peace and well-being of the social body (cited in Dalziel 1957, 49).

By these accounts, then, popular fiction is rabble rouser or soporific dupe. Shiach's (1989) study suggests that debates about the "popular" in culture have long been defined by these two poles. A sophisticated tradition of theorising the popular extending from the 19th century to today spans both extremes of opinion, but is generally unified in describing the popular variously as de-based, dumbed down, formulaic, low-brow, vulgar and unvarying. Adorno is as damning as they come, yet he, unlike many of the 19th century writers on the topic, did engage with the material of popular culture, for he wrote extensively about "popular music". He replied to the reprimand, "Whoever ignores [the culture industry's] ...influence out of skepticism for what it stuffs into people, would be naïve" (Adorno 1975, 15). He sweeps away any call to take it seriously as a distraction from the true critical focus on quality and truth. Whatever the value of his position, it constructs the cultural consumer as entirely passive, unresponsive and waiting to be "stuffed" with undemanding material.

A similar trend runs tacitly through much writing about science in fiction, which emphasises the mad scientist as *the* standard image and then bemoans the fact that it dulls lay understanding of science and stops genuine debate or learning dead in the water (Frayling 2005, 2006; Haynes 1994, 2003, 2006; Kirby 2003; Millhauser 1973; Schummer 2006; Toumey 1992; Turney 1998; Weart 1988; Weingart 2006; Weingart *et al.* 2003; Weingart and Pansegrau 2003; for scientists making the same claim see Emsley 2001; Gilbey 2008). True, mad scientists are unreal, but they are designed that way. They are the stock characters of fiction and as such they have little psychology, little history and little personalising detail at all. In this they are much like the characters of a fairy tale.²

Some scholars have argued that the characters themselves constitute an unbending critique of science. Most mad scientists have strange equipment, sometimes galvanic, often bubbling vials or other arcane instruments and they are commonly unkempt, male and wear white coats.³ Christopher P. Toumey (1992) argues that the paraphernalia of mad science consists of an illogical bundle of magical iconography that

amounts to an antirational critique. Other scholars focusing on the disaster narrative itself are inclined to take that as a straightforward reflection of fear or negativity on the part of public(s) (Basalla 1976; Cohen 1981; Frayling 2005, 2006; Gilbey 2008; Haste 1997; Haynes 1994, 2003, 2006; Kramer 2003; Millhauser 1973; Pollack 1998; Rose 2003; Weart 1988; Weingart 2006; Weingart *et al.* 2003; Weingart and Pansegrau 2003). Yet mad science does not necessarily amount to “bad” science. Stories of mad science have been documented as rhetorical devices used by pro-embryo research groups to suggest that opponents to embryo research were confusing fact and fantasy (Mulkay 1995, 1996). Lindy Orthia (2010) has also described how the popular television series *Dr Who* turns classically drawn scientific villains into positively pro-science messages, when the Doctor’s science outshines the villain’s.

Perhaps what is called for is a shift in the framing of debate away from “what does popular fiction (mad science stories) do *to* the people?” Is the story of a crackpot man and his misanthropic unfettered ambition really taken as read by a populace who cannot tell the difference between a stock character of fiction and the workings of real-world science? What happens if we ask instead, “what does popular fiction do *for* the people?” Why are the twin demons of Frankenstein and Dracula so commonly paired? What do these two figures do *for* people? Do they really dupe us into delightful dreams so that we are distracted from real-world problems that need our attention? To some extent of course they may well do. It is hard not to have some sympathy with the concept of the culture industry particularly in the current climate of consumerism that thrives alongside global warming and recession. It would be going too far to suggest that the culture industry has no relevance, but it seems unlikely that we replicate these figures so avidly *only* for their anesthetic value.

Recent work does suggest that such fictional icons work for people in different ways. Focus group participants used them as framing devices for their discussion about the impacts of science on society (Bates 2005; Michael and Carter 2001). When asked about the representations themselves, participants referred to them creatively and intelligently, and easily assimilated different kinds of knowledge from different contexts that spanned didactic, entertaining, emotional, ethical and rhetorical purposes. In other words, they treat fiction as symbolic and not as “real”.

Images from fiction, stock characters or otherwise, can be utilised in extraordinarily complex, multilayered ways, which suggests that though they might provide an entertaining distraction they also contribute to a pool of cultural resources for thinking and debating about society and science (Locke 2005). In this view, Frankenstein, Dracula, the mad

scientist and the vampire hunter are iconic cultural reference points drawn into the everyday social world and made to do work for us as framing devices, as rhetorical devices, as material products of a capitalist system or as simple entertainment.

Beyond Typical Science

Bram Stoker's Professor Van Helsing is one of a number of scientific "occult detectives" that appeared in the latter third of the 19th century (e.g., Le Fanu 1993 [1872]; Blackwood 2002 [1908]; Hodgson 2006 [1913]; Heron and Heron 2006 [1899]). They have been little featured in writing on science in fiction and yet they are scientists through and through—symbols perhaps of hidden or arcane knowledge (including science) and the very epitome of rationalism, with the rare ability to keep a "straight head" in the face of chaos and annihilation. The reverse, indeed, of the mad scientist who loses his head to his ambition. The occult detectives, of which Frankenstein's Hollywood partner Van Helsing is probably the most famous, have a strong presence today and still they are practically ignored by scholars of science in fiction. One reason for the seeming lack of interest might be a tautological knot of sorts. Though there is a call for decent scientists in fiction, those who are decent, the occult scientists, may not be recognised as scientists because they dabble in the supernatural, do not spend their days labouring in a laboratory and lack other typified emblems of science.

