"How do you know all this crap?"

The representation of cognitive processes and knowledge in CSI: Crime Scene Investigation and Sherlock

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Abstract:
In contemporary crime drama there has been a shift of main character from the forensic scientist to the consultant. This put the representation of knowledge in a different light. In this study the focus is on how, and what kind of cognitive processes and knowledge are represented in two crime dramas with consultants as main characters; CSI: Crime Scene Investigation and Sherlock. Basing the analysis on concepts of cognitive processes and knowledge, it becomes evident that due to the shift in main character the representation of knowledge also has changed; from an institutionalized and science based view on knowledge to the legitimization of a personal, uncritical and fast way of gathering knowledge.

Keywords: Knowledge, Cognitive Processes, Sherlock, CSI: Crime Scene Investigation, Television Studies, Forensic Science, Crime Drama, Contemporary Television, Consultants.
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1. The Change and What Needs to be Done

There has been a recent change in the main characters of contemporary crime drama; from focusing on the police force - e.g. CHiPs (NBC, 1977-83), Miami Vice (NBC, 1984-89), NYPD Blue (ABC, 1993-2005) -, to portraying criminal forensics - e.g. the pathologists in Silent Witness (BBC One, 1996-) and Crossing Jordan (NBC, 2001-07). In 2000, CSI: Crime Scene Investigation (CBS, 2000-) - henceforth abbreviated as CSI – aired its first episode, differentiating itself from previous crime dramas by making a group of crime scene investigators into main characters.¹ CSI quickly became a success; in its second season the show was ranked the no. 2 crime drama in the US and two years later TV Guide reported that CSI had over 25 million American viewers.² Focusing on forensic science and making the crime scene investigators into main characters turned out to be such a hit that a lot of similar series followed and the CSI-franchise branched out with CSI: Miami (CBS, 2002-2012) and CSI: NY (CBS, 2004-2013). In the writing of this study, CSI: Cyber has just premiered.

This change of main characters in crime dramas has since then continued. In 2010, a new version of the well-known Victorian detective Sherlock Holmes was launched. Sherlock premiered on BBC and - just as CSI back in the days - became an immediate hit. During the first 10 years of the 21th century, when criminal forensic shows thrived on television, the crime-solving consultant was beginning to show up. As main character, the consultant can best be described by Sherlock Holmes himself, in the premiering episode A study in Pink (S01E01) of Sherlock, “It means when the police are out of their depth, which is always, they consult me”. The quote in the title of this study, “How do you know all this crap?”, is from the episode Cool Change (S01E02) of CSI and capture the question of the consultant’s purpose in the series. In CSI, team supervisor Gil Grissom answer the question with, “It’s our job to know stuff”.

Similar for both the crime scene investigators and the crime-solving consultants is that knowledge is an important part of their characteristic; it is what helps them catch criminals. Characters with knowledge are recurring in popular culture; often portrayed as teachers,

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professors or scientists.³ It is these characters that have been the focus for previous studies on television crime drama, but since the main character in many crime dramas have shifted from forensic scientists to consultants, scholars are not keeping up. This time of television history, when forensic scientists and consultants are both part of popular television shows, gives scholars a unique opportunity to study how knowledge is represented by these different main characters. This study will fill the gap between studies on the well-known forensic scientist and the new - unexplored - consultant character.

Even if the consultants mostly are portrayed as better – more knowing - than the law enforcement, they often work together with Police Detectives, Scotland Yard or the FBI who makes sure that the proper protocols are complied. In these fictional crime dramas, the consultant is the brain and the law enforcer is the muscle. Different television series with consultants as main characters - which I will refer to as belonging in the consultant-genre - has developed quickly. Today there are a number of shows where a consultant aids the law enforcement, e.g. Bones (Fox, 2005-), Elementary (CBS, 2012-), Perception (TNT, 2012 -), The Blacklist (NBC, 2013-), Hannibal (NBC, 2013-), Castle (ABC, 2009-) and White Collar (Fox, 2009-).

The consultant characters day job often differ between a ranges of different professions. But it is often a profession valuable to the police and the characters are therefore asked to help solve cases. These consultants are very knowledgeable and often experts in their respective field. The crime scene investigators in CSI work for the law enforcement to help gather and examine evidence from crime scenes. In Holmes case he helps the police whether they want him to or not. The interesting thing within this consultant genre is the fact that the police need to seek help from outside of the department. For years, the police-force and forensic teams was capable to solve crime on their own, and now they are often - to quote Sherlock Holmes again - “out of their depth.”

