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Girls Just Wanna Be Smart? The Depiction of Women Scientists in Contemporary Crime Fiction

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ABSTRACT

Portrayals of fictional scientists influence how the public perceive real scientists, and fictional scientists might serve as role models as well as inspire career choices. Crime fiction is probably the most popular fiction genre today, and fictional scientists are an important presence in the genre. This is an exploratory study of three well-known contemporary women crime fiction scientists, taken from literature, television, and film. The examples are compared and contrasted with previous studies of women scientists in fiction, as well as, more specifically, studies of women investigators in crime fiction. The women scientists in the samples are found to be skilled experts in their fields, appreciated and respected by their peers, and making essential contributions to the solving of crimes. Nevertheless, they are simultaneously treated like children, as well as objects of sexual desire, by their co-workers, and most likely also perceived that way by the actual consumers, the viewers and readers of this fiction. Although these fictional women scientists might be ideal role models in many senses, their infantilization and sexualization signifies that the world of science is still far from gender equal.

KEYWORDS

Women scientists; crime fiction; gender issues; science; infantilization; sexualization; role model; *NCIS*; Abby Sciuto; Kathy Reichs; *Devil Bones*; Temperance Brennan; *The World Is Not Enough*; Christmas Jones

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Girls Just Wanna Be Smart? The Depiction of Women Scientists in Contemporary Crime Fiction

From Sherlock Holmes' scientific reasoning in the 1800s to process sequences in the contemporary television drama *CSI: Crime Scene Investigation* (2000–), the contribution of science to the crime fiction genre has undergone radical changes.¹ Whereas science has long been part of the investigation of crimes, this scientific presence in fiction has grown rapidly in recent years and has gained increasing popularity, not least as a result of the televised *CSI* series. The latter, including other similar series, creates suspense by turning the procedural genre into high-tech fiction. In their wake, the interaction between fiction and science is becoming more pronounced in Western society, and thus more significant.

An important component of the scientific presence in crime fiction is the fictional scientist, someone who often assists the main detective, but at times also appears as the primary investigator. In this article, the interaction between science and crime fiction will be scrutinized through an examination of the role and function of the scientist, in particular the woman scientist, in crime fiction. Her characteristics and functions will be outlined and discussed with the aid of examples taken from contemporary novels, television, and film. Whereas many previous studies have examined the role of women scientists in feature films (Steinke, 1999 and 2005; Flicker, 2003 and 2008; Perkowitz, 2006), and women detectives in crime fiction (Walton and Jones, 1999; Plain, 2001; Munt, 1994; Dresner, 2006; Klein, 1995; Craig and Cadogan, 1981; Reddy, 1988), women scientists in crime fiction specifically have received less critical attention. It is further argued that the image of fictional scientists is important to how the public perceive real scientists (Ribalow, 1998, p. 26; Perkowitz, 2007, pp. 15–16; Steinke, 1999, p. 39; Steinke, 2005, p. 30; Garfield, 1991). Since crime fiction is such a widely consumed genre today, and women scientists are becoming increasingly commonplace figures in it, it is important to investigate the specific functions, and also implications, of women scientists in crime fiction.

In this exploratory study, close readings are used to examine the portrayal of three women scientists from crime fiction in film, TV and text: the nuclear physicist Dr. Christmas Jones in the film *The World Is Not Enough* (1999, directed by Michael Apted); forensic scientist Abby Sciuto in the CBS television drama series *NCIS: Naval Criminal Investigative Service* (2005–, in particular her appearance in Season 3, episode 21 titled "Bloodbath"); and, thirdly, forensic anthropologist Temperance Brennan in Kathy Reich's novel *Devil Bones* (2008). These examples all portray women scientists who, at first glance, appear to be independent and strong; they are also representative of different crime fiction genres and media, which provide an opportunity to compare and contrast the genre, and media-specific manners of portrayal. All three are relatively recent characters having "appeared" in the last decade or so. Public familiarity with and the popularity of the examples and women scientist characters examined, in combination with representativeness within the

respective media and genre, have been the main selection criteria in the present study.² Furthermore, the three examples are all taken from North American fiction; this being the source of the most widely spread and consumed crime fiction in the contemporary western world.

Although the sample is limited, thus not providing any basis for statistical or very extensive conclusions, the study will still present some insights related to the images of women scientists in crime fiction; insights that due to the representativeness of the examples are quite likely applicable beyond the scope of this study, as well. By close reading of the three samples, the study seeks to further our understanding of the fictional portrayal of women scientists in crime fiction, a genre that reaches an enormous number of readers and viewers today and has been relatively absent from the literature on fictional women scientists so far. The focus on and detailed examination of women scientists in the crime genre is thus what make the present study new and original.