"Typified emblems" or the typification to which I refer is a concept that has phenomenological underpinnings and was initially theorised by Alfred Schutz (1967). For him, individuals understand the world by interpreting it in terms of a stock of previous experience, which encompasses their own experiences combined with that communicated by parents, relatives, friends and cohorts. This stock knowledge forms a schema through which all new experience is measured, so that each new object and event is perceived at the outset in a typical character—a typification. In this way, the world can take on meaning without the necessity to process each new experience from afresh. Typifications are essentially learned common sense constructs applied to new sensory experiences of places, people, events and things. Schutz argues that it is through this process of typification that individuals are able to take meaning from situations of which they have no personal experience. He (1973, 17) explains

[p]utting a letter in the mailbox, I expect that unknown people, called postmen, will act in a typical way, not quite intelligible to me, with the result that my letter will reach the addressee within typically reasonable time.

Schutz (1973, 12) proposes a “general thesis of reciprocal perspectives” to explain how people are able to bridge the social-subjective divide. It goes something like this: for me to be able to assume that the world that I know as real is the same as the world that you take for granted is real, then we must share the same taken-for-granted thinking structures about the world. In fact, everyone within our social group must have access to the same stock of knowledge with which we can move from our own subjectively constructed worlds to our socially constructed world. This must be socially agreed. If this does not happen then we are thrown into our individual solipsistic worlds.

In order to engage in the same reciprocal arrangement with regard to a single entity that we wish to refer to as “science”, then we must assume common sense constructs that are able to encompass an enormously diverse group of activities and people from zoologists to astrophysicists. We must develop a stock of thought constructs that allow us to refer to the essential characteristics of what a “scientist” does. Such constructs will encompass the “sedimented” products of forms past, which have been stretched, added to and lost details over time. This is the process of typification. It reflects the way that 20th century insignias of Einstein’s hair and a white coat have been added to 19th century detail of bubbling vials and galvanic apparatus as typified emblems of today’s mad science.

Like shifting sands, typifications of the 20th and 21st centuries do not quite match those of the 19th century such that today’s scholars do not share the socially sanctioned knowledge of 19th century authors and readers. This might explain the exclusion of occult scientists or at least the focus on scientists who make and discover things in laboratories (see Haynes 1994, on Van Helsing or Sherlock Holmes). At the time of writing *Dracula* (Stoker 1997 [1897]), *In a glass darkly* (Le Fanu 1993 [1872]), or Dr John Silence stories (Blackwood 2002 [1908]), their respective occult detectives were widely recognised as “men of science”. There were rather fewer salaried “scientists” in the 19th century than there are today and science was the domain of a variety of professions. Ruth Barton (2003) finds that in the second half of the 19th century the label “men of science” was the term of preference over “scientist” as a phrase that better reflected the multiplicity of routes by which people involved themselves in doing science. So in Barton’s terms, socio-cultural constructs of science stepped

beyond the confines of a laboratory or a white coat and were based much more upon a process.

19th century culture seems to have identified its scientists in fact and fiction as “men of science” who worked through an investigative process rooted in reason to obtain knowledge for a variety of purposes in a variety of settings. Occult science was as genuine a science as was physics or chemistry. Yet, 21st century scholars generally exclude the occult detective from studies of science in fiction because the laboratory comes transformed perhaps into a cosy fireside location, perhaps the Carpathian mountains or a church vault, and the tool kit is as likely to include a crucifix and a vial of holy water as it is a retort, microscope or thermometer.

That said, if 21st century scholars do not recognise these characters as scientists then is it not likely that readers and consumers do not either? In which case occult detectives are irrelevant except as an oddity of historical science representation. Nonetheless scientists do persist in the supernatural fictions of the 21st century and while they may not be recognised as typified scientists they combine the discourses of science and supernatural. They span a boundary that “enchants science” and “scientises magic”, as Simon Locke (2005) finds in his study of comic book superheroes.

Magic and science have a long entwined history that reaches back to past conceptions of nature, spirit and alchemy, and in representation they have remained enmeshed ever since. Mad, bad scientists themselves retain an element of the magical (Locke 2005, 2011; Roach 2011; Schummer 2006; Toumey 1992; Weart 1988) and even the impossibly rational scientific detective Mr Sherlock Holmes can infuse modernity with magic and meaning (Saler 2003). *Frankenstein*, which is after all *the* fiction about science, was originally published by a firm called Lackingtons who specialised in “magic, the illegitimate supernatural, and horror”, one advert listing such stock items as: *The Magus or Celestial Intelligencer*; *Lives of the Alchemystical Philosophers*; and *Apparitions, or the Mysteries of Ghosts, Hobgoblins and Haunted Houses* (St Clair 2004, 359).

In addition, Locke (2011) has argued that sociological notions of disenchantment arising from the rationalisation of society of the kind described by Max Weber should not be seen as a uniform state that is simply forced upon the populace. Disenchantment is one facet of a whole kaleidoscope of meanings that science takes on in the social world. Fictional representations comprise one cultural manifestation of such meanings, as are the results of typification, our day to day engagements with technology, or the development of stock characters of science or magic. It seems that wherever discourses of science are present so

discourses of the charismatic are never far away, the two apparently in a constant cultural dialogue.⁴

Recent prominent examples of the kinds of “charismatic science” that are employed by occult detectives can be found in a number of texts. Stephenie Meyer’s (2005-2008) *Twilight saga* features a vampire family headed by a doctor who polices the vampire world and in a manner is a vampirised version of Professor Van Helsing. *Buffy the vampire slayer* (20th Century Fox Television 1997-2003), Joss Whedon’s televised vampire hunter, was assisted by a “Watcher”, a kind of parapsychologist who researches the supernatural phenomena that Buffy must confront. James Herbert has given life to a scientific occult detective named David Ash in his novels *Haunted* (2007) and *The ghosts of Sleath* (2010). Even a parodic children’s cartoon, *Count Duckula* (Thames Television 1988), retains the Count’s scientific nemesis, in this case a non-hubristic mad scientist called Dr Von Goosewing—a comedic Van Helsing.