The focus in crime dramas has shifted from the seemingly easy police work, to consider knowledge an important characteristic. Since the consultant characters are hired for their expertise, questions arise about what kind of knowledge that is represented, and how it is

presented to the audience by the characters. An important consideration is that the consultant’s way to gather knowledge is the reason why they help the police and by doing so they are represented as more knowledgeable than the law enforcement. In this study, I use cognitive processes to explain how knowledge is gathered and used by the characters. A cognitive process is how information is obtained, processed and used. David Dunér, Professor in History of Science and Ideas, explains the science of cognition as, “It is about perception, attention, memory, learning, awareness and other things that we include in what is usually called ‘thinking’”\(^4\). Since I am looking at how knowledge is gathered, cognitive processes becomes an important part of my theory. I am using the term knowledge when referring to the information that the consultants have gathered by the cognitive processes i.e. the cognitive process is the action while knowledge is the result of that action.

Television is an important medium to study since the representation of fictional images suggests to the television audience what they should value and expect from their lives. This makes is interesting to understand how cognitive processes is represented.\(^5\) In scripted television, the way to show characters expertise is well reconsidered by scriptwriters and producers, making for an even more interesting analysis. By this I mean that by writing knowing characters, the scriptwriter’s have been taking deliberate decisions on how to represent cognitive processes and what kind of knowledge that the characters obtain. It has been suggested that the television audience learn values, priority, and what to aspire for from the characterization in media content.\(^6\) In these cases television helps to construct and maintain social norms and values.\(^7\) Murray Smith writes in *Engaging Characters – fiction, emotion and cinema* (1995) that the viewer’s practices and ideologies are influenced by character structures.\(^8\) Based on these ideas, analyzing what kind of knowledge that is represented, and how it is being used by the characters, may tell us something about the role of knowledge in today’s society or at least in popular culture.

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\(^6\) Kahlenberg, S, (2008), 109


The characters in *CSI* are not traditionally considered as consultants, but they are in fact consulting the law enforcement with a scientific perspective when solving crimes. In *Sherlock*, Sherlock Holmes works for the police as a self-appointed consultant detective. In her doctoral thesis *A Post-Genomic Forensic Crime Drama: CSI: Crime Scene Investigation as Cultural Forum on Science* (2012), Sofia Bull mentions the similarities of *CSI* and *Sherlock*; one critic wrote - when the series premiered - that the criminalists of *CSI* were modern day Sherlock Holmes. The premises in *Sherlock*, Bull argues, is full of visual and narrative focus on technological equipment. This reminds her of the, “... stylised display of scientific technology that has characterised most forensic dramas of the last 10 years.” She explains that Holmes questions the effectiveness and toolbox of modern day science and technology in order to be recognized as a superior crime-solver in today's tech savvy society. It is Holmes pure observation skills and his ability to interpret evidence without the use of technological aids i.e. his brain power that distinguish Holmes from previous criminalists. Bull writes that Sherlock Holmes, “... becomes a post-forensic detective, a reflexively constructed figure that both acknowledge and overthrows the prevalent assumption that forensic crime dramas use the figure of the criminalist to celebrate, and instil trust in, technoscientific tools and practise.” I am going to develop these thoughts as I analyze Holmes from this “post-forensic” in order to see if Holmes way to gather and use knowledge is different from the team in *CSI*. In contrast to Bull, who focus on the representation of science in *CSI*, I am comparing the crime scene investigators with these new characters, the consultants. I am also focusing on the more abstract concept of knowledge rather than just science. There are some distinct differences between *CSI* and *Sherlock* which makes for an interesting study. After a quick look one can notice that science and technology are very prominent in *CSI* while in *Sherlock* not so much. The cast of *CSI* is part of the law enforcement while Holmes is not, he only cooperated with them when asked to help or when he finds something intriguing. The crime scene investigators in *CSI* work as a team with different knowledge areas, Holmes work with Watson as sole companion.

Not only has the main characters in crime drama changed, but due to the internet, the context and concept of knowledge in today’s society is changing. Nowadays, if you want to

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9 Bull, S, (2012), 11
know something or share information, you can go online. The fast development of media in the west has given television programs, letters, blogs and commercials an increased empirical value. The American Technologist David Weinberger explains that, “Now we are providing the public not just with an education and a local library but with one-click access to a near-infinity of works of knowledge and culture.” In this era of unlimited knowledge, it becomes interesting to understand how knowledge is gathered, represented and used in television and if there is a shift going on. I will use the term cognitive process when explaining my theory, I am using the term knowledge as what the character can obtain through cognitive processes. How the characters come to have that knowledge, how it is used and how those cognitive processes are represented in the media are the focus for my study. The change in knowing characters from scientists to consultants makes crime dramas worth careful attention from today’s scholars. I will now present how knowledge has previously been represented in fictional television before presenting theory, method and then analysis.