The discussion of fictional scientists has long been a concern not only among film and literary scholars, but also within the scientific community. In particular, scientists have expressed concern with the negative depiction of scientists in film and television, not least because studies have shown that popular fiction influences the career choices of younger generations (Knight, 2004, pp. 720–21; Allen, 2005, p. 347; Gooding and Gaus, 2004; Steinke, 1997, pp. 410–11; Steinke, 2005, pp. 28–30). Perhaps more positive images of scientists could contribute to increasing the currently low uptake of scientific education in Western countries. The American communication scholar Jocelyn Steinke has shown how fictional women scientists in film and television might serve as role models for young women (Steinke, 1997, 1999 and 2005). According to Steinke, the ideal woman scientist role model is:

an intelligent, capable, dedicated, committed, persistent, passionate, and successful scientist. She shows an early interest in science. She is the director of a major research project. She establishes a good professional reputation despite her choice of an unconventional research program and her use of research techniques. She remains committed to her research goals despite the conflict and discrimination she faces from colleagues. She does not allow personal relationships to overshadow her scientific aspirations (1999, p. 60).³

If we accept this as a definition of a role model for a good scientist, what kind of role models do contemporary women scientists in crime fiction constitute? The proposition suggested in this article is that regardless of their increasing popularity, these women scientists might still be somewhat questionable as role models in relation to Steinke's ideals, as they personify outdated gender stereotypes and work in research environments characterized by archaic gender relations. The ultimate purpose of the study is to understand what characterizes the depiction of women scientists in crime fiction today, and what distinguishes them from women scientists in other types of fiction and from other women investigators in crime fiction.

WOMEN AS FICTIONAL SCIENTISTS AND AS CRIME FICTION HEROES

The traditional stereotype of a scientist as the mad-looking man with glasses and unkempt hair has been a persistent one in fiction. Dene Grigar, an American scholar of digital technology and culture, even goes so far as to observe that in literature today, scientists are “frequently sociopaths” (2006).⁴ The characteristics of the “mad” male scientist have, however, been shown to be rarely applicable to women scientists, at least not in feature films (Flicker, 2003, p. 309; Steinke, 2005, pp. 41–43). Lately it has also been more common not only to make fictional scientists younger, but also to make them better-looking. Scientists today are still nerds; but suddenly they are hot, as well as cool, nerds. Their hair is stylish, their heels high, and their outfits short and trendy.

The American physicist Sidney Perkowitz, in studying scientists portrayed in film, finds that the number of women scientists in feature films is increasing, and they have become proportional in number to the actual gender distribution in the sciences (2006). The growing number of women scientists in film reflects that the sciences are no longer exclusively male territory (equality sometimes seems more developed in fiction even if uneven gender distribution in the sciences still remains a reality). In the televised crime drama series *CSI: Crime Scene Investigation* and *CSI: Miami* (2002–), the number of prominent women scientists is roughly equal to the number of male colleagues.⁵ Whether this equality in numbers is accompanied by equality in other areas, however, is more debatable.

Studying sixty feature films from 1929–2003 in which female scientists appear, Austrian sociologist Eva Flicker concludes that there are six different types of women scientists in film.⁶

1. The old maid
2. The gruff women’s libber
3. The naïve expert
4. The evil vamp
5. The daughter or assistant
6. The lonely heroine
7. The clever, digital beauty (2008, p. 247)

Although far from the dominating clichés of the male scientist, Flicker’s categories of women scientists are also stereotypes; opposites such as femininity/masculinity, intelligence/naïveté, and goodness/evil are combined in different ways (2008, pp. 247–51).

Steinke has also studied women scientists and engineers in popular film, with the purpose of determining how they might function as role models for adolescent girls. Her material draws on the period 1991–2001, and she concludes that women scientists are usually depicted as attractive, most of them are “romantically involved” but still single, and very few are mothers. Some start out unattractive, but are transformed into being attractive during the course of the film (2005, pp. 38–41, 49–52).⁷ Steinke describes the majority of these women scientists as “knowledgeable, articulate, outspoken, driven, confident, competent, creative, and

independent” (2005, p. 42). Almost all of the women scientists in her study occupy a position as a “project or research director” or an “equal member of a research team,” and thus hold high-status posts (2005, p. 44). These women are depicted as successful professionals with all the characteristics of being good researchers. However, in the interaction with their male co-workers, Steinke notes that they are often challenged, questioned, harassed, and pushed aside (2005, p. 55). No matter how competent, their male peers thus regard women scientists and engineers in popular film as second-rate colleagues. They still have to deal with prejudice and injustices due to the fact they are women. This confirms that in fiction, too, the sciences are still a world largely ruled by men.

