

Crime Fiction as Popular Science. The Case of Åsa Nilssonne

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The aim of this article is to discuss the role and function of crime fiction as a contemporary medium of popular science. In the last few decades, crime fiction has become an increasingly dominant genre in the cultural sphere – in literature, film, and television. Indeed, in many senses it could be said to be the most dominant fiction genre. A great deal of contemporary crime fiction displays a strong scientific presence, and it is reasonable to assume that many readers and viewers gain a substantial part of their scientific knowledge from reading crime fiction. In this article, Swedish crime writer Åsa Nilssonne (b. 1949) and her series of police novels (1991–2006), as well as the promotion and reception of these novels, are examined in order to assess how the crime genre depicts and mediates scientific theories and knowledge. The conclusion is that even though Swedes show a strong interest in science-heavy crime fiction, the crime fiction novels produced in Sweden involve only a very limited use of science. Nevertheless, crime fiction does function as popular science in many ways, the most important being that it contributes to spreading knowledge about scientific reasoning and methods. This article is part of my research project “Science in the Crime Genre”.

In the last decade many reports on the declining interest in science education have been published. As a consequence, there has been an increased focus in academia on the importance of presenting scientific research in popular form, in order to stimulate public interest in science. However, in other arenas such as fiction, science has become more popular than ever before. The various *CSI* series, and similar drama shows where science is in focus, have had a tremendous impact in recent years, not only in the US but across much of the world. In addition to scientifically inspired crime fiction, today's TV schedules are also filled with technical "how-to" shows and science documentaries. Popular science magazines are increasing in range and number, and popular science is growing in importance. In today's western world, the interest in science is not dead – but rather taking entirely new routes.

Whether or not we take the negative reports about science education seriously, the interest in scientific fiction and popular science indicates that people still do want to learn about science, albeit through different channels. Popular science can of course never be a substitute for higher education, but for those not intending to pursue a career in science, it still has an important role. Many people acquire scientific knowledge from popular science, through a number of different channels and media. In addition to television documentaries, popular science books, and journals, fiction – in its different shapes, forms, and genres – is an important vehicle for sharing and spreading scientific knowledge. This article addresses, in particular, literary crime fiction as a medium of popular science.

Science and Swedish Crime Fiction

The role of science in today's international crime fiction scene is frequently an important one. One of the best recent examples is of course the forensic science genre, which is growing not only on television, but also in its literary form. Bestselling authors like Patricia Cornwell (b. 1956), Jefferson Bass (pen name for author duo Jon Jefferson and William M. Bass), and Kathy Reichs (b. 1950) are just the tip of the iceberg. Internationally, it is also commonplace for crime fiction authors to have a background in the sciences. Reichs is representative, sharing her life as an author with a successful career as a forensic anthropologist. On her website she also takes advantage of her position as a popular author, introducing forensic anthropology in a popularized and easily understandable format to those readers without a scientific background.¹ She does the same thing in her novels, sometimes even using long, textbook-like passages to explain things. However, having a science background is not exclusive to authors in the forensic science genre; it is equally common in medical thrillers, and in the more technically oriented crime fiction genres.

This internationally produced, scientifically oriented crime fiction has also become a successful concept in Sweden. Many novels with scientific elements are being translated into Swedish every year, and it is striking to see the extent to which the Swedish television schedules are being occupied by crime fiction in general, not least by drama shows belonging to the forensic science genre. With Swedish-produced crime fiction, however, it is a different story altogether. The popularity of Swedish crime fiction is rising, not only nationally but also abroad, where it is being translated on an unprecedented scale. In 2008, Swedish crime writer Stieg Larson (Karl Stig-Erland Larsson 1954–2004) was one of the world's best-selling authors, second only to Afghan-American novelist Khaled Hosseini (b. 1965). In tenth position on the same list was another Swedish crime fiction author, Henning Mankell (b. 1948).² However, despite the international recognition of Swedish crime fiction, and the popularity of science-oriented crime fiction in Sweden, Swedish crime writers still tend to avoid including scientific elements in their novels. The Swedish crime fiction hero might

1 Reichs.

2 Flood.

occasionally lift a fingerprint, find a hair or uncover some DNA, but this trace evidence is usually just sent off to a distant lab from which the heroes then await an answer that might eventually help to push their investigation forward. In Swedish crime fiction there are almost no scientific process sequences, and it is very rare that any kind of science is explained, that the novels or films take place in a scientific environment, or that science constitutes an important part of the plot.³ In this sense, science is almost absent from Swedish crime fiction.