1.1 Knowledge in Television

Stories about cognitive function and the connection between brain and mind are frequently used in media. In their book Cognition: from memory to creativity (2013) Robert W. Weisberg and Lauretta M. Revees give examples of movies about lost memory (Memento, 2000) implanted memories (Total Recall, 1990, Inception, 2010) and intelligence (The Bell Curve, 1994). As this is not relevant for my analysis, I am going to present the previous academic work on knowledge in scripted television

A key book on the representation of knowledge in fictional television is the anthology Common Sense - Intelligence as presented in popular television (2008) edited by Lisa Holderman. The anthology consists of 12 essays examining the constructions of intelligence in popular television as well as the sociocultural implications of these constructions. One

13 Weinberger, D, (2011), Too big to know: rethinking knowledge now that the facts aren't the facts, experts are everywhere, and the smartest person in the room is the room, Basic Books, New York, 179
example of other interesting work on knowing characters in fictional television is the article *Representation of female scientists in The Big Bang Theory* (2014) by Heather McIntosh. The article explore the representation of female scientists in sit-com through professional roles, gender roles and intelligence.  

Other previous literature concerning knowledge in television has mainly focused on the representation and credibility of experts and authority in news shows and debates i.e. non-fictional programs.

Holderman claims that smartness often is portrayed as multi-layered and that there are a wide range of characters displaying intelligence with different personalities. They cannot be reduced to one singular stereotype. This range is apparent in the consultant genre where the consultants have different personalities and come from different backgrounds; from the super rational, emotionally distant and highly intelligent forensic anthologist Temperance Brennan in *Bones* (Fox, 2005-), to the quirky, immature, best-selling crime novelist Richard Castle in *Castle* (ABC, 2009-). Despite their differences they are both highly knowledgeable in respective field and are able help the law enforcement with their expert knowledge.

Svetlana Bochman writes in her essay *Detecting the Technocratic Detective* (2008), that extremely intelligent characters, specifically those who are highly adept technologically, “... have usually been shown as ‘freaks’ in popular culture, film and television.” Intelligent characters in media are often described as life’s losers and are placed on the other side of a spectrum, away from beauty, gracefulness, sexiness, happiness and life-success. The stereotypical intellectuals are often portrayed in a negative or sarcastic way. An example of this is the television comedy *The Big Bang Theory* (CBS, 2007- ), where a group of highly educated young men – for example an aerospace engineer - are portrayed as social misfits who are incapable to interact with “normal” people. The main characters are considered

17 Holderman, L, (2008), 1
smart but awkward nerds, and their attractive girl neighbour is portrayed as rather stupid; a
distinctive example of smart being an opposite of sexy. This position may however be
changing, as I am writing more about on the next page.

The article by Mcintosh mentioned earlier is particularly interesting when considering
knowing characters as misfits, since she investigates the representation of female scientists,

Overall, neither Amy nor Bernadette are accepted just as intelligent, successful women by the group.
Instead, their intelligence is not a feature that defines these characters for themselves, but instead
functions as a means to attract and maintain the attention of their men.  

According to Mcintosh there are few representations of female scientists in comedy and
other media. Here, female scientists are present but introduced as the love interest to male
scientists. Women are represented as naïve experts who would make contributions to
science if their emotions would not get in their way. In the article, women are represented
as smart and successful but cannot go all the way since they need to focus on their
relationship with men. Even though they use their knowledge in a given context, they both
work in areas that they are educated in, they still cannot show off of their knowledge fully since
that would be intimidating to the men in their lives. Based in this, it would make for an
interesting study to see how consulting women are represented, but that is another paper.

If we go back to Holderman, she and Thomas reason that the only time knowledge is
recognized without mockery in modern television is when it is applied to mundane ends, as
in crime dramas. They use the TV-series *Numb3rs* (CBS, 2005-10) as an example; the series
centres around two brothers, an FBI agent and a professor of mathematics who consults the
FBI. Together they solves crimes. The intelligence of the professor is limited to the
understandable effects of solving crimes, and never spills over to other areas of life. A
pattern seems to arise here; even though the main characters of *The Big Bang Theory* have
prestigious jobs - physicists, aerospace engineer and astrophysicists - most of the series
unfolds at home, where their knowledge is superfluous. The mathematics professor in
*Numb3rs*, on the other hand, use his knowledge in a given context, where his knowledge is

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21 Mcintosh, H, (2014)
22 Mcintosh, H, (2014)
23 Thomas, S & Holderman, L, (2008), 29
useful. Science, such as advanced math, forensics and anthropology is useful only when it is understandable for the audience.

In her text *Making the transition – The Modern Adaptation and Recreation of the Scientist Detective Hero* (2012), Ana E. La Paz describes intelligent characters as following, “Audiences idolize them, live through them, believe in them, and recreate them. They need such heroes who can solve any problem or resolve any mystery, no matter how difficult or impossible it seems.”

She is actually referring to Sherlock Holmes, a person who uses his knowledge in a specific context; to solve crimes. In recent years, there has been an increasing trend of the knowing character in television and with fans. One distinct example of this is the fact that Benedict Cumberbatch - since first appearing as Sherlock Holmes in 2010 - became nr. 1 on the list “100 sexiest movie stars” in 2013 and have appeared on numerous, similar lists. La Paz explains the attraction of the knowing character, “… intellect and ability, in combination with some kindness, are the very highest attributes that humans strive to achieve.”