When it comes to studies of feminist crime fiction in general, much attention has been paid to the roles and characteristics of women investigators, in particular to the female adaptations of the hard-boiled detective. Titles such as Linda Mizejewski's *Hardboiled & High Heeled: The Woman Detective in Popular Culture* (2004) and Priscilla L. Walton and Manina Jones' *Detective Agency: Women Rewriting the Hard-Boiled Tradition* (1999) are emblematic of this. In feminist crime fiction studies, a common theme touching on science has been a focus on the medical gaze regarding the female victim's body (Munt, 1994, p. 202; Plain, 2001, p. 16 n. 14, and p. 32). Sometimes the (female) victim's body is even regarded as a message from the (male) killer to the (male) investigator (Plain, 2001, p. 242). Studies focused on the gaze have largely highlighted the woman's passive role in crime fiction—her role as an object, rather than as an active subject with agency. In line with Steinke's findings concerning women scientists in film, feminist crime fiction studies have shown that the mother/wife role is also not very common for women heroes in crime fiction. Instead, characterizations of the woman investigator as a “successful loner, the gritty nonconformist, [and] the stubborn individualist” are frequent (Mizejewski, 2004, p. 23). That women are depicted as such is probably, at least partly, a result of the particularly strong genre conventions guiding crime fiction. Male heroes of crime fiction are traditionally portrayed as unyielding loners who set their own agenda, and these conventions have thus been applied to the depiction of women investigators in the genre as well.

Additional methodological considerations

The present article is thus based on a qualitative-oriented content analysis of the three fictional examples. *The World Is Not Enough*, the *NCIS* episode, and *Devil Bones* are examined through a thematic and comparative close reading of the type commonly used in literature and film studies (cf. Abrams, 1993, p. 247), focusing on the women scientist characters. In the close readings, previous studies of women scientists in feature films and of women investigators in crime fiction, have to some extent served as categories of analysis – for example when it comes to Steinke's ideal women scientist role model and Flicker's women scientist types. Primarily, however, results of these studies will be used for points of comparison, in order to highlight what characterizes the women scientists in crime fiction, as featured in the samples. In addition I will refer to previous studies of the fiction samples in question when available and applicable, such as those by Carlen Lavigne, (2009) and Ingrida Providiša (2008) that offer a different focus to the one adopted in this paper. My close readings thus build on findings of earlier studies,

but use these findings to examine a type of hero not analyzed by the previous studies, that is: the woman scientist in crime fiction today

JONES, ABBY, AND BRENNAN—THREE WOMEN SCIENTISTS IN CRIME FICTION

Dr. Christmas Jones

Being a young woman in a James Bond movie—whether a scientist or not—means being shaped according to fairly strict character conventions. It means being sexy, wearing revealing outfits, being rescued by Bond and, in most cases, entering into a sexual relationship with Bond (Bold, 2003). Some of these traits are common to women in the crime thriller (film) in general; others are more specific to the glamorous Bond version of the genre (Mizejewski, 2004, pp. 113–40). In *The World is Not Enough* (1999), Bond (played by Irish actor Pierce Brosnan) meets nuclear physicist Dr. Christmas Jones (played by American actor and former model Denise Richards) about halfway into the film. She is introduced as the scientifically knowledgeable expert, while stripping off her overalls to show a shapely body in hot pants and revealing tank top. The combination of sexuality and brains is made obvious, and initially Jones appears confident as she explains science and makes jokes. Nevertheless, almost immediately, she divulges her naïveté as she exposes Bond, who is working undercover, to the villains as an imposter.

The second time Jones appears, she is dressed in an open jacket over a red T-shirt. The vibrant color of the T-shirt draws attention to Jones' breasts in what is an otherwise monochrome, grayish scene. The only other strong color in these frames is the matching red of Jones' lipstick, emphasizing her full lips. The third time she appears, Bond makes her pose as a prostitute in order to distract one of the villains, and during the rest of that scene she runs around in a very short purple dress, showing off her long legs but not doing or saying anything that contributes to their progress. The next time Jones appears, she is wearing a white T-shirt under a powder blue cardigan, seemingly looking quite innocent; that is, until she gets wet and the T-shirt turns revealingly transparent. In this scene, which takes place inside (and outside) a submarine, Bond rescues Jones twice. Otherwise, he mostly drags her around by the hand, occasionally letting her assist him. In the final scene, Jones is wearing a short, wide, and almost childish-looking cocktail dress (a so-called baby-doll dress), drinking champagne with Bond against a backdrop of fireworks; and it all ends with the staff at M16 watching them together in bed through a thermal imaging camera. In combination with her long, lush hair, the way Jones is dressed thus evokes feminine stereotypes. She goes from being a sexy and self-assured woman to a young girl who appears unaware of her sexual attractiveness. During most of the film she comes across as rather innocent—not least when contrasted with the evil seductress Elektra King (played by French actor Sophie Marceau).⁸ She seems like a lost child, quietly watching the grown-up world with awe-stricken eyes, and she is thus easy prey for the more experienced Bond.