Perhaps this absence could partly be ascribed to the fact that most Swedish crime writers have a humanities or journalism background, rather than in the sciences. This explanation, however, appears to be too simple, not least considering that Patricia Cornwell, the poster girl of forensic crime fiction, has a background in English and journalism. To shed more light on the issue of how Swedish crime writers approach – or do not approach – science, let us look at two contemporary Swedish crime writers whose science background makes them atypical. Among the more well-known Swedish authors today, there are at least two good examples of this: Karin Wahlberg (b. 1950) and Åsa Nilssonne (b. 1949). Wahlberg started out in the humanities and worked for many years as a teacher (Swedish, philosophy, religion). However, in her late thirties she decided to change career. She went back to university and became a medical doctor, eventually specializing in gynecology. Since her debut in 2001, Wahlberg has been writing crime fiction set in hospital environments, and she now works only part-time as a gynecologist.⁴ Nilssonne is a practising psychiatrist and a professor of medical psychology in the Department of Clinical Neuroscience (CNS) at Karolinska Institutet in Stockholm (one of the leading medical universities in Europe). In her research, Nilssonne is particularly interested in evolutionary biology.⁵ She has published textbooks related to this, and since 1991 she has also been running her own webpage with a blog in which she discusses both crime fiction and science.⁶ Nilssonne writes police procedurals set in various locations, but mainly in Stockholm. Her series starring policewoman Monika Pedersen consists of five novels to date, published between 1991 and 2006.⁷

Since Nilssonne has the stronger scientific background, not to mention a better reputation nationally as a crime writer, she will be used as the main example in this article. It is reasonable to believe that an author with a professional scientific interest will also voice some of that interest in her fiction. In an examination of the extent and character of scientific elements in Swedish crime fiction, Nilssonne ought therefore to constitute a useful example. In the following study, how and to what extent Nilssonne uses science in her crime novels will be scrutinized. In addition, there will be a discussion on the part that science plays in the promotion and reception of Nilssonne's novels in Sweden. Does science contribute to Nilssonne's integration into the Swedish public sphere, and if so, how? Finally, there will be a return to the more general perspective, with a consideration of the implications of this analysis in the context of the role of crime fiction as a medium for popular science communication.

3 The term “scientific process sequence” is my own, referring to passages or scenes where science and scientific processes are the primary – often the only – content, where science is often allowed to speak for itself. These sequences are very common in, for example, *CSI*. The term is preliminary, still under development. Cf. “montage sequence” in film theory terminology (Bordwell and Thompson, p. 480). My term is, however, less narratological, and focused on the content of the sequence, rather than on form or narrative function.

4 Wahlberg.

5 Cf. Wilhelmson 2001b.

6 Nilssonne 1991 and later.

7 Nilssonne's novels have not yet been translated into English, but are available in German. In the discussions concerning the promotion and reception of Nilssonne's novels, I have also referred to Nilssonne's crime novel *Smärtbäraren* (2002, “The Carrier of Pain”), which is not part of the Pedersen series.

The Role of Science in Nilsonne's Novels

In Nilsonne's debut novel, *Tunnare än blod* (1991, "Thinner than Blood"), science plays a particularly explicit role. The whole story is framed with an account of how a flu virus slowly develops in Mongolia, mutates, and spreads across the world. The virus eventually knocks out large parts of western society, starting with Mexico City before moving on to Europe and the US. The account of how the virus changes and conquers the world is literary rather than scientific, but the choice of topic and the detailed descriptions of how the virus mutates still distinguish this novel from other Swedish crime fiction from the early 1990s. The primary function of the virus narrative is to explain why so many of Stockholm's health care and law enforcement personnel are on sick leave, and thus why Nilsonne's heroine-to-be, Monika Pedersen – a regular police officer – gets to fill in at the murder squad and take on her first-ever murder case.

In *Tunnare än blod*, Nilsonne takes advantage of her medical experience, and the main part of the novel is set in a Stockholm hospital. The murder mystery concerns an old alcoholic who has bled to death after taking medication lethal for someone with his specific blood condition. As she tries to find out how the man got hold of the pills, Monika Pedersen visits the different hospital wards that he has been in contact with. She talks to different members of staff, from researchers and doctors to receptionists and cleaners, giving the reader a clear picture of how a hospital works – and also how it sometimes does not. Just like Nilsonne's following two novels, *I det tysta* (1992, "In Quiet") and *Kyskhetsbältet* (2000, "The Chastity Belt"), *Tunnare än blod* is centered around the stressful working conditions in the hospital. However, since these conditions are portrayed primarily as being a result of the aggressive flu virus causing a lack of staff, any potential social criticism is lost.

Another interesting element of *Tunnare än blod* is its description of the post-mortem examination. Spanning eight pages, it is probably one of the most lengthy and detailed scientific process sequences in Swedish crime fiction.⁸ The sequence follows a visiting star pathologist performing the autopsy in front of an audience of medical interns, while describing in detail what he is doing and finding. The primary function of the scene is to reveal that the dead man – to everyone's surprise – was actually murdered. The length of the description and the level of detail, on the other hand, have no explicit purpose apart from educating the reader about the specific scientific procedure. Nevertheless, the scene still has one other important, if less obvious, function. The use of impressive scientific detail which, for the non-expert at least, conveys scientific accuracy helps to establish trust, and to make the reader believe in the fiction. The placement of this post-mortem scene early in Nilsonne's novel – and her debut novel, at that – makes this establishment of trust particularly important, as it sets the scene for Nilsonne as a novelist.