As the examples above, the main focus when studying knowledge in television have been on the traits of the knowing characters and how they are perceived by the audience. What differs this study from previous academic work is that I concentrate my analysis on how characters represent the cognitive processes themselves; how they gather, use, and represent knowledge. What I mean by this is that this study is looking at how characters show the cognitive processes by which they obtain knowledge rather than on the characterizations of knowing characters or how the audience perceive them. My focus will be on how characters represent knowledge, recognizing different ways to gather knowledge and how the two series relate to each other when knowledge is used.

Knowledge and cognition are here, thus, narrative traits in the television series, and my interest is in how they are used to portray a viable scripted character.

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26 La Paz, A.E, (2012), 81
1.2 Questions That Need Answers

In this comparative analysis of two contemporary crime dramas; *Sherlock* and *CSI* the focus is on how cognitive processes are represented and how knowledge is used by the main characters. This enables me to recognize if there are any difference in how knowledge is gained and used. The questions I am interested in answering are; How do characters gain knowledge? How knowledge is used in a crime solving context? And how are these cognitive processes represented?

By learning about what kind of cognitive processes are represented and how knowledge is obtained, this study can be used as a prelude to further research on the representation of the knowledgeable characters’ - for example - gender, ethnicity and class, and how the context of knowledge is changing. This can be considered a feasibility study for further research in knowledge representation, media studies, science and technology studies and history of ideas.
1.3 Disposition

The following two chapters are the method and theory chapters that together provide the backbone for this study. In the method chapter I am giving an explanation to how the analysis is conducted and in the theory chapter, I give a short introduction to the terms of cognitive processes I look for in this study. The background chapter serve the reader as a guide to how my study can be placed in an academic field of television studies and give the reader essential knowledge about television studies, the crime drama genre and the consultant detective genre. I continue by presenting the two series I am analyzing; *Sherlock* and *CSI*. The analysis chapter begins with an introduction to both series to put the further analysis in a context. In the introduction I am analyzing the first episode of *Sherlock* and the five first episodes of *CSI* in order to familiarize the reader with the series. It then continues with the remaining episodes of *Sherlock* and the episodes from season 13 of *CSI*. The final chapter summarizes my findings and expand my analysis in order to open up for further research.
2. A Short Introduction to Cognitive Processes

In this chapter, I am explaining the concepts I use as tools to interpret the empirical material in my analysis. In this study, I am using the term cognitive process when explaining what I look for. Knowledge is a very complex term and I do not want to get all philosophical about it. So for this study, the term cognitive process is used when explaining different ways to gather knowledge. The emphasis of cognitive psychology is mental processes, for example memory, perceptual processes, attention etc.

Cognitive processes are active processes and the individual plays an important role. In the series I analyze, the characters are making active processes in order to show the audience how they are gathering knowledge. It becomes important to study how knowledge is represented in television since television is representational and helps to construct and maintain social norms and values.

I have chosen a number of different cognitive processes that are relevant for my analysis; perception, justification, rationality, scientific knowledge and abductive reasoning. Some of these terms contradict each other but since these are just tools for my analysis, that is not relevant. I am not going to offer a philosophical discussion about the contradictions and systematics of knowledge. Keep in mind that these are just tools. Since this is a paper in the field of television studies and not epistemology I am going to - at least try to - keep it simple.

In order to facilitate for the reader, I am using clarifying examples from two textbooks; Duncan Pritchard’s *What is this thing called knowledge?* (2013) and Dan O’Brien’s *An introduction to the theory of knowledge* (2006).

2.1 Perception

As I wrote in the introduction, perception is one of many cognitive processes and one of the most predominant, and commonly used way to gather knowledge. It entails acquiring information about the world by using our senses, for example; sight, hearing, touch, smell and taste. Michael Welbourne, author of the book *Knowledge* (2001), on perception, “... we obviously rely on it for much of our information about the world.” Since this is such an obvious way to gather knowledge, it cannot be overlooked in the analysis, even if it seems

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27 Weisberg, R.W, Reeves, L.M, (2013), 5
28 Weisberg, R.W, Reeves, L.M, (2013), 39
29 Allen, R.C & Hill, A, (2004), 368
trivial. In order to understand the world, we must possess concepts; ways of representing and thinking about the world. O’Brien gives an examples, “Looking out of my study window, I see that it is raining. My perception represent the world as being like that ... In this case I require the concept RAIN.” Weisberg and Reeves have a similar example; “… one important part of possessing the concept of a dog is the ability to recognize dogs (visual pattern recognition), and to retrieve an image of a favorite dog from your childhood (memory and mental imagery).” [sic]

Interpretation is also important when gaining knowledge from perception; to interpret the world based on impressions of the world. Weisberg and Reeves claims that your knowledge of something play an important role in your recognition of its parts. One problem with perception is that appearance can be deceptive. It is therefore important to refine ones responses to ones sensory experiences and take into account that there may be something altering the perception. This is when perception becomes interesting for the analysis; is there any differences in how the characters perceive and interpret their world, and how do they handle deceptive appearance?