Positioning Schutz’s notion of a typificatory process as phenomenological fabric with which society creates, engages and debates fictions, or indeed knowledge of any kind, makes sense of the seemingly endless reiteration of stock characters and stories of science and supernatural. The fact that focus groups refer to such figures almost as if they were a cultural meta-language suggests that these typified figures do exist as social knowledge and are used as a means of experimenting with the moral, ethical and human implications of science. Such a process also supports Locke’s (2011) proposal that the meaning of science in culture is under constant debate. Here then, we have shifted the frame of debate from Adorno’s “what does the culture industry do *to* people?” to “what does the culture industry do *for* people?” I do not wish to insist that it has no anaesthetic effect, but I suggest that the very emptiness of stock characters and formula fictions that Adorno so detested is what makes them so useful as ways of debating and experimenting with moral meaning. This is no revolutionary force, but it is a vital socio-cultural resource.

Manufactured Monster and Charismatic Count

Just as the twin demons of supernatural vampire and man-made monster diffuse through the fabric of culture, so they each carry with them the weight of charisma and of science from which they arise respectively. The double discourse is a potent force indeed that gives the duo greater meaning when they are together than either has on its own. Although each story alone does engage both natural and supernatural realms, the polarity

of the two stories juxtaposed highlights and magnifies the tension between the two types of force.

Simon Locke (2011, 113) finds that questions of disenchantment or enchantment are a core concern of cultural engagements with science. The continual popular pairing of Frankenstein and Dracula supports his view that the

combining of science and magic in individual characters and their conflicts is indicative of the tensions surrounding science in modern culture regarding whether it enchants or disenchants and if it is a good or bad thing in either case.

It is also a manifestation of Locke's thesis that by opposing science to magic, the discourse of disenchantment gives life and space to the charismatic or the irrational that it would not have if it were not crucial as science's "other". Neatly put: "the 'irrational' is not eliminated but emerges to greater prominence.... Disenchantment produces and needs enchantment" (Locke 2011, 102).

The potency of the polarity of Dracula and Frankenstein is partly what keeps these figures together then. Devilish charisma is destroyed by science and science creates a man-made monster. Yet despite the tension held in the opposition, at their core each story carries a similar message, which revolves around its orientation to enchantment and disenchantment. Professor Van Helsing points toward the modern splitting of knowledge—science from religion, academic from folk, expert from lay—as being the edge of advantage that the vampire gains in fin de siècle London. In order to lay Count Dracula to rest, the vampire hunter must be both scientist and charismatic. Van Helsing explains:

We have on our side the power of combination—a power denied the vampire kind; we have the power of science...[and] tradition and superstition.... Does not the belief of vampires rest on them? A year ago which of us would have received such a possibility, in the midst of our scientific, matter-of-fact nineteenth century? (Stoker 1997 [1897], 277)

His point seems to be that science alone does not have the power to fight evil without moorings to a system of knowledge and belief that is older and still enchanted.

In contrast, Victor Frankenstein's lack of superstition is what enables him "to spend days and nights in vaults and charnel houses", examining "every object, the most insupportable to the delicacy of human feelings...how the worm inherited the wonders of the eye and brain"

(Shelley 1994 [1818], 80). Inured as he is to sights that others would find disturbing, he is then able to disregard the feelings of his own creature. Frankenstein's complete split from the realm of feeling and superstition is his tragedy, whereas Van Helsing's character harks back (or forward), almost sentimentally, to a time when all knowledge was one thing and men were wise (and charismatic).

The mad scientist might be seen as arising from anxieties over the splitting of knowledge and if this is so then the vampire hunter must be a direct response to the same anxiety. Joachim Schummer (2006, 125) argues that mad scientists emerge in the 19th century as a result of the loss of a "metaphysical system to provide an overall framework and orientation", which comes about with the gradual fragmentation of knowledge into sciences, arts, humanities, philosophy and perhaps religion too. Van Helsing demonstrates the value of re-joining the circle, while Frankenstein exemplifies the folly of not doing so. They may be mirrors of one another, but their sense is the same and each story reinforces the message of the other—ultimately disenchantment results in and relies upon enchantment. So although the capitalist culture industry may have hitched an opportunist ride on the potency of famous horror twins, the expression of such a weighty dilemma does not have the appearance of a simple anaesthetic for the masses.

The Occult Detectives

The dilemma of disenchantment which opposes the rational and the charismatic defines a point of particularly frenzied cultural activity in fin de siècle England. Not only do period fashions in fiction negotiate the boundaries between the two sources of knowledge through the spread of occult detectives, but there is also a more general drive to test the natural against the supernatural and vice versa by "real world" occult detectives.

Ghost hunts, sometimes drawing thousands of people onto the streets, were a regular occurrence, a likely product of burgeoning newsprint according to Owen Davies (2007). The ghost hunt was very much an urban working class affair, which seemed to shout out the reality of the charismatic, while the courts by this period generally preferred a rationalist disenchanted answer.⁵ During the same period, an alternative form of ghost hunt was apparently reserved for the middle classes. Spiritualism was likely seen by many as a more thoughtful and perhaps more decorous route to the spirit world. That said, there is undeniable sensationalism in the act of a medium, who called up spirits that variously talked, rang bells, rapped the table, moved objects, wrote messages and

caused people to levitate. Yet spiritualism brought the ghost to the scientist where the supernatural could be subjected to rational enquiry by all manner of different methods (Cooter 1984; Lamont 2004; Luckhurst 2002; Noakes 1999, 2002, 2004; Van Wyhe 2004; Winter 1998).