For the majority of the time she appears on screen, Jones looks scared or cautious—an effect exaggerated by her big eyes, pouting lips, and accentuated breasts—while Bond drags her around. She almost gives the impression of being a sulky teenager on an outing with her parents. On a few occasions, Jones also acts

directly against Bond's instructions. This could perhaps, be understood in a favorable sense, as indicating independence, but it could just as well be interpreted as being rebellious—the way a teenager does the very opposite of what he or she is told to do. Jones does not speak much in the film other than occasionally to explain different scientific facts and processes, among them how to disable the atomic bomb. Although she is the scientist with the know-how, it is Bond who finally disables the bomb and saves the world. Providing scientific knowledge is also Jones' only function in the film, in addition to being "eye candy", and, as already mentioned, in line with Bond film conventions she is both rescued and seduced by Bond. According to Flicker's typology, Jones can primarily be described in terms of the "naïve expert." In Flicker's words, she "supplies the audience with some professional knowledge," and with her good looks she "is an important character for "dramaturgy," but still her naiveté gets her in trouble and she needs a man to save her" (2003, p. 312).

Abby Sciuto

While Christmas Jones' character is but a relatively small part in the film, Abby Sciuto's role in the *NCIS* (2005–) series is a much more prominent one (American actor Pauley Perrette plays Abby).⁹ Due to her professional expertise, Abby is a treasured co-worker among her colleagues, and in her capacity as a scientist, she is often the one to provide the final clue, leading to the solving of the crime; often she does this by pinpointing the location of the villains. It is also common for Abby and her colleague Timothy McGee to find the solution through joint teamwork. In the particular episode "Bloodbath" it is suggested, however, that Abby is even more computer savvy than MIT-trained computer expert McGee, as she makes instant improvements to his home computer while hiding out at his apartment playing computer games.

Although she is a skilled scientist, Abby also functions as the protected asset of the agency, the gifted child who needs to be sheltered from the real world. She brings out the parental instincts not only in her boss, Special Agent Jethro Gibbs, but also in her other colleagues, men as well as women.¹⁰ In particular, this includes Chief Medical Examiner Dr. Donald "Ducky" Mallard, her male colleagues Special Agents Tony DiNozzo and McGee, as well as her tough woman colleague Special Agent Ziva David, and the director of the NCIS agency, Jenny Shepard. After an attempt on Abby's life, she is confronted with her colleagues' frustration at having been kept in the dark about Abby's problems with an ex-boyfriend who has turned into a stalker. Most of her NCIS colleagues are present in this scene and the gathering has the character of a family meeting. Gibbs tells Abby off for not asking him for help, and Abby replies: "I wanted him restrained, not beat to pulp with a baseball bat," thus evoking the old American cliché of how fathers protect their daughters from young men. She also says that she did not tell them because she was embarrassed by her bad taste in "boyfriends." Later Gibbs sits down on the floor next to Abby, the way people do when wanting to comfort a child, and he uses "reversed" psychology (also common when dealing with children) in order to make her realize that the whole thing is not her fault. Additionally, Gibbs takes care of Abby when she is drunk after trying to drown her fears in alcohol—a comical scene revealing that Abby is very inexperienced when it comes to drinking. When Gibbs finally

encounters the ex-boyfriend, he also threatens him in a way that is more appropriate for an irate father than a government agent. Throughout the episode, all of Abby's colleagues keep reassuring her that everything is going to be fine, that they (and Gibbs in particular) will look after her, and that they will not let anything bad happen to her.

Abby clearly fulfills the function of a child or baby sister—someone very close, but simultaneously different enough from the other “family members” to be a mystery to them. She also has great integrity, keeping her private life separated from her work, which further contributes to her inscrutability and mysteriousness. Additionally, Abby displays some of the naïveté and stubbornness that might be expected of a child. Knowing that statistically very few people die in elevators, she hides in the office elevator when threatened by the killer and refuses to leave it. Furthermore, she will not believe that her obsessive ex-boyfriend might actually be dangerous. When hiding out at her colleague McGee's apartment, she also insists on having her own toothbrush, thus forcing McGee, against his own better judgment, to leave her alone while he goes to fetch it. Meanwhile, she repeatedly forgets to be careful and not open the door to anyone, so finally letting the stalker into the apartment while McGee is out.

Alongside this role of being the child or baby sister, Abby is also the source of her male colleagues' (and perhaps the viewers') sexual fantasies. Her Goth look (the short pleated skirts, knee-high socks, and pigtails, in combination with platform shoes, studded dog collars, and tattoos) bears strong resemblance to a fetish outfit: primarily the sexy schoolgirl version, but with a touch of the dominatrix as well (cf. Steele, 1996, pp. 24, 48, 169–71). The fact that Abby is constantly sucking on the straw of a soft drink, or sometimes even on a lollipop, further accentuates the sexy schoolgirl image. When realizing Abby has not told the team about the ex-boyfriend, her co-worker DiNozzo's comment is: “Our mistress of the dark is keeping secrets from us,” a reaction that displays sexual connotations as well as a hint of jealousy. In this particular episode, Abby also has to make a court appearance and both McGee and DiNozzo display a strong interest in getting a glimpse of Abby in her court outfit: a more traditional feminine suit complete with short skirt and high heels.