2.2 Justification

According to Welbourne, “Justified certainty, along with truth, has, it seems, become the touchstone of knowledge.” However, to just believe something that turns out to be true, is not the same as having knowledge. Believing in something to be right and it ends up being right can happen by accident, while knowledge is creditable to a person. Since knowledge is based on true belief, there must be some justification for ones beliefs. German-American Philosopher Nicholas Rescher writes that “Various epistemologists have sought to characterise knowledge as true justified belief.” Pritchard uses a foundationalist claim as he resembles ones belief with a house where justification is the foundation. If the belief is not justified - like a house without foundation - it falls down. O’Brien presents the

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32 Weisberg, R.W, Reeves, L.M, (2013), 23
33 Rescher, N., (2003), Epistemology: An Introduction to the Theory of Knowledge, State University of New York Press, Available at: LiUB Library Catalogue [7 march 2015], 86
34 Welbourne, M, (2001), 39
35 Welbourne, M, (2001), vii
36 Welbourne, M, (2001), 3
37 Pritchard, D, (2013), What is this thing called knowledge? 3. ed. London: Routledge, 32
coherentist theory as an alternative resemblance to Pritchard’s house foundation. Here, the belief system resembles a raft floating at sea were the structure can keep itself afloat as a result of how the planks are mashed together rather than relying on certain key foundational planks. O’Brien about belief and justification,

Once we have learnt the concepts of KNOWLEDGE, BELIEF and JUSTIFICATION we do not actually have to experience the imagined situation in order to determine whether they involve the acquisition of knowledge; we can simply intuit whether or not it is so.

The justification can come from science textbooks or experts in the field, as in the case of scientific knowledge. A problem with justifying ones belief is the question of what grounds these supporting beliefs. Take for example science textbooks and experts, where do they get justification from? Pritchard, “The trouble is, of course, whatever grounds I offer in favour of my belief that I can trust what science textbooks tell me will be itself a further belief that stands in need of support, and so a regress looms.”

2.3 Rationality

Connected with justification is rationality, as it is often understood that a rational belief is a justified one, and vice versa. Here rationality could be considered a justification. People are often praised for their rationality while irrationality is criticized. Pritchard clarifies with an example,

If you believe that a defendant is guilty because of the colour of her skin, rather than because of the evidence, then even if this belief is true it won’t count as a case of knowledge, and one natural explanation for this is that the belief in question is irrational and irrational beliefs don’t count as knowledge.

Pritchard gives an example of this in the difference between two judges, one that forms her judgment based on evaluating evidence and an objective manner and another judge who decides the verdict by tossing coins. We would not count the coin-tossing judge as rational even though she may end up with the same verdict as the rational judge. It all comes down to what method they are using to gather their knowledge. The coin-tossing method is not

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38 O’Brien, D, (2006), 77
39 O’Brien, D, (2006), 11
40 Pritchard, D, (2013), 32
41 Rescher, N, (2003), 3
42 Pritchard, D, (2013), 32
43 Pritchard, D, (2013), 42
likely to lead to the truth and is thus not rational. As I wrote in the introduction, CSI is famous for its use of science and technology while Holmes in Sherlock primarily use brainpower and intuition. This makes for an interesting study in what justifies their beliefs and what is considered rational.

One form of rationality is aimed at the goal of true belief. A way of understanding this goal is to see it as maximizing our true belief - believe as many truths as possible, know as much as possible. The problem with maximizing true belief is that memorizing all the names and addresses from a phone book may lead to a lot of true beliefs - a lot of knowledge - but these true beliefs would not be of any consequence. This sort of truth seeking behaviour can instead be considered as irrational since there is not obvious use for knowing all the names in the phonebook. Weisberg and Reeves states that the functional approach of cognitive processes assumes that there is an underlying logic for why a particular skill is accomplished.

In the time of internet, maximising true belief becomes easy considering the amount of information that is available to us. Weinberger writes about knowledge today, “Rather than knowing-by-reducing to what fits in a library or a scientific journal, we are now knowing-by-including every draft of every idea in vast, loosely connected webs.” In the 1970’s, Alvin Toffler introduced the idea of information overload in his book Future Shock. Back then, information overload was a psychological syndrome causing confusion, irrationality and demotivation. Today information overload is more of a cultural phenomenon; a fear that we are not getting enough of the information that we need.