Both ghost hunts on the street and spiritualist activities behind closed doors involved detective activity of one sort or another, either to find the provenance of the ghost or to investigate the nature of the forces creating the phenomenon on trial. It is not surprising then that novelists invented heroes who could apply rational methods to investigate the supernatural as well. Indeed, the experiment to mix science and supernatural has produced some surprisingly long lasting results particularly in the character of Bram Stoker's vampire hunter and all his cultural spin-offs.

One of the major influences on Stoker's writing is reckoned to be the work of his fellow countryman, J. Sheridan Le Fanu, whose short story collection, *In a glass darkly*, comprises five stories, one of which is his own vampire story, "Carmilla" (Byrne 1973, 92; Skal 1993, 102; Tracy 1993, xxi). They claim their origin from amongst the papers of a deceased, fictional scientist and physician, Dr Martin Hesselius, and are edited and introduced by his secretary who frames each story with its own prologue and epilogue. Le Fanu gives only a brief glimpse of his vampire hunter, Baron Vordenburg, a cameo character compared to Hesselius, who is generally reckoned to be the first example of an occult detective and an inspiration to a whole raft of others including: E. and H. Heron's (aka Hesketh and Katherine Prichard) (2006 [1899]) Flaxman Low; Algernon Blackwood's (2002 [1908]) Dr John Silence; William Hope Hodgson's (2006 [1913]) Thomas Carnacki; and Stoker's Van Helsing as well (Punter 1996).

Compelling character though he is, Dr Hesselius is confined to only the first of Le Fanu's five stories and their linking frames. The first story, "Green tea", sets out as if it were a detective story. Hesselius and reader alike are presented with the enigma of a mild mannered, charitable priest who has an odd secret. Mr Jennings is

always tolerably well...[but] when he goes down to Warwickshire, to engage in actual duties of his sacred calling, his health soon fails him, and in a very strange way (Le Fanu 1993 [1872], 7).

And so, begins the mystery of the haunted clergyman. Hesselius is at first depicted as every bit the all-knowing, razor sharp detective-cum-doctor. Doctor and vicar meet at a party thrown by Lady Mary Heyduke and, when drawn by the mystery of the vicar, Hesselius scrutinises him with

“more minuteness than the ordinary practitioner” finding in him the “likelihood of rewarding inquiry” (Le Fanu 1993 [1872], 8).

Immediately, Jennings is turned “investigated” to Hesselius’ “investigator”, a factor that makes their relationship manifestly more evocative of detective and suspect than of doctor and patient. The language, too, is couched in terms of suspicion and guilt rather than diagnosis and disease. So, it is “in the agitation of a strange shame and horror” (Le Fanu 1993 [1872], 7) that Jennings sometimes falls ill in the midst of his ministerial duties. There is an element of furtiveness about him, as a man “whose transactions and alarms were carefully concealed with an impenetrable reserve”. Yet he is no match for the doctor who “penetrated his thoughts without him being aware of it, and was careful to say nothing which could betray...[his] suspicions” (Le Fanu 1993 [1872], 9). Last, on finding that the priest shares his interest in “metaphysical medicine”, Hesselius probes the point and Jennings turns guilty suspect: “He dropped his eyes, and folded his hands together uneasily, and looked oddly, and you would have said, guiltily for a moment” (Le Fanu 1993 [1872], 10).

Armoured with his observations of the “suspect-patient”, Hesselius indulges in a display of veritable Sherlock Holmes-style “deductive” logic for Lady Mary, a long-time friend of Jennings. He dazzles her with his inexplicable knowledge. Jennings is a bachelor who has given up writing on a topic of an esoteric nature; he drank a good deal of green tea; and one of his parents once saw a ghost. Lady Mary, confirms him to be correct on all counts, is incredulous and declares the doctor to be quite the “conjurer”. He ends this little routine with the affirmation that “I have already conceived a theory about him...I should like much to ascertain from his own lips” (Le Fanu 1993 [1872], 12). So far so good, Dr Hesselius makes an impactful start.

What follows is a long interview between Jennings and Hesselius, in which the debilitated clergyman “confesses” his case history. He is the victim of a haunting that takes the form of a malevolent monkey, which has taken greater and greater hold on his life. Yet, the whole story and circumstance of the haunting is ultimately surplus to Hesselius’ requirements because his final assessment of the case is based almost entirely on the key “deductions” he showed off to Lady Mary, with a little Swedenborgian philosophy thrown in.⁶ In theory a “metaphysician” is the right person for the job, perhaps more able than most to deal in both physical and spiritual matters. Yet, Hesselius’ doctoring function proves to be ineffectual to say the least. Thomas Loe (1998) and Richard Haslam (1998) both make note of the fact that at the very moment when Hesselius

is most needed by the beleaguered priest, he is unattainable having taken leave of his usual lodgings so as not to be disturbed whilst deliberating the case.

Yet, Hesselius is widely known as an occult detective (Ascari 2007). Srdjan Smajić (2010) remarks that where he fails as doctor and exorcist, he succeeds as “a detective of the *causes* of occult phenomena and *motivations* for actions and behaviours” (Smajić 2010, 152). Perhaps, Hesselius does have more success in the detective line than in the medical way since he does suggest some potential causal factors. Yet, his over determination of causes—an imbalance of nervous or spiritual fluids, an overdose of green tea, an activation of the “inner eye”, nervous congestion complicated by inherited suicidal mania and a lack of confidence in the physician—is a long way from the usual *dénouement* of the detective story, which demonstrates a single, knowable reality. The detective narrative sets out with many possible realities, which it investigates, weeding out one after another to reveal the one true one at the end.