Important parts of Nilsonne's second novel, *I det tysta* (1992), also take place in a scientific environment – this time in a microbiology laboratory, after one of its doctoral candidates is found murdered. However, there is never any focus on the actual research done in the lab. The interest is centered rather on the competitive elements that characterize the research community; on research theft and the exploitation of visiting international scholars. The novel thus addresses problems in the science community, but not science *per se*. The image of the scientists presented in the novel is also surprisingly negative. The fictional scientists in *I det tysta* all appear to care more about their own careers than about their research. Although this is very much in line with how scientists are often presented in fiction, it is all the more discouraging here given that the author has one foot in the sciences.⁹

8 Nilsonne 1991, pp. 24–32.

9 Cf. Flicker p. 309.

In *Kyskhetsbältet* (2000), the working conditions of scientists are discussed further. This is a novel almost free from science, apart from the fact that one of the novel's characters is a heart surgeon and her terrible working conditions are highlighted, giving the novel a strong element of social criticism. The surgeon never has enough time to do her job properly and the long working hours take over her life, turning her job into the chastity belt referred to in the novel's title – and finally, turning her into a murderer. The primary function of the surgeon character is thus to criticize the working conditions in Swedish hospitals, and in doing so, Nilsonne once again sacrifices the image of the good scientist. One of the most common arguments for the importance of improving the image of scientists in fiction is that fiction influences the career choices of the younger generation.¹⁰ Since they are not Nilsonne's main target audience, however, the argument might be less relevant here. Her criticism of the Swedish health care system might have a better chance of reaching and influencing those who can do something about it than those in the process of making career decisions.

In *Bakom ljuset* (2003, "Behind the Light"), Nilsonne leaves science behind almost entirely. Instead, the novel is very much focused on history; more specifically, the history of Ethiopia. While on sick leave, Monika Pedersen investigates the murder of her mother, which occurred in the 1970s. In doing so, she comes across an ongoing humanitarian aid scam connected to Ethiopia. The only real science present in the novel is a passage containing an explanation of so-called "hyperthermophiles", which is given by a man Monika encounters during her investigation.¹¹ Hyperthermophiles are organisms that thrive at very high temperatures, but as it was long believed that no life could exist at these temperatures their discovery was delayed. The passage about them in *Bakom ljuset* is presented as an example of how people are often misled by faulty preconceptions, and this image demonstrates many aspects of the novel's plot. Here, science thus functions primarily as an illustration of other key elements of the story.

Finally, in *Ett liv att dö för* (2006, "A Life to Die For") one of the main threads of the story involves radiologists from poor countries being murdered after doing contract work for a disreputable company. However, science is not really part of the story, and the scientists themselves play very small roles in the novel. Once again, it is the scientific world – this time the corrupt international economy of medical services – that is examined and criticized, rather than science itself.

Science is thus used in Nilsonne's novels for many purposes and in many ways only briefly exemplified here. The reader encounters scientists and scientific environments, as well as scientific facts and process descriptions. Scientific elements are often used either to explain the cause of events – in one case even the method of murder – or as images to illustrate other ideas found in the novel. However, the most prominent function of the use of elements from the scientific world is to criticize that world from a moral and social standpoint. What is striking, and slightly surprising, is that science is not used to the extent one would perhaps expect from an author who works simultaneously as a scientist, given the well-known international examples in this genre. Finally, it appears that science takes up more page space at the beginning of Nilsonne's series than at the end.

The Role of Science in the Promotion of Nilsonne's Novels

Looking at the promotion of Nilsonne's crime novels, the covers and cover images of her books also show a chronological shift in focus: from a stronger stress on scientific aspects early on, to an emphasis on more general crime fiction in her later novels. Cover images can provide extensive information not only about the content of a book, but also about the

10 Cf. Steinke p. 29.

11 Nilsonne 2003, pp. 65–66.

intentions and ambitions of the publisher, as well as about who the intended readership is.¹² From the covers of Nilsonne's first novels, it is clear that her first publisher, Trevi, initially promoted them using the science angle. The first edition of Nilsonne's debut, *Tunnare än blod*, included the subtitle "A Medical Thriller", which was repeated in the first paperback edition but removed from the second.¹³ Her second and third novels were both given the subtitle "A Crime Novel" in their first edition, but after that the subtitle was dropped completely.¹⁴ There is no subtitle in any of the other paperback versions.

Trevi, who published Nilsonne's first two novels, made a dedicated effort to represent the stories in the novels' respective cover images. The cover of *Tunnare än blod* has a background image of a large building, presumably a hospital, and in the foreground a smaller image of a broken rose and a handful of little blue pills. This montage depicts the hospital setting, damaged family relations, and the means of murder. In *I det tysta*, the background image portrays a computer with a green screen showing something that might be a DNA sequence placed in a circle surrounding what appears to be two stylized snakes lying on some papers or envelopes. This probably symbolizes the medical and genetic research conducted at the research facility in the novel.¹⁵ Next to the computer stands a green houseplant, and highlighted in the centre of the image is a coffee mug with an image of a monkey's head, probably that of a chimpanzee. Evidently this is supposed to illustrate the genetic research conducted by the murdered doctoral student, who also happened to be very fond of monkeys.