The coin-tossing judge and the person learning the phonebook have one thing in common; they cannot utilize their knowledge. The coin-tossing judge can never know what her next verdict will be, and the person learning the phonebook is - plausibly - never going to have any use for knowing all those numbers. The importance of being able to utilize knowledge

44 Pritchard, D, (2013), 42 ff.
45 Weisberg, R.W, Reeves, L.M, (2013), 40
46 Weinberger, D, (2011), 5
and use it to serve ourselves is thought as vital.\textsuperscript{48} Consider the paragraph about \textit{Numb3ers} and \textit{The Big Bang Theory}.\textsuperscript{49}

\subsection*{2.4 Scientific Knowledge}

Today, individuals can become legitimated through a university system and are thereby useful in society based on their acquired knowledge.\textsuperscript{50} Knowledge becomes legitimated through a system of expertise rather than personal experience. As Allen and Hill writes, “We routinely entrust our health and safety to people we’ve never met (airline pilots, doctors, engineers) not because we trust them but because we trust the system of expertise they represent.”\textsuperscript{51} (Italic in original text) Katherine Ramsland, Associated Professor in Forensic Psychology, claims that science is knowledge gained from observation, grounded by deduction from physical laws, and proven with experimentation.\textsuperscript{52} Knowledge produced through experience can be called testimonial knowledge and according to some philosophers, testimony is simply telling someone what is what.\textsuperscript{53} Here, beliefs are justified by being told by others that a claim is true. This kind of knowledge can be communicated through language in form of, for example, lectures and textbooks.\textsuperscript{54} The fact that we acquire knowledge about objects indirectly, through education, plays a role in how we categorize and organize objects.\textsuperscript{55} The characters I am analyzing have different educations, could this be reflected in how they categorize and organize the evidence?

Welbourne claims that we tend to believe knowledge via testimonial interference since experience has accustomed us into doing so. This could be an answer to the question I asked earlier about the justification of textbooks and experts; justification comes from our experience that experts and textbooks are right. Welbourne, “We learn from experience that testimonies correlate well with how things actually are. This is why we get into the business of learning from testimony in the first place.”\textsuperscript{56} To conclude; learn by being told by others

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{48} Pritchard, D, (2013), 47
\item \textsuperscript{49} See page 7 for example on the importance of utilizing ones knowledge in said series.
\item \textsuperscript{50} Hörnqvist, M, (2012), \textit{En annan Foucault: maktens problematik}, Carlsson: Stockholm, 104
\item \textsuperscript{51} Allen, R.C. & Hill, A, (2004), 369
\item \textsuperscript{52} Ramsland, K, (2001) \textit{The Forensic science of CSI}. The Berkley publishing group, New York, 124
\item \textsuperscript{53} Welbourne, M, (2001), 74
\item \textsuperscript{54} Bohlin, H, (2009), \textit{Tyst Kunskap: ett mångtydligt begrepp, Vad är praktisk kunskap?} Alsterdal, L, Bornemark, J & Svenaeus, F (ed.), 55-84, Södertörns högskola: Huddinge, 58
\item \textsuperscript{55} Weisberg, R.W, Reeves, L,M, (2013), 362
\item \textsuperscript{56} Welbourne, M, (2001), 84 ff.
\end{itemize}
\end{footnotesize}
what is right is called testimonial knowledge and is considered an extremely important source of belief.

As one must rely on the testimony of fellow works just as much as one’s own observations, collaboration has become an important aspect of modern science. The dictionary definition of science, explains science as a body of knowledge organised in a systematic manner. While scientific and technological knowledge has an elevated social role tied to superior attributes, everyday knowledge is considered shallow, unreflective and false. In the book Knowledge: critical concepts (2005), Stehr and Grundmann consider that the only way for everyday knowledge to get ennobled is if, or when, it is used in a scientific context.

2.5 Scientific Knowledge Today

The role of scientific knowledge in today’s society is complex. Via the institutionalization of scientific knowledge, a hierarchy of knowledge has been created. Weinberg claims that the strength of traditional institutions, are also their weakness since - although they bring knowers together - very few make the cut. These isolated science institutions create isolated thoughts, and tends to become so called “echo chambers.” Benner and Widman explains a hierarchy of knowledge, “A scientific attitude is the highest ideal, it is instilled in us as children and it characterizes the approach to everything.” (Authors translation) This depiction of scientists as problem solvers are not new, though it has been criticised by scientist with the argument that this kind of representation, “... imply that scientists are the truths’ ultimate custodians.” This can be connected to the problem of the CSI-effect, which is explained further down.

In his book Too big to know: rethinking knowledge now that the facts aren’t the facts, experts are everywhere, and the smartest person in the room is the room (2011) Weinberg describes how the lines between professionals and amateurs have become smudged due to the internet. He claims that there are now more contributors and more and messier

59 Weinberger, D, (2011), 189
62 See page 36
relationships between the social and the institutional.\textsuperscript{63} The amount of knowledge available has grown, and it is much easier obtained than previously due to the internet.\textsuperscript{64} Weinberg does however consider that the gated communities of science to still exist, the exclusive journals still being exclusive and the academic science departments still taking credentials very seriously.\textsuperscript{65} These different views on knowledge - a high ideal and/or available to everyone - makes for an interesting analysis, to see if - and how - these views are represented.