Abby shows some of the characteristics of Eva Flicker's “daughter/assistant” type (2003, p. 314). In particular, her role as the object of sexual fantasy plays into this type. Even if Abby does not literally oblige her male colleagues in their fantasies, something that according to Flicker often characterizes this category of fictional women scientists, at one point during the series Abby nevertheless enters into a relationship, presumably sexual, with McGee. For the most part, however, like Jones, Abby conforms to Flicker's “naïve expert” type. Abby is, using Flicker's words, “very good looking,” “incredibly young if we take her professional status into consideration,” “has a brilliant career, but her naïveté and feminine emotions get her into some difficulty,” and she “believes in goodness and is accordingly naïve in her actions” (2003, p. 312). The only aspect characterizing Flicker's naïve expert that is not really applicable to Abby is that “only a man's help” can get her out of difficulties (2003, p. 312). In the episode analyzed here, Abby is kidnapped, but

when her colleagues finally come to her rescue, she has already set herself free using a stun gun lent to her by Ziva for protection, and upon arrival, her colleagues can hear her blowing a safety whistle given to her by Ducky. Abby is also wearing brass knuckles given to her by the director, Jenny Shepard, and it is possible she has also used these to overpower her kidnapper. What could be clearly interpreted as an empowering end to the story is, however, somewhat tarnished by the fact that when help arrives, Abby is sat with her legs apart in the manner of an innocent and careless child, with the result that the villain, her colleagues, and the viewers have a view straight up her skirt. Abby's position as the helpless but sexy child of the NCIS "family" is thus firmly reinstated at the end of the episode, and the series can continue.

Abby is one of the most popular characters in the *NCIS* series, and with her quirky personality and appearance she fascinates both male and female viewers. Under close examination, however, that she is treated as a helpless child is patronizing, and it is hard to look beyond the problematic stereotyping of her as a combination of sexual fantasy and child. Like Jones in *The World Is Not Enough*, Abby is also contrasted with another woman in order to emphasize her weakness. The contrast between Abby and her colleague, agent Ziva, the Israeli "fighting machine" who rarely displays emotion or wears revealing clothes, and who would never be the recipient of parental instincts, is striking. Although being something of a loner with strong integrity, Ziva is primarily perceived as "one of the boys" at work. Her combat skills are superior and she is the most experienced of the younger agents. Still it is hinted that she does have a more "feminine" side, when she visits a spa or talks about "girl stuff" with Abby—something that notably always takes place off screen. On screen she always makes Abby stand out as more naïve and feminine, however.

Dr. Temperance Brennan

Compared to the analyses of Jones and Abby, the premises for the examination of Kathy Reichs' eleventh novel, *Devil Bones* (2008), are slightly different. It is a literary text, with all that this entails in terms of the possibilities and limitations of depiction. Hence, there are no sexy pictures, but plenty of scientific description. Furthermore, the woman scientist, forensic anthropologist Dr. Temperance Brennan, is now the main character, and *Devil Bones* is a first-person narrative related by her. The narrative perspective, and the fact that Reichs herself is a forensic anthropologist, generates expectations of an encounter with a complex and contemporary woman scientist character; someone less likely to fall back on traditional female stereotypes than for example a woman in a Bond film. Accordingly, at first glance, Brennan comes across as a strong woman, well able to take care of herself. She is also a good scientist, although a bit of a loner and uncomfortable in social situations. Nevertheless, a closer examination of Reichs' novel reveals a somewhat different picture.

Brennan's narrative voice keeps an ironic distance to her life as well as her experiences. In a chatty tone, she sometimes even addresses readers directly, thus breaking any realistic illusion, and despite the first-person perspective the reader never gets close to Brennan's thoughts and feelings. The sense of distance is

heightened further by long descriptive passages where Brennan explains elements of forensic anthropology and related scientific fields (or topics such as pagan religions and town history) to the reader. These parts, which create the impression of textbook passages, form Brennan's main way of expressing her role as a scientist in the novel, obviously constituting an educational attempt on Reichs' part. Very little page space is dedicated to descriptions of Brennan actually doing her scientific work. She mostly acts as a generic crime fiction detective cooperating with the police; and often her contribution to solving the cases at hand is more the result of coincidence than science. German culture scholar Ingrida Providiša concludes that Reichs in her novels portrays science primarily "as an instrument, central and [...] on the surface of the narrative, dominant, yet it remains only an instrument" (2008, p. 23). This is a fitting description of the role of science in *Devil Bones* (which is not part of Providiša's sample) as well, although the instrumental function is toned down in the 2008 novel owing to the lack of description of Brennan conducting her scientific work.