By the time Nilsonne's third novel was published in 2000, she had joined the publishing house Forum, an established crime fiction publisher. The cover of *Kyskhetsbältet* has more in common with general crime fiction: it consists of an abstract photographic image of light and shadows on a floor, mostly black but with smaller areas of bluish green. Forum continued to use this minimalist cover aesthetic with few colors for both *Smärtbäraren* (2002, "The Carrier of Pain", maroon and pink tones, a female silhouette) and *Bakom ljuset* (blue, black and green, a photo of a wet pavement with the silhouette of two legs walking).¹⁶ In 2006, Forum used a new cover designer for *Ett liv att dö för*, which meant another change of aesthetic.¹⁷ This cover shows a photographic image of the upper body of a man with a dark complexion, dressed in white scrubs on top of a white shirt and tie. He is holding a large X-ray image of a torso. Although the X-ray is covering the man's face, the X-ray and his clothes indicate that he is a medical doctor. The photograph is in color, but as the background is a uniform white (perhaps a light table against which you would look at X-ray images) and all other colors have been muted, it almost gives the impression of being in black and white, albeit with a slight maroon tint. So once again, the focus of the cover image seems to have shifted back to the scientific content of the novel. However, as previously discussed, this type of content is very sparse in *Ett liv att dö för*, so it is obvious that the cover designer has just picked one element of the story and illustrated it, rather than trying to summarize the whole story or the most important theme of the novel. For promotional purposes, it is not so important for the text and cover image of a novel to match. To the customer considering purchasing the book, the cover

12 Cf. Bergman 1997.

13 *Tunnare än blod: En medicinsk thriller* (Trevi 1991 and MånPocket 2000). In the AndersonPocket paperback edition (2007) the subtitle is removed.

14 *I det tysta: Kriminalroman* (Trevi 1992), *Kyskhetsbältet: En kriminalroman* (Forum 2000).

15 "Two serpents together symbolize the opposites of dualism which are ultimately united" (Cooper p. 148). In this case the opposites would primarily be life and death, referring to the positive and negative use of genetic research as well as to the contrast between murder and the surgeon's role as a life-saver. Snakes are also included in the common symbol for the medical profession, in which one or two snakes are entwined around a staff or caducei.

16 These three covers were designed by Anders Timrén. *Smärtbäraren* (2002) is a crime fiction novel by Nilsonne that is not part of the Monika Pedersen series.

17 This cover was designed by Jens Eriksson.

still sends out the signal that this is a medically oriented crime novel, and it is reasonable to believe that this was the publisher's intention. In 2006, amidst a crowded Swedish crime fiction scene, there was perhaps a renewed need to single Nilsonne out by stressing her professional affiliation.

In Sweden, Nilsonne's novels come in two different series of paperback editions. The first four Monika Pedersen novels and *Smärtbäraren* were republished between 2000 and 2004 by MånPocket, a subdivision of Bonnier AB. MånPocket kept the original covers of *Bakom ljuset* and *Smärtbäraren*, but produced new ones for the paperback editions of the other three novels. *Tunnare än blod* displays a transparent green medical bottle filled with pills, against a black backdrop, thus following the ambition of the original edition to illustrate both the content of the book (here, the murder weapon) and the medical/scientific setting.¹⁸ The black background is repeated on the cover of *I det tysta*, where it is crossed horizontally by three zigzag lines, two green and one red, blurred out into pixels.¹⁹ The lines evoke the graphs on the display of a heart monitor, where heartbeats are illustrated by lines of light against a dark background. This could perhaps be interpreted as an illustration of the research environment portrayed in the novel, but there is no direct link. The blurring of the lines could then be seen as a representation of the blurring of the moral lines of research conduct taking place in the novel's research facility. The cover image was thus most likely chosen partly to make the paperback series look coherent, and partly to stress Nilsonne's medical angle. The fact that the original covers of these two novels were made by another publisher probably also contributed to the change.

Finally, MånPocket presents *Kyskhetsbältet* with an image similar to that of *Smärtbäraren*, but slightly more colorful. A human figure is stretched out, arms and legs extended, over a turquoise background. The figure is abstracted into mere form, and colored in a way that brings images of auras, or pictures from heat cameras, to mind (although this picture is not a photograph). The main part of the torso and the legs are white and blue, while the head and arms have a warmer color scheme of yellow and orange.²⁰ What the image illustrates is open for interpretation. Perhaps the figure represents someone falling, symbolizing the surgeon's mental breakdown as she turns into a murderer. Perhaps the white and blue colors of the torso represent the hypothermia that both Monika Pedersen and the murderer suffer at the end of the novel. It is also possible that it bears no relation at all to the novel's content, that the image is selected only for its decorative qualities. Interestingly enough, this paperback version of *Kyskhetsbältet* also comes with a new subtitle, *Dokumentärdeckare* ("Documentary Crime Novel"), a genre definition that is rather misleading.²¹ *Kyskhetsbältet* is a novel, but there is no question that it is anything other than pure fiction. However, the new subtitle is probably an attempt to stress the element of social criticism in the novel; in other words, a way of claiming that this is a true portrayal of the situation in Sweden in the early 21st century. What is more specifically referred to by the use of the term "documentary" in this context is most likely the working conditions in Swedish health care and law enforcement. Nilsonne and MånPocket are thus trying to promote the novel as a voice in the public debate, and Nilsonne as an author to listen to. Additionally, the documentary novel genre was becoming increasingly popular in the early 2000s.²² The use of this new subtitle could therefore also be interpreted as an attempt to jump on that bandwagon. Furthermore, on three of the five

18 As previously mentioned, MånPocket also kept the subtitle "En medicinsk thriller" ("A Medical Thriller"). The new cover was designed by Helena Modéer.