2.6 Abductive reasoning
Abductive reasoning - also called abductive inference - is based on a single observed phenomenon explained by connecting premises and previous experience. By most people, abductive inference can be conceived as a general rule or simply just how, “... things can normally be expected to go in a familiar kind of situation.”\textsuperscript{66} Pritchard gives the example of seeing a pair of feet under the curtain and therefore presume that there is a person behind that curtain. This style of reasoning is often called inference to the best explanation as it centres on observing a single phenomenon and figuring out the best explanation for that phenomenon. In order to use reason to the best explanation, you need to base your reasoning on given facts i.e. previous knowledge.\textsuperscript{67} Previous knowledge is an important part of cognition, Weisberg gives the example of how much easier it is to read texts within your major field of study than outside your major.\textsuperscript{68}

Abductive reasoning is close to two other cognitive processes; inductive argument and deductive argument. When using abductive reasoning, it is implausible that the premises are true and the conclusion false. Inductive argument have premises that claimed to support the conclusions in such a way that it is improbable for the premises to be true and the conclusions to be false. In deductive argument, the premises support the conclusions in such a way that it is impossible for the premises to be true and the conclusion false. In his book \textit{Abductive reasoning} (2013), Douglas Walton calls the abductive type of inference the

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\textsuperscript{63} Weinberger, D, (2011), 131
\textsuperscript{64} Welbourne, M, (2001), 70
\textsuperscript{65} Weinberger, D, (2011), 136
\textsuperscript{67} Walton, D, (2013), 1 ff.
\textsuperscript{68} Weisberg, R.W, Reeves, L.M, (2013), 362
weakest of the three, “A conclusion drawn by abductive interference is an intelligent
guess.” He continues to argue that even though it is an intelligent guess, it is still a guess
based on the incompetent body of evidence it relies on. As new evidence comes in, the
guess can be revealed as wrong.

When it comes to evidence, Weisberg presents two sorts of situations that should be
considered when evaluating evidence. First is the situation in which people rely on their
beliefs to a degree which makes new evidence difficult to accept or use accurately; “One
eexample of this is when people make judgments based on similarity to previous experiences,
rather than on the objective evidence.” The second situation is when people have
incomplete evidence, not pointing to a definite conclusion. In these cases, when evidence
indicated that one outcome is more probable than another, the person has to perform
statistical reasoning. According to Weisberg, most people are not adept at statistical
reasoning.

I have now presented the concept of I am looking for in my analysis. By using these I can
determine how knowledge is represented by using these concepts, how they are used, and if
the main characters use different concepts.

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69 Walton, D, (2013), 3
70 Weisberg, R.W, Reeves, L.M, (2013), 746
71 Weisberg, R.W, Reeves, L.M, (2013), 746
3. Close Reading

I am starting this chapter by presenting the two methods I analyse my material with and then continue by explaining how I focussed and selected my material.

3.1 Content Analysis

One of the methods I use in order to interpret my material is content analysis. A usual starting-point in content analysis is to define categories and then code the text based on them. My text is analyzed by the presence and frequency of the concepts mentioned in the theory chapter. I have organized the material of my analysis under subheads in order to ease the reading of the analysis. The subheads are formed by the presence and frequency of different concepts that are recurring in the material.

Bonnie S. Brenner, Professor in Journalism, acknowledge the importance of a theoretical framework when performing a content analysis. She points out that the theory used is central to the process of interpretation, suggest key issues and witch questions to address. My key questions have originated from the theory used and concentrates on recognising how cognitive processes are represented. According to Seale and Tonkiss text *Content and Comparative Keyword Analysis* (2012), the categories may be known by the researcher before the analyze or based on an initial reading of the text. Since I am a devote viewer of the series and had watched the series before I started writing this study, I had pretty good idea what to look for in the material. As I carried out my analysis, I was able to more distinct define the concepts of my theory.

The strength of content analysis is that one can make a clear and systematic study of textual content in order to support the analysis. Content analysis is often made on a large scale material but I think that it can be applied on this study since I am searching my material for certain, specific concepts. Seale and Tonkiss explains how content analysis adopts a fairly standard model of research design, “Having formulated a research topic, the researcher defines the relevant population of interest and then draws an appropriate

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sample from it”. In this study however, there will be a sample of texts rather than a sample of people.

Content analysis is not just about counting how often something appear in a text, it should also involve an effort to understand issues of meaning and context. This is often achieved by combining contents analysis with other methods that can provide a framework for the more interpretive analysis of the text. I am using close reading in order to be able to make a more revealing analysis of the text.