Unlike “Green tea”, Bram Stoker’s (1997 [1897]) novel, *Dracula*, does resolve in predictable detective-style fashion. Further, it is narrated in epistolary form, in which letters, diaries and newspaper clippings together tell a story that gives the reader a sense of evidential material and positions her/him as judge and jury. In this, Stoker follows Wilkie Collins’ (1999 [1868]) *The moonstone*, which is often cited as the first great detective novel (Farmer 1999; Haycraft 1946). Just as in Collins’ novel, so in Stoker’s the story passes from one witness to another and a mystery unfolds that impels detection. Stoker’s narrative in fact has a more insistent lead detective, Van Helsing, assisted by his sidekick, the alienist, Dr Seward. Originally the Professor was conceived not as one, but as three individuals, a detective inspector and two historians (Frayling 1991, 305). In the event, Van Helsing is not a detective by profession, although his mission entails tracking a known deviant by logical, empirical means in much the same way that any criminal investigator might do.

Nearly all detective narratives take a similar progression. The story begins with a crime and sets out on the drudgery of fact collecting with a gradual elimination of suspects until momentum and excitement quicken nearing resolution, when the facts all come together to reveal the perpetrator and history of the crime. Joseph Agassi (1982, 101) has noticed that this is the approach recommended by Francis Bacon as the way to achieve solid scientific progress. It amounts to induction, the

patient gathering of masses of details and their repeated examination until, perhaps with the aid of a systematic elimination of false possibilities, facts

fall in to a pattern by themselves, until the pattern or law of nature clicks, as it were.

In Bacon's view a guiding hypothesis or preconceived idea ran the risk of obscuring potentially significant data points and valuable clues by suggesting shortcuts in fact gathering. Of course, fictional detectives themselves do not always adhere to these rules, but the arc of their story almost always matches a narrative of Baconian induction. Fundamental to such a narrative, both in inductive science and in literature is the move from a disordered world (of facts or society), to an ordered world (of understanding or retribution). The Baconian narrative restores order and might be described as a restorative narrative.

"Green tea", however, does not fit the same pattern. There is little or no data gathering to speak of. Hesselius appears to make his final inferences at the outset whilst chatting to Jennings "upon indifferent subjects" at a cocktail party. This is apparently the sum of Hesselius' enquiry and the intervening long interview with Jennings does not seem to furnish him with further details that allow him to either eliminate false possibilities or to find new ones. Loe (1998, 301) suggests that in juxtaposing the

lack of causality in the sequence of events to Hesselius' supposedly rational inquiry, one can see how Le Fanu strengthens the effect of the story by having one type of structure countering the other.

The result opposes a Baconian narrative and produces what Loe calls a "strange modernism" in which authority is raised only to be undermined. The story begins with a simple question: What is wrong with Mr Jennings? It ends with the same question plus a whole array of potential answers and offers no way of choosing between them. In this regard, "Green tea" ends with a more disordered world than the one it started with. A question that seemed simple at the outset turns into a labyrinthine puzzle by the end.

"Green tea" and the following two of Le Fanu's stories are, in fact, rare examples of Tzvetan Todorov's (1975) genre, "the fantastic" in which supernatural events are strongly indicated but the story allows the possibility that events may have natural provenance. This means that tales of "the fantastic" must contain dual narratives from which the reader chooses: "one probable and supernatural, the other improbable and rational" (Todorov 1975, 49). Is Mr Jennings haunted or is he mentally ill? These are the alternative stories. Todorov's "fantastic" is actually the

moment of hesitation, or wavering, between two such possibilities—haunted or mentally ill?

A hero of the hesitant ground of the “fantastic”, as Hesselius is, cannot be an effective detective because the fantastic deals only in possibilities that are left hanging, unresolved into a single, identifiable reality. Although Stoker took some of his cues from Sheridan Le Fanu, his own story is much simpler. The dreaded Count Dracula is unequivocally evil and supernatural, a deviant demon whose final retribution has him crumbling to dust. Stoker’s Professor Van Helsing demonstrates the merits (and proper use) of a rational method, whereas Le Fanu’s Hesselius, though billed as a man of “immense knowledge” and a healer, fails to heal while he succeeds in identifying several possible realities that are never resolved into one. If anything, Le Fanu approaches the depths of complexity and conflict present in life and questions the nature of reality in doing so. The “real” world is disordered and realities are multiple. On this count, Theodor Adorno may have had some sympathy for Le Fanu.

Yet Le Fanu’s text is not so easily bent and moulded to provide the substance for the stock of social knowledge. Neither is it easily employed as a framing device; because of its complexity any attempt to frame debate with reference to Hesselius leads back to questions about Hesselius’ story itself. The simplicity of the shape and ideas in *Dracula*, however, function rather better in this setting. They are easily taken out of context and projected into other situations—the vampire might be taken as a disease and the debate becomes does the doctor take folk remedies seriously? Does the doctor need the “power of combination” to fight disease? Much in the same way, the mad scientist can raise questions about the possibility of being over-technical.

It seems likely then that fictional images perform different functions depending upon on their own “density”. This is a term used by literary critic, Tzvetan Todorov (1975) who warns that the idea of representation itself needs to be re-examined with respect to literary texts, which are not representative in the sense of referring to “a thing” in the world outside the text, in the way that a “factual” statement refers to “something” exterior to the statement itself. The events and characters of literature are only internal to the text, they both exist and they do not exist. Todorov has usefully elaborated on this difficulty and is of the view that because fiction describes events and characters that have parallels in the real world, to deny it any representative role at all would amount to defining an object only with the object itself. There must be at least an oblique relationship between real world and literary representations.