19 The cover was designed by Helena Modéer.

20 The cover was designed by Helena Modéer, and the image by Tony Stone.

21 The original hardback edition carried the subtitle *Kriminalroman* ("Crime Novel"), a slightly different genre definition.

22 Cf. Bårtås.

MånPocket covers, it is stated that Åsa Nilsonne is the winner of the Poloni Prize (“Polonipriset”). This was a prize awarded between 1998 and 2001 by the Swedish crime fiction journal *Jury* to the best crime fiction novel of the year by a female author, and Nilsonne won it in 2000 for *Kyskhetsbältet*. Mentioning the prize on the cover is thus an attempt to signify quality, using a symbol understood by most of Sweden’s crime fiction aficionados. Interpreting the reference to the prize in this way – that is, as an ambition to promote Nilsonne as a serious crime writer at that time – corresponds with previous observations about her novels and the promotion of her first editions.

The most recent paperback editions by AndersonPocket from 2007 include the five Monika Pedersen novels and *Smärtbäraren*. The covers of the Pedersen novels are now even more standardized than in the previous editions, in order to enforce their attachment to the series: each shows the face of one of its protagonists, or rather victims, together with the emblem of the Swedish police force and, in most cases, a fragment of some kind of a text.²³ *I det tysta* shows various snippets of calculations, probably representing the researchers’ work in the novel, *Bakom ljuset* shows a handwritten excerpt from Monika’s grandmother’s autobiography (which Monika actually reads in printed form in the novel), and *Ett liv att dö för* shows part of a text in Amharic (ahmarinya), referring to important parts of the novel taking place in Ethiopia. In these editions, the face always occupies the upper section of the cover, with a focus on the eyes, which are looking straight at the reader. In some cases extra color has been added to the eyes, making them look artificial. The lower part of the face, and in particular the mouth, is always hidden behind Åsa Nilsonne’s name, which is printed in large block letters. The bottom section of the cover is dominated by the police emblem and the textual images described above. The color scheme is soft with an orange base tone and few other colors; it is only the eyes that occasionally stand out. At the bottom of the cover is a quote from another Swedish crime writer about the novel; these will be discussed shortly.²⁴ The cover of *Smärtbäraren* has the same color scheme as those of the Pedersen series, but displays a black and white photograph of a woman in a cocktail dress and high heels standing in front of a window. The image is tinted in orange-red, and, furthermore, it is covered in small red paint specks, as if it has been gently stroked by an almost dry paintbrush. Red flames (which could also be interpreted as running blood) are painted along the right edge of the cover, and the title and Nilsonne’s name are discretely placed at the bottom, just above a review quote.²⁵

In the AndersonPocket editions, the science focus is thus not picked up at all in the cover designs. Instead, the stress is on the human aspect of the novels, particularly the murder victims who have witnessed the crimes (eyes in focus) but who are now unable to speak about them (mouths covered). Furthermore, the police emblems illustrate that these novels are police procedurals, which is one of the most popular and prestigious genres in the Swedish crime fiction tradition, represented by authors such as Maj Sjöwall (b. 1935) and Per Wahlöö (1926–75), Henning Mankell, Håkan Nesser (b. 1950), and Åke Edwardson (b. 1953). The combination of emblems alluding to the genre and quotes from popular Swedish crime writers expressing positive opinions of Nilsonne’s novels indicate that the main aim here is to show that Nilsonne is an established, well-respected, and high-quality crime fiction author. It is interesting to note, however, that all the authors quoted on the covers are members of a female

23 All the AndersonPocket paperbacks have covers designed by Johan Pettersson.

24 The quotes are by Karin Alvtengen (*Tunnare än blod*), Karin Wahlberg (*Kyskhetsbältet*), Inger Frimansson (*Bakom ljuset*), Johanne Hildebrandt (*I det tysta*), and Liza Marklund (*Ett liv att dö för*).

25 This quote is not by another author, but by Marie Peterson, a critic from *Dagens Nyheter*, one of the major daily newspapers in Sweden.

crime writers' network called "Blodgruppen" ("The Blood Group"), as is Nilssonne.²⁶ An awareness of this on the reader's part could perhaps go counter to the aims mentioned above, evoking the image of friends covering each other's backs and doing each other favors.

Judging the books by their covers, it thus appears that the objective in the early 1990s was to present Nilssonne's novels as "scientific"; but later, once she became more established, she was marketed as just a regular crime writer, and positive associations with other well-respected Swedish crime writers were sought.²⁷ However, the promotion of books involves more than just cover design. In what follows, the presentation of Nilssonne and her novels in other contexts will be addressed briefly.