In *Devil Bones*, Brennan also suffers a serious breakdown. After years of being a sober alcoholic, she relapses during a weekend of drinking. This results in memory blackouts and renders her unable to teach her university class the following Monday; indirectly it also leads to Brennan being fired from her position at the Chief Medical Examiner's Office. Furthermore, in the course of the novel she has several public outbursts, referred to as tantrums by her colleagues. It is not apparent that the stress Brennan is under in *Devil Bones* is substantially higher than in the previous ten novels in which she appears. Accordingly, in relation to the preceding characterization of Brennan, her reactions in this novel thus appear uncharacteristically strong. In terrible shape after the weekend of drinking, Brennan tells people around her that she has some kind of flu, but it is clear that no one believes her—indicating that they are not surprised by her behavior. At the end of the novel, Brennan's ex-lover, Detective Andrew Ryan, saves her and her police partner from being killed by the murderer.

There is thus a childish component in the depiction of Brennan, too. Her conduct in this novel almost resembles that of an unruly teenager: she is easily provoked, displays destructive behavior, and neglects her work. Further, in *Devil Bones*, Temperance Brennan only lives up to part of her name: she displays a very fiery temper, but temperance seems to be no virtue of hers. The people who care about her try to shield her from trouble and pamper her. Those who do not, attempt to use her weakness to their advantage and/or try to avoid being dragged down with her in her fall from grace. The ironic distance of the narration is also in conflict with what could be assumed to be a realistic portrayal of an adult scientist during a stressful investigation.¹¹

In many ways, Brennan can be classified as Flicker's "lonely heroine" type. In her professional life, most of the time she is the only woman in a male world, and in private she tends to be something of a recluse, spending most of the time with her cat. With her (using Flicker's words) "outstanding qualifications and her competence" Brennan "outclasses the men" within her field of expertise, but still she lacks "professional recognition by those in power," primarily local high-ranking

and media-sensitive politicians. Her main "interest is in her scientific work," but to her "sexual relations and scientific work are not mutually exclusive," and she tends to be naïve in "dangerous situations" (2003, p. 315–16). Compared with how she comes across in earlier novels in the series, in *Devil Bones* Brennan is somewhat less clear-cut in the "lone heroine" role, however. On occasions, she lets her personal life get in the way of her work in a way more uncommon in previous novels, and, additionally, she does not display much of the "modesty" Flicker also associates with this scientist type (2003, p. 315), a quality which Brennan has also shown more of in the past.

INFANTILIZATION AND SEXUALIZATION OF WOMEN SCIENTISTS

Steinke concludes that the image of real women scientists presented in media in general is characterized by at least one of three strategies: "downplaying the expertise of women scientists, [...] focusing on the conflicts faced by women scientists in balancing the demands of their professional and personal lives, and [...] presenting women scientists as lacking the masculine traits and skills needed to conduct scientific research" (1997, p. 412). It might be reasonable to expect some of these approaches also to be used in the portrayal of women scientists in fiction. However, these are not aspects that are prominent in the sample analyzed here. Indeed there are hardly any doubts expressed concerning the professional expertise of the scientists in question. The only one who questions Abby Sciuto's expertise in the *NCIS* episode is Abby herself, as she starts to doubt her abilities after a gas accident in the lab. This is, however, only temporary and her scientific confidence quickly returns. Christmas Jones largely comes across as an insecure girl, but this does not influence either her or other peoples' faith in her skills. In Temperance Brennan's case, there is some questioning of her abilities, however, not least after she loses her temper in public and fails to conduct her work after a weekend of drinking. The doubts pertaining to Brennan are connected with her being a public figure, exposed to the scrutiny of news media and politicians. The work of Abby and Jones, on the other hand, is primarily confined to research environments where they are valued by their peers or by other professionals who respect their expertise. This might explain why Brennan is the only example that conforms to Steinke's observation of how women scientists are presented in various media.

Brennan is also the best example of the three in regard to the problems of juggling a personal and professional life, as she allows her personal life to disrupt her scientific work. In the case of Abby, it could be claimed that her personal life (the problems with the ex-boyfriend-turned-stalker) is the cause of professional difficulties. This is never something that actually influences her ability to do her work, however; rather, it functions primarily as a driving force for the plot, and even when she is hiding in the elevator, Abby continues to do her work. In Jones' case, she has no private life to speak of—at least none mentioned or hinted at in the film—apart from the fact that she becomes romantically involved (or at least has sex) with Bond. Since this happens at the very end of the film, when the world is already saved, it does not compromise her scientific work. In none of these examples is there anything to indicate that women scientists might lack any "masculine" qualities necessary to carry out their scientific work.¹² When it comes to these women scientists portrayed in contemporary crime fiction, the problematic

aspects thus differ from those that typically occur in the media's depiction of real women scientists.