Unlike a word, the fictional image itself is not a signifier, “because it signifies itself...it possesses a certain density” and if we negate such density, then every image turns into allegory, which overstates its referential role and treats it as if it were transparent (Todorov 1975, 143-144). The sense that arises from a comparison of “Green tea” and *Dracula* is that some fictional images have a greater transparency than others, which gives them wider function as socio-cultural resources outside of their own literary text—and such is a function of the “culture industry”.

Narratives of Nature and Supernature

The application of scientific method to the supernatural realm both in practice and in literature is sometimes seen as indicative of a “shoring up” of scientific authority (Ascari 2007). Oddly enough, the project largely had the opposite effect and occult detectives were somewhat compromised in rational, scientific terms, while the charismatic and enchanted gained credibility from a gloss of rationalisation. Supernatural investigators often need to rely on all those skills formally disassociated from scientific method, such as subjectivity, their feeling nature and perhaps the power of their own souls. These characters were very popular in fiction for a short period spanning the turn of the 19th and 20th centuries, but have not been so widely and regularly re-worked as has the criminal detective or the mad scientist.⁷ Yet the experiment of placing detectives in the occult did create a mix that ultimately allowed science to piggyback the vampire story, one of the most popular genres ever to have existed in fiction.

Aside from Le Fanu’s fantastic, the fin de siècle occult detectives generally follow the narrative arc of Bacon’s induction. For example, Algernon Blackwood’s (2002 [1908]) Dr John Silence begins his first investigation much as Sherlock Holmes would. In “Case 1: a psychical invasion”, Silence is presented with the problem, a haunting, he then proceeds by gathering data about the house and the habits of the current inhabitants and he gradually builds a picture of the case. He diagnoses psychical invasion owing to an overdose of cannabis and brings the case to a denouement by using his own psychic methods to draw out the evil and dissipate it.

Just as the fantastic has a dual narrative, so does the detective story as Todorov (1977) has pointed out in a now famous essay entitled “The typology of detective fiction”. Here, he (1977, 44) stipulates that the detective story contains “not one but two stories: the story of the crime and the story of the investigation”. Todorov (1977, 45) explains that we may

characterise these two stories by saying that the first—the story of the crime—tells ‘what really happened’, whereas the second—the story of the investigation—explains ‘how the reader (or the narrator) has come to know about it’.

In other words, the first story consists of events as they happened and the second the investigation.

Furthermore, these two stories correspond to ways in which readers make sense of narratives in general. These were initially described by Russian formalists and relate to the way that readers deal with distortions of time, such as flashbacks, flash-forwards, or perhaps even sideways moves (omniscience).⁸ At a basic level, narrative structure consists of the order of events in which they are given by the text—the *sjuzet*—which includes all its anachronies of time-shift and is sometimes referred to as plot. Then there is the chronological sequence of events, which in most cases differs from the order given in the *sjuzet* and is constructed by the reader—this is the *fabula*. What Todorov notices is that, in detective fiction, the story of the crime, or “what really happened” corresponds to *fabula*, and the detective’s investigation corresponds to *sjuzet*, the story as it is written. Put another way, the detective derives the “truth” of what really happened from the clues s/he finds just as the reader derives the *fabula* from the *sjuzet*.

In detective fiction the two narrative structures work together, the one supporting the other, so that the Baconian shape, the fact gathering and elimination of false possibilities, gradually positions elements of *fabula* with increasing impetus in their chronological order. This effectively situates the detective between the reader (and *sjuzet*) and the *fabula*—in a sense, the detective becomes “guardian” of the *fabula*. Seen in this light, the notion of restorative narrative takes on new meaning. It is only through the detective that the reader is able to reconstruct or to re-order the narrative to fit its “true” chronological pattern. Likewise, the scientist constructs a *fabula* from Nature’s *sjuzet*.

Indeed the advent of detective fiction in the 19th century is congruent with the rise in historical sciences. Charles Rzepka (2005) points to one of the most influential of popular scientific developments of the 19th century, Charles Lyell’s explication of uniformitarianism in *Principles of geology*, published in 1830, as a key development in the making of a detective narrative. In this, Lyell argues that the earth’s structure can, or should, only be understood by recourse to processes visible in the present that had acted in the past with the same degree of intensity. Such cause and effect thinking, popularised in *Principles*, may have a cue for the detective

narrative, because it posits an orderly nature *and* an orderly process of nature, which meant that the present is the sure key to the past.

Later in the century, the tables are turned when T.H. Huxley (1896) describes scientific methods in his essay “On the method of Zadig”, by drawing on Voltaire’s detective, Zadig, from the 1747 story of the same name, to exemplify the process of science. The observations of scientists, Huxley (1896, 106-8) says, are “retrospectively prophetic and strive towards the reconstruction in human imagination of events which have vanished and ceased to be”. Perhaps even more powerfully, he (1896, 131-3) continues

inasmuch as...retrospective prophecies are the result of following backwards, the very same method as that which invariably leads to verified results, when it is worked forwards...[they provide] as much reason for placing full confidence in the one as in the other.

Science, then is the method by which the past can be (re)constructed and the future too, a means for establishing a narrative of nature. Arthur Conan Doyle (2008 [1892], 114) places the detective method on the same plain, when Sherlock Holmes pontificates

[t]he ideal reasoner...would, when he had once been shown a single fact in all its bearings, deduce from it not only all the chain of events which led up to it but also all the results which would follow from it.