In interviews, Nilssonne tends to stress the elements of social criticism in her novels. In particular, she brings up the difficult working conditions caused by cutbacks in Swedish health care and law enforcement, as well as the tough climate of research environments.²⁸ Perhaps this is predominantly a personal crusade against Swedish health care politics – something that Nilssonne has explicitly stated as being very important to her.²⁹ As previously suggested, perhaps it is also part of an attempt to be identified with the well-respected Swedish crime fiction tradition of social criticism, associated with Sjöwall/Wahlöö and Mankell.

Nilssonne adopts a similar stance when she writes about her novels in her blog. Even though she usually uses the blog to comment on scientific issues, she does not seem to connect this with the popular science potential of her own novels.³⁰ On Forum's website, the presentation of Nilssonne stresses her medical career and her first steps as an aspiring author. In the presentation, only the first three Pedersen novels are mentioned, indicating that the page has not been updated lately.³¹ Forum's site contains no publicity photos of Nilssonne, and the final impression is thus that she is not currently a prioritized Forum author. Meanwhile, at AndersonPocket's website the focus of the author presentation is on Nilssonne's popularity as a crime writer. Her career as a scientist is only mentioned very briefly. Since this is her most recent publisher, and also a publisher she herself was involved in founding, it is likely that this is how she and her editors want to promote her today. AndersonPocket only displays one publicity photo of Nilssonne. It is a studio image, where Nilssonne adopts a strict and serious pose against a white backdrop.³² The image is reminiscent of commonly displayed photos of many successful British female crime writers. The combination of image and text thus presents Nilssonne as a loved and well established crime writer, who should be taken seriously.

It is thus possible that it was Nilssonne's initial publisher, Trevi, who suggested stressing the scientific elements in any promotion in order to create a unique crime writer profile for Nilssonne, and that back in the early 1990s, she embraced the idea, judging from the long scientific process sequence in her first novel. Supporting such an interpretation is Nilssonne's statement that she works very closely with her editor, usually discussing ideas before writing.³³

26 The only exception is Lisa Marklund, but initially she was also part of Blodgruppen. One member of the network – Anna Jansson – is missing from these covers. (Cf. Samuelsson, and Belfrage and Gustavsson.)

27 The German editions have cover images reminiscent of the Icelandic or Faroese countryside – somewhat surprising since the stories take place primarily in urban Stockholm and Ethiopia. The aim when introducing Nilssonne to the German market was thus most likely to take advantage of the general German enthusiasm about everything Nordic and Scandinavian.

28 Sahlberg, Strandell, Wilhelmsson 2001b, Samuelsson.

29 "I write in order to awaken those politicians still sleeping, those who still have not realized the consequences of their decisions" (quoted by Sahlberg, my translation).

30 Nilssonne 1991 and later.

31 Forum Bokförlag.

32 AndersonPocket.

33 Sahlberg.

The Role of Science in the Reception of Nilsonne's Novels

The scientific aspects of Nilsonne's books are also toned down when we look at how they are received. In around twenty randomly selected reviews of her novels, more than half of the reviewers mention Nilsonne's medical career and/or the fact that she is a scientist.³⁴ Only three, however, relate her occupation to a theme in the novel, and just one claims that Nilsonne's primary strength as a writer lies in her work experience from the medical field.³⁵ Those are the only mentions of science in the reviews. The review in *Läkartidningen*, a journal aimed at medical professionals, does not even pass comment on Nilsonne's use of science. Instead, only the plot of the novel is described and combined with a short positive judgment.³⁶

In the only longer article on Nilsonne to date – Sara Kärrholm's survey article from 2009 – the importance of hospital settings and characters from the medical sphere is pointed out.³⁷ Kärrholm also states that Nilsonne attempts to explain complicated science in simple terms in her novels (no examples are given, however), and she presents Nilsonne's credentials as a scientist.³⁸ With the support of a published interview with Nilsonne, Kärrholm also explains that even when drawing on professional experiences in her novels, Nilsonne avoids using experiences from her patients and psychoanalytic explanations.³⁹ Kärrholm thus notes the elements of science to a greater extent than the reviewers do, but it is still a minor part of her article, her main focus being on the psychological and career development of Monika Pedersen over the course of the series.

If it is reasonable to expect that Nilsonne's scientific background makes her one of the most scientifically oriented crime writers in Sweden, then the conclusion must be that science is a rare commodity in Swedish crime fiction. Even if Nilsonne originally intended to contribute more scientifically oriented novels to the medical thriller genre in the early 1990s, this ambition has faded over time. Perhaps this is a response to the expansion of international science-infused crime fiction in television and film now available in Sweden, Swedish writers having been overrun by the predominantly Anglo-American competition? Or perhaps the tradition of social criticism is so strong in Swedish crime fiction that all authors who want to be successful and respected choose to follow that path – and indeed, are expected by audience and critics to do so? That would be a valid theory, if it were not for the fact that there has been a recent trend in Swedish crime fiction to move away from contemporary reality, and into the timeless realms of small-town drama and amateur psychology in the spirit of the British television drama series *Midsomer Murders* (1997–). Most contemporary Swedish crime writers primarily portray criminals who are motivated by individual traumas that can be traced back to a tough childhood.⁴⁰ However, perhaps this trend could, in turn, also help to

34 *Tunnare än blod* 3/4 (Nordberg, Örnkloo, Mårtenson), *I det tysta* 2/4 (Halldén, Örnkloo), *Bakom ljuset* 1/1 (Johansson), *Kyskhetsbältet* 3/4 (Anonymous a, Örnkloo, Andersson), *Ett liv att dö för* 2/6 (Hanell, R. Jonsson). In the reviews of *Smärtbäraren*, which is not part of the Monika Pedersen series, 2/3 reviewers mention Nilsonne's line of work (Eriksson, Anonymous b).