Common also to these three crime fiction scientists is that they are all portrayed as girls, or even as children, rather than as women—despite their representing different types of women scientists according to Flicker's typology. The infantilization is most obvious in the case of Abby, where the entire family scenario is played out, but it is also apparent in relation to Jones and Brennan. The studied samples illustrate the infantilization of women scientists as a strategy employed in contemporary crime fiction. It appears that one of the distinct functions the woman scientist fulfills is to be the object of parental concerns on the part of her peers—and perhaps also the consumers of the fiction. This is something that has not been identified by previous studies. Another function is being an object of sexual gaze, something that is more obvious in visual media, but that is clearly also a factor in Reichs' novel. Brennan is surrounded by flattering males who compliment her on her appearance. In particular, this applies to her ex-lover Detective Ryan and her high school flirt and now potential lover Charlie Hunt. It is also clear that Brennan herself cares about her appearance, often commenting on the state of her makeup and being very conscious about what she eats. Sexualization of women scientists in fiction is common, but less so of women investigators in crime fiction, as shown by previously mentioned studies.

The patronizing treatment of women scientists that Steinke noted is thus still in evidence, but the forms it takes are slightly different in contemporary crime fiction than in the films she analyzed. The new patronizing strategies are shown in the functions of these scientists as previously outlined: both in the embodiment of male fantasies and through their function as ersatz children in need of protection. Flicker concludes that: "Woman scientist roles present more of a stereotypical woman's role rather than the profession of scientist" (2008, p. 254), something that is also clearly shown by the present analyses: both the above mentioned functions illustrate traditional stereotypes of women, rather than of scientists. Although the number of women scientist characters in contemporary fiction has increased, the way these characters enact their profession falls back on stereotypical gender roles and outdated male-female patterns of interaction.

The infantilization of women scientists is likely to be at least partly a result of traditional biases, which likewise concern male scientists. The male scientist's role is traditionally not associated with physical strength. On the contrary, conventional stereotyping of male scientists presupposes them to be physically weak on account of their extensive intellectual work, to be unaware of the dangers of the "real" world, and unable to protect themselves from these dangers (Perkowitz, 2007, pp. 173–75). These biases, in combination with traditional female stereotypes, have probably contributed to depicting women scientists as persons in need of protection, who need to be taken care of, preferably by a strong, masculine man—someone like Bond, Gibbs, or Ryan. These more general biases and stereotypes concerning scientists are most likely part of the explanation why so many of the contemporary women scientists in crime fiction can be regarded as examples of a backlash against feminism because of outdated female stereotyping. Among the

examples in the present study, only Abby in *NCIS* shows physical strength and the ability to take care of herself in a violent situation. Yet paradoxically, of the three women scientists studied, Abby is the one most shielded from the surrounding world by her (primarily male) peers.

The sexualization of the woman scientist can also probably largely be attributed to traditional stereotypes. Women in uniform have often been the objects of fetishism as an expression of male fantasies. Like the nurse in her uniform and the librarian with her glasses and tight hairdo, the woman scientist can be included in this category of sexual icons (cf. Steele, 1996, pp. 180–83). No matter how outdated many of these concepts and stereotypes are, it appears that tradition in combination with genre conventions still results in old-fashioned patriarchal images of society.

COULD THESE FICTIONAL WOMEN SCIENTISTS STILL BE GOOD ROLE MODELS?

Despite the lack of progress in the depiction of women's roles in the workplace, when returning to Steinke's definition of a good woman scientist role model (1999, p. 60) it is clear that Jones, Abby, and Brennan still fulfill most of Steinke's criteria. They are all intelligent, brilliant, successful scientists, and since they are relatively young they must have developed "an early interest in science" to be able to be where they are today. They all have a "good professional reputation," despite their somewhat "unconventional" research interests and methods. Furthermore, they all remain committed to their "research goals" regardless of any issues they have with the people they work with. Finally, if we discount Brennan's relationship with alcohol, which nonetheless only temporarily changes her priorities, none of them puts their personal relationships above their work. According to Steinke's definition, it could thus be concluded that women scientists in contemporary crime fiction are almost perfect role models for young girls. They work in traditionally male-dominated fields where they do an excellent job. Yet, in spite of Jones, Abby, and Brennan not seeming to mind the way they are treated by their colleagues, many of the things they are subjected to would classify as harassment in most workplaces in the real world, and few women would be likely to enjoy being treated like children and regarded as objects of sexual desire by their co-workers. On these grounds, it could thus be questioned to what extent fictional scientists who accept such treatment can constitute good role models.