The fixed order of time then is a vital prerequisite for such a rational method as this. Chris Morash (1998, 123) has pointed out a key irrationality of the supernatural as “a grotesque, disruption of the linearity of time and hence of reason itself”. A ghost, after all, represents the dead returned. This particular feature of the supernatural makes for a distinct narrative structure. Using the example of Charles Dickens’ *A Christmas carol*, Morash (1998, 131-132) demonstrates that movements in time in the supernatural narrative, between Christmases past, present and future “are not presented in such a way that we as readers are asked to put them back in their correct chronological sequence when constructing a fabula”. Scrooge’s travels in time are happening in the present of the story. Similarly, the ghosts of past, present and future are incursions from different times into the present. For, Morash, this is a key feature of the supernatural tale. What it amounts to is that time is allowably disordered in the fabula, something that does not happen in non-supernatural fiction, which only permits anachrony to exist at the level of *sjužet*.

According to Sherlock Holmes, the detective is tasked with ironing out the anachrony of the sjužet, so that detective first, then reader can construct a fabula by “placing upon record that severe reasoning from cause to effect” (Conan Doyle 2008 [1892], 270). In a supernatural world, fabula and sjužet are collapsed into one and so the rational, scientific detective is effectively redundant. Huxley (1896, 135), too, reminds us that the establishment of cause and effect relies upon “[t]he *constancy* of the *order* of nature, being the common foundation of all scientific thought”. Here then is a difficulty for the occult detective. The investigation of a realm, the supernatural, which does not have the same “constancy” of “order” makes it impossible to reason from cause to effect and vice versa.

Such problems are well demonstrated in a case study by Susan Hoyle (2004) on the declining credibility of the witchcraft narrative in 19th century England. She argues that it was not so much that the claims of science stole a march on the credibility of magic, or even gained greater respect, rather it was a falling off in acceptability of the kind of story that the witchcraft narrative was prone to tell. At the same time, she (2004, 46) finds a “rise in acceptability of a forensic narrative based on the demonstration of detective skills”. She illustrates her case with evidential statements reported from court proceedings and, though her empirical evidence is sparse, she presents two cases that show how natural and supernatural narratives talk past one another. She also suggests why and under what circumstances one narrative is preferred over another.

One case involved a charge of wounding—a witch-cutting. The Davis family believed themselves to have been cursed by a neighbour and since the traditional means of breaking a spell is to draw blood from the witch, John Davis cut his neighbour’s cheek. According to the Davis’s, the curses had taken the form of repeated instances of haunting. The case seemed to hang on one of these, in which an invalid daughter was assaulted when, as reported in *The Times*, November 4, 1867,

a man and woman came down the chimney...both persons headless, and seized her by the body, cast her violently on the ground, and then tossed her in the air, after which they took the sofa she had used and went through a similar feat with it.

This was the story given in John Davis’ defence. The prosecution case rested upon the evidence of “Police-Superintendent Richardson [who] showed that the accumulated dust around the legs of the furniture proved that no such thing could have happened”. As Hoyle points out, the two narratives talk past one another. Firstly, the fact that the dust was not

disturbed was no evidence against the presence of headless spirits since the magic that called up the spirits was surely able to enchant the dust. Anyway, the dust narrative only works under natural material conditions when the order of time is constant.

Similarly, regarding “Green tea”, Loe (1998, 301) juxtaposes the “lack of causality in the sequence of events to Hesselius’ supposedly rational inquiry”. Indeed to combine a narrative that at heart is reliant on the linearity of time with another that, by definition, distorts the time dimension seems almost guaranteed to create the effect of the fantastic, since the reader has a choice of narratives each talking past the other. Yet many of the scientific supernatural investigators who followed Le Fanu’s example were not, as he was, aiming to create such an effect. These authors were more likely swept along by the increased popularity and credence of a narrative that demonstrated detective skills and harmonised with the propensity of readers to order time in re-order as Hoyle (2004) has illustrated within the legal system.

In the case of the witch-cutting, the court allowed the evidence about the dust and the papers reported it as legitimate evidence against the haunting even though it was no proof against witchcraft which was not on trial anyway (the cutting was). To demonstrate the opposite effect, Hoyle goes on to report a second case in which a known “cunning man” accused of poisoning was not convicted despite the fact that there was ample evidence against him.⁹ In this case, the forensic evidence was poorly marshalled by an inexperienced surgeon who contradicted himself. Hoyle (2004, 59) argues that, “the prosecution for drugging failed because it did not have the services of someone who could tell a good forensic story”. What these two cases reveal is that when a forensic, or cause and effect, narrative was adequately marshalled, it was more persuasive than a witchcraft narrative in the courts at the time (so it has likely remained today).

That the belief in the supernatural did not wane in the face of the spread of scientific ideas is, apart from anything else, clear from the spiritualist revival and plethora of ghost clubs that followed from it. Science itself is unlikely to have caused a decline, observable through court reports, in witchcraft belief across the 19th century. Hoyle suggests that what changes people’s belief is at least partly to do with fashions in storytelling. The story that came to be preferred in the courts and elsewhere as evidenced by the spread of detective fiction was the story of process, or of method and its concomitant demonstration of cause and effect that conformed to the reader’s desire to place events in a chronological order.

Perhaps as a result of the growing fashion for cause and effect stories, several occult detectives and scientists followed from Le Fanu's example, a factor that has sometimes been interpreted as the triumphant note for science and secularisation (Ascari 2007). Yet this is unlikely and the frenzy of activity at the fin de siècle that pitted reason against unreason and rational against charismatic is simply another episode in the dance of disenchantment. In any case, it is more likely, given Hoyle's analysis of storytelling fashions, that the aim was not to proclaim the authority of science over supernatural, but rather to give the supernatural a fashionable gloss of scientific verisimilitude—one that would convince “our scientific, matter-of-fact nineteenth century”.