35 Ulf Örnkloo (reviewing *I det tysta*) asserts that Nilsonne uses her professional knowledge about the research environment (Örnkloo 1992), Claire Wikholm (reviewing *Tunnare än blod*) praises Nilsonne's knowledge of the hospital environment (Wikholm), and Roger Jonsson (reviewing *Ett liv att dö för*) regards Nilsonne's medical experience as her primary strength as a crime writer (Jonsson).

36 Böttiger. Böttiger does not even mention Nilsonne's medical career, but perhaps he expects the readers of *Läkartidningen* to already be aware of it.

37 Kärrholm pp. 186, 196.

38 Kärrholm pp. 187–88.

39 Kärrholm pp. 188–89.

40 An interesting article arguing that, in reality, the idea that childhood traumas might make someone a murderer later in life has very little support in scientific research, is Malin Nordgren's "Vanliga mördare passar inte i deckare" (2006). Cf. also the discussion about trends in Swedish crime fiction in the 2000s in

explain the absence of science in the genre? While this absence has been further supported by the Nilsonne case study, the explanations for it and the consequences thereof clearly still need further examination. Let us therefore return to the more general perspective and the role of crime fiction as a medium of popular science.

Crime Fiction as Popular Science

Nilsonne's ambition is to convey social criticism about Swedish health care and law enforcement. However, when it comes to the possibility of her fiction having an impact on society, her efforts appear to be in vain. In one interview she notes that no matter what her intentions, her crime novels are just not considered in debates pertaining to the issues she addresses. Nilsonne concludes that if "you want to make your voice heard, you obviously should not write crime fiction."⁴¹ There is no arguing with Nilsonne's personal experience here, even though the generalizing tone of her statement could be questioned. A good example of fiction being explicitly referred to in social debate occurred when Michael Crichton's crime thriller *State of Fear* (2004) was quoted in the US Senate as making a significant contribution to the climate change debate.⁴² Another example is Henning Mankell, who has developed a position as a respected European intellectual who people listen to and look up to. Even though this is due to many contributing factors, a key reason is the international success of Mankell's Wallander novels and their reputation as crime fiction conveying social criticism. Additionally, many scholars suggest that the general public are being influenced by ideas presented in fiction.⁴³ And if people are being influenced by fiction in general, it is also reasonable to believe that this is true for the widely consumed genre of crime fiction, in all its shapes and forms.

It has been shown above that it is not Nilsonne's primary concern to promote her scientific research in her crime novels – not to her general readers, and even less so to the scientific community. In fact, she does not even believe that scientists and researchers are interested in the ideas presented in fiction and art.⁴⁴ Nevertheless, studies into the impact that ideas presented in science fiction have had on real scientific developments show that Nilsonne is wrong.⁴⁵ Scientists do consume fiction, and sometimes they are even inspired by the ideas they find there. In many cases science and fiction are, and probably always have been, mutually influential.⁴⁶

It is not, however, in communication with or between scientists that crime fiction might have the most important impact and function as popular science, but rather in the possibilities of fictional science influencing ordinary people. Readers of Swedish crime novels – and Nilsonne's novels in particular – are likely to develop a more negative attitude towards the scientific community, due to the repeated portrayals of it as an environment characterized by competitiveness and bad working conditions. That is, of course, if they encounter any science at all in the novels. Fortunately, however, Swedish crime novels probably constitute only a small part of the science-based crime fiction consumed by the Swedish public. Even if Swedish crime novels are immensely popular in Sweden, a significant proportion of the full range of crime fiction accessible to Swedes consists of novels in translation, as well as British and American television drama series and films.

Kerstin Bergman's "The Well-Adjusted Cops of the New Millennium: Neo-Romantic Tendencies in the Swedish Police Procedural" (2010, forthcoming).