On a more optimistic note, Flicker concludes that women scientists in feature films "hardly contribute to the negative myths of science" (2008, p. 252). The negative image of science often conveyed in popular film and other fiction today is something that worries many scientists concerned with the future of their respective fields of research (Garfield, 1991, pp. 250–51). The more recent inclusion of women scientists as popular fictional characters, however, may have served to enhance the image of science. In the crime fiction examples examined here, Abby and Jones make science "sexy," and Brennan at least makes it appear serious, if sometimes tedious. Furthermore, they are all examples of women who love their profession as scientists—and it might not be a bad thing if they could function as inspiring role models when it comes to career choices.

While the term “smart” in the title of this paper is intended to convey a double meaning, it seems that in these three cases this appears to be heavily skewed toward the visual aspects of being smart. Although the more intellectual side is always present in these fictional women scientists, it often plays a secondary role to their physical looks and appearance. These women scientists are among the “hottest” women in popular media today. However, Steinke suggests that attractive fictional women scientists might be “memorable and salient role models that allow for better identification” (2005, pp. 53–54). In this sense, it is not impossible that the focus on looks in popular depictions of women scientists might actually have a positive effect on ensuring the attractiveness of the sciences. Nevertheless, there is a fine line between being attractive and glamorous and being oversexualized. In particular when combined with infantilization, the sexualization of women scientists found in the crime fiction samples might still give cause for concern: It should be perceived as the norm and shape women’s perceptions of what to expect when entering scientific professions, something that might scare many prospective women scientists into choosing alternate careers.

ENDNOTES

¹ The use of science in early crime fiction has been studied by Frank 2003 and Thomas 1999. For a definition of process sequences, see Bergman, 2012, p. 93.

² The *NCIS* episode “Bloodbath” was originally broadcasted on April 25, 2006. This study is part of a larger research project on the function of science in contemporary crime fiction (literature, film, television). *NCIS* was chosen because it is one of the most successful crime series involving scientists (the *CSI* series are addressed in other parts of the project) and “Bloodbath” was selected because Abby Sciuto plays a major part in the episode’s story. The Bond film was chosen because it is a well-known blockbuster in a genre—the Bond version of the spy thriller—that has long been known for displaying traditional gender stereotypes and patronizing attitudes toward women, but one that has also recently portrayed many strong women characters. *The World Is Not Enough* is the most recent Bond film where a woman scientist plays a relatively big role. Kathy Reichs is one of the leading novelists in the forensic genre and uses a woman scientist as its protagonist (Patricia Cornwell’s *Scarpetta* novels are discussed in other parts of the project). *Devil Bones* was selected as it was the most recent of Reichs’ novels when the present study was initiated.

³ Steinke is primarily basing her ideal woman scientist on Dr. Eleanor Arroway in the film *Contact* (1997, directed by Robert Zemeckis).

⁴ The examples explicitly given by Grigar show that the statement applies to both male and female fictional scientists.

⁵ In regard to the ratio of female (F) to male (M) scientists, *CSI: Crime Scene Investigation* has a ratio of 4F/8M, and *CSI: Miami* 3F/3M (including Horatio Caine, who is the head of the team but not really a scientist himself). The numbers are

based on the scientists appearing in the highest number of episodes in the two shows, as listed in *IMDB* <www.imdb.com>.

⁶ First published in 2003, Flicker's study includes films from 1929–2001 (2003), but an updated version of her article covers 1929–2004 (2008). Since Flicker's earlier article is sometimes more extensive in its descriptions, both articles have been used here.

⁷ Steinke did not include *The World is Not Enough* in her film selection, probably because Christmas Jones' role in the film is not substantial enough to meet Steinke's selection criteria (cf. 2005, pp. 36–38).

⁸ King's character development in the film is in stark contrast to that of Jones. King, the daughter of a good man, is initially believed to be the innocent girl who has been kidnapped by the evil terrorist, but she is eventually revealed to be the one pulling all the strings: she seduces Bond, kills people without hesitation, and has the terrorist eating out of her hand.

⁹ It is notable that Abby is always called by and referred to by her first name in the series, while all her male colleagues are called by and referred to by their last names (her female colleagues are sometimes referred to by their first names, sometimes by their last names). In following this practice, I have used the names most commonly used in the series.

¹⁰ Carlen Lavigne notes that the patriarchal structure—with a male father figure in charge of a group that resembles a family—is common to many of the current televised crime dramas (2009, pp. 385–86).

¹¹ In terms of genre and stylistics, with *Devil Bones* Reichs appears to have moved away from her original thriller style—more similar to that of Patricia Cornwell—toward a lighter version of the hard-boiled crime genre used by for example Sue Grafton in the alphabet-novels about Kinsey Millhone. It can, however, be argued that Grafton generally conveys a stronger feminist agenda than Reichs does in *Devil Bones*.

¹² With reference to Marcel C. LaFollette, Steinke suggests that such masculine qualities might be "intellectual objectivity, physical strength and emotional detachment" (1997, p. 412).

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