Ultimately, cause and effect reasoning is destabilised in the face of the supernatural. So that in such experiments as Algernon Blackwood's Dr John Silence, and E. and H. Heron's Flaxman Low stories, detectives are forced into using other means than reason, no matter how insistent they are on the natural provenance of events at hand. For example, Dr John Silence could “vicariously absorb these evil radiations into himself and change them magically into his own good purposes” (Blackwood 2002 [1908], 824). And occult detective Flaxman Low, who insists there is only natural causation, says of one case

everybody who, in a rational and honest manner, investigates the phenomena of spiritism will, sooner or later, meet in them some perplexing element, which is not to be explained by any of the ordinary theories (Heron and Heron 2006 [1899], 336).

That said, the occult detective is the vampire hunter, a figure that has spawned a variety of modern ghostbusters who pit science against supernatural to varying degrees. Of all supernatural investigators it appears to be the vampire hunter who has grown to mythic proportion.¹⁰ The trailblazer for this breed of investigator is Dracula's destroyer. The advance that Stoker makes on other psychic investigators which gives his novel an intuitive coherence that the others do not have is that his ghoul, though through and through supernatural, has a material body. The Count's materiality allows the team to combine vampire lore with natural law to create more than a semblance of a cause and effect procedural investigation. What is fascinating about the success of this story is that it manages to retain the detective process intact because the detectives or the vampire hunters are able to research and track a material entity.

Once on their quarry vampire hunters use a kind of magic that has elements of a science anyway, a “scientised” magic (Locke 2005, 33). Vampire lore has clear-cut methodological rules that can be rote learned

and do not rely upon the subjectivity or soul of the detective or hunter. What emerges from Stoker's handling of science and supernatural is a structure and an outcome that proclaims the power of belief while it demonstrates the power of science (Jann 1989). Given the difficulty of bringing together two worldviews that talk past one another, this was and still is an unexpected gift for popular science and allows us, with its partnered text, *Frankenstein*, to continue to debate the dilemmas of disenchantment.

Notes

1. "mad scientist *n.* a scientist who is mad eccentric, esp. so as to be dangerous or evil: a stock figure of melodramatic horror stories; freq. *attrib.*" *Oxford English dictionary*.
2. In his introduction to the new English version of *Grimm's fairy tales*, Philip Pullman (2012, xiii) writes that "conventional stock figures" in these stories "are not actually conscious". In other words they are barely human. Though not as extreme, the mad scientist tends towards being similarly hollow as do Count Dracula and Professor Van Helsing.
3. Such images are well documented from so-called "draw-a-scientist" studies, for example, Rahm and Charbonneau (1997), Wade-Chambers (1983), and in Mead and Métraux's (1957) survey. That said, the disaster narrative is by no means fused to this image and some scientists make positive use of the image. See, for example, Professor Martin Poliakoff, presenter of short chemistry videos at <http://www.periodicvideos.com/about.htm> and the education group at <http://www.madscience.org/>.
4. I use the term "charismatic" after Locke (2011). It refers to Weber's use of the term "extraordinary power" from which he derives a belief in spirits as described by Whitehead (1974, 552).
5. A rumoured haunting at No. 6 Pond Place in Chelsea drew crowds such that, as reported in *The Times*, September 12, 1853, "the neighbourhood had been in a state of uproar...it had been necessary to send a number of the police to disperse the crowds". A follow up article in the same newspaper reports a séance in which the spirit of "Shelley, the poet" confirmed that there was a spirit in No. 6 Pond Place. *The Times*, May 27, 1865, reported large crowds causing nightly disturbances at St George's Church, Southwark and on June 1, 1867, the same happening at Woburn Square, London. Crowds of between 5,000-6,000 people were reported in *The Times*, July 6, 1874, to have converged nightly on Christ Church, Westminster until a PC Thew apprehended a man running across the graveyard with a sheet over his head. *The Times*, July 6, 1876 reported crowds of 300-400 people congregating in New Weston Street, Southwark hoping to see the ghosts of notorious murderers the Mannings who had lived nearby.
6. Hesselius is a medic with an interest in "metaphysical medicine" and in this respect owes a debt to the Swedish scientist cum Christian mystic, Emanuel

Swedenborg (1688-1772). Fundamental to Swedenborg was the idea that life exists on dual planes of existence, the spiritual and the physical.

7. Of course, there are exceptions to the rule, for example James Herbert's detective David Ash from his novels *Haunted* (2007) and *The ghosts of Sleath* (2010). Ash is a quintessential "hard boiled" detective as a somewhat damaged, hard-drinking loner and originally a sceptic until he realised his own psychic powers.

8. Todorov (1977) uses the terms "fable (story)" and "subject (plot)", but it is often conventional to use the original formalist terms, *fabula* and *sjuzet*, as does Morash (1998).

9. Cunning folk were one of the magical trades, who variously sold love-potions, found lost items, recovered stolen property and warded off witches. See Davies (2007).

10. There are other types of narrative, for example, *Ghostbusters* (1984), a comedic feature film about parapsychologists, which turns the 'ghostbuster' into a joke of sorts. A BBC television drama series, *Apparitions* (2008) and William Peter Blatty's *The exorcist* (1971) return the supernatural to the professional expertise of the clergy rather than scientists. However, many more popular supernatural investigators are based on the investigative vampire hunter, including: Joss Whedon's *Buffy the vampire slayer* (1997-2003), who destroys a whole range of ghouls; the eponymous hero of the film *Van Helsing* (2004); Stephenie Meyer's (2005-2008) *Twilight saga*, about a vampire family who police the vampire world and in a manner are vampirised versions of Van Helsing; and James Herbert's *Haunted* (2007) and *The ghosts of Sleath* (2010), featuring an occult detective.

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