41 Nilsonne quoted in Wilhelmson 2001b, p. 2842, my translation.

42 Allen.

43 Cf. for example Flicker p. 308, Steinke 2005 pp. 28–30, and Perkowitz p. 16.

44 Nordgren.

45 Cf. Poon, and the discussion in Bergman 2005.

46 Cf. Poon p.160.

How fiction can inspire scientists in their career choices was addressed at the beginning of this article, but that is not the only function that science in crime fiction might have for the reader. Science presented in fiction is often criticized for being inaccurate and misrepresented, or, indeed, for being pure science fiction.⁴⁷ Although these are often relevant observations, such digressions from “true science” are not necessarily all that damaging to crime fiction in terms of its ability to function as a medium of popular science. A prerequisite of popular science is that it is a simplified version of the real thing. This is essential if science is to reach a wider audience of non-specialists. In common definitions of popular science it is also often pointed out that “the information is made easily accessible by a simple and entertaining style, often characterized by an enthusiasm for the subject at hand. The popularization of science almost always requires that you aim to include the scientific content in a wider cultural context, so its relevance for world views, philosophy, everyday life, industrial applications, etc. is emphasized”.⁴⁸ An important characteristic of popular science is thus that the science is presented in an entertaining and appealing context. In light of this, crime fiction, being a popular fiction genre with the ability to depict people’s thoughts as well as their everyday lives, appears to be a perfect context for popular fiction. Even if learning about science is not the primary aim for most people reading or watching crime fiction, many consumers probably regard this as a positive side effect. Most people are interested in what is going on in the world around them, and science is part of that world. We crave “news from the world around us, but desire it in the form of narratives, stories that make meaning, however tenuous, dramatic, compelling, or paranoid they might be”.⁴⁹ An important function of the popularization of science is to make it part of a story that regular people can process, and right now, crime fiction appears to be one of the most popular and accessible story forms.

If the primary aim of popular science is thus to communicate science and scientific matters to non-scientists, what are the implications of inaccuracies, misrepresentations, and science fiction? Errors in the representation of science in fiction are often due to aesthetic considerations, particularly in visual media but also in literature. In television and film it is clear that visual elements of science and scientific processes are more likely to be portrayed than non-visual ones. Scientific elements might also be adapted to be more photogenic and look more interesting, and this may be one of the major sources of scientific error in today’s visual media, even though science consultants are widely used.⁵⁰ Although literature is less affected by such restraints of depiction, the author may have knowledge gaps and potential personal misunderstandings about science, and there are still aesthetic concerns at work.⁵¹ A novel like Kathy Reichs’ forensic science thriller *Devil Bones* (2008) contains extensive descriptions of scientific subdisciplines and processes. However, since these descriptions are generally not interwoven with a portrayal of the characters’ actual scientific endeavors, the sequences often resemble textbook passages. These segments in the novel are actually akin to sections on Reichs’ website, where she presents and explains similar concepts, also in the popular science format.⁵² So in the case of Reichs’ novel, science is not really integrated with the narrative, and a reader could probably skip over the science passages without missing out on any plot developments. On the other hand, a reader taking the time to read carefully will learn things, and since Reichs, just like her protagonist Dr. Temperance Brennan, is a forensic

47 Cf. for example Marc C. Glassy’s *The Biology of Science Fiction Cinema* (2001). In his discussion of each film, Glassy even includes a special section called “What Is Wrong with the Biological Science Presented”.

48 Eriksson, my translation.

49 Nichols p. ix.

50 Cf. Kirby pp. 231–68.

51 If not caught by an editor, the author’s individual shortcomings might have further-reaching consequences in literature than in film and television productions, as the latter rely more on a collective effort.

52 Reichs

anthropologist, the accuracy of the scientific descriptions is likely to be high even if the science is simplified in order to be popularized.

In a novel where the science is more integrated with the story, as in for example Dan Brown's (b. 1964) high-tech crime thriller *Digital Fortress* (1998), no reader can ignore it, and whether interested or not, most readers would probably learn something about science. Incorporating the science to a greater extent, however, might have consequences in terms of accuracy, and Brown's novel has received extensive criticism in this regard.⁵³ When the narrative is allowed to play first fiddle, both the number and character of the scientific elements can be affected. Only the most relevant aspects of science are included, and there will probably also be a limitation to the science that can be easily explained and depicted. Complex elements and processes would be more likely to compromise the flow of the narration, and are thus more likely to be left out. However, the reader of this kind of science-infused crime fiction is likely to develop a more positive attitude towards the science at hand, since it is needed to solve the mystery and thus represents an integral part of the novel. In Brown's case, he includes only a few technical details but keeps repeating them, thus creating a sense of positive recognition for the reader. Even readers encountering concepts such as "rotating clear text", "mutational strings", and "tracers" for the first time soon become familiar with their basic meaning, and are likely to feel that they have gained a new-found scientific knowledge.⁵⁴

On the other hand, the scientific content of some crime fiction should be regarded as science fiction, since the reader or viewer is presented with scientific methods and technologies that might be possible in the future, but that are still not available today. This kind of science is often being referred to when people talk about "fake" science presented in crime fiction. Indeed, in some trials in the US, jurors have been expecting to see the same kind of evidence as on *CSI*, not knowing that the science to provide such evidence does not yet exist, or is at least not yet in use. However, to the private individual, the question of whether the science portrayed in crime fiction is possible or only almost possible is probably less relevant. Much of the futuristic, high-tech science often depicted is not something anyone not personally involved in scientific research would ever come into contact with. More important than accuracy is the introduction to scientific thinking and methods that the reader gets through contemporary crime fiction containing scientific elements. This knowledge is applicable in life as well as when encountering other aspects of science, in fiction as well as in other popular science media; in journals, television documentaries, and news media. Perhaps this might be one of the most important functions of crime fiction as a contemporary medium of popular science.

53 Cf. for example Kasman et.al.

54 It should, however, be noted that in this case, science is also demonized in the novel, and not portrayed in a very positive way.

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