3.2 Close Reading
Close reading is based on the idea that by considering the words, concepts, themes, ideas and issues that resides in texts one can see traces of a socially constructed reality. As a qualitative researcher, one examines if, and how, social practices, assumptions and representations is revealed in texts, in this study how cognitive processes are represented in contemporary crime drama. Brennen explains how textual analysis is done, “… we evaluate the many meanings found in texts and we try to understand how written, visual and spoken language helps us to create our social realities.” I am considering both the dialogue and the visual when analyzing my material.

In the book Researching society and culture (2012), Suki Ali clarifies that text includes more than just words and gives examples of images and clothes, “All of these things both reflect social processes and help construct perceptions of the social and cultural world”. Dialogue is important to analyze since it is one of the most common ways to convey information to the audience and to other character, it is also used to create distinctive personalities. In my analysis I use dialogue when giving examples of representation of cognitive processes rather than using screen-shots. I have found that the dialogue seem to particularly reflect the character’s various knowledge positions. As I mentioned before,

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74 Seale & Tonkiss (2012), 460
75 Seale, C & Tonkiss, F (2012) 464
76 Brennen, B, (2013), 193 ff
78 Berger, A.A (1996), Narratives in popular culture, media and everyday life: Thousand Oaks, Calif.: Sage, 48
the analysis and theory have been developed in conjunction, and this way of redesigning
theory and method is a well-known tendency in qualitative research.79

Textually have become re-engage to scholarly works and the numbers of books analyzing
and in other ways focusing on individual television shows have increased.80 The current
trend in how audience watch television – with binge-watching as a prime example - and
an easy access to television content, series makes previous criticism on textual analysis
argue that television’s information is ephemeral because the audience cannot go back
over material the same way a reader of a book can glance back over the page.81 Today,
glancing back over the page is possible as television series are released on DVD/Blue-ray
and are often available for streaming. Bull explains the increase in close readings of
individual programmes by the increased availability of television series. The development
in digital technologies has made television shows easily accessible for scholars, and
readers. It has also made an impact on the way the audience watch television, with a
more repeated and concentrated viewing.82

The series I analyze have been released on DVD/Blue-ray after being aired on television,
and *Sherlock* is available for streaming on Swedish Netflix. Both series have a strong fan
base, something I write more about further down in the chapters about each series. Fans
of the shows often watch the same episodes multiple times and take a lot of interest in
the characters. Hills and Luther claim that today’s television fans, “… become focused on
critical but pleasurable analyses of … television texts, with fans adopting scholar-like
strategies of close reading and detailed textual exegesis.”83 This quote makes me sure

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research*, Aldine Transaction (a division of Transaction Publishers), New Brunswick: N.J, 101
80 See for example: Stoy, J and Kaveney, R (ed.)(2011), *Nip/Tuc – television that gets under your skin*, Edgerton,
(ed.)(2006), *Reading Desperate Housewives: Beyond The White Picket Fence*
82 Bull, S, (2012), 41
83 Hills M, & Luther A, (2007), Investigating CSI television fandom: Fans’ textual paths through the franchise,
about my choice of method. If fans of the shows have adopted close reading then it is natural that I use the same method as them since I am trying to see what they see.

Binge-watching is a distinct example of how the audience watch series in a concentrated manner. In an online-survey made for Netflix, 61% of viewers binge-watched regularly; watching 2-3 episodes in a row at least every few weeks. 76% of viewers considered watching multiple episodes a welcomed refugee from their ordinary life.\textsuperscript{84}

I have chosen series that has been broadcasted on Swedish television and that are available to buy on DVD/Blue-ray or can be watched on streaming sites. Even though the series originates from USA- \textit{CSI}- and UK - \textit{Sherlock}, television series today are purchased by television channels and released on DVD and streaming sites around the world which make country of origin less relevant for viewers.

The two series also differs in structure, \textit{CSI} have approximately 20 episodes á 40 minutes-per season while \textit{Sherlock} have 90-minute episodes with 3 episodes per season. Since there is a lot of empiric material, and there is a big difference in aired time between \textit{CSI} and \textit{Sherlock}, I have chosen a few episodes from each series, making the empiric material more equal. I am focusing on season 13 of \textit{CSI} since it was aired 2012-2013 to match the time period when \textit{Sherlock} was aired; 2010-2013. The episodes I am analyzing are, from \textit{Sherlock}; \textit{A Study in Pink} (S01E01), \textit{The Great Game} (S01E03), \textit{The Hounds of Baskerville} (S02E02), \textit{The Empty Hearse} (S03E01), \textit{His Last Vow} (S03E03), \textit{The Blind Baker} (S01E02) and from \textit{CSI}; \textit{Pilot} (S01E01), \textit{Cool Change} (S01E02), \textit{Crate and Burial} (S01E03), \textit{Wild Flower} (S13E03), \textit{Pick and Roll} (S13E06), \textit{Fallen Angels} (S13E07), \textit{Risky Business Class} (S13E10), \textit{Dead Air} (S13E11), \textit{In Vino Veritas} (S13E13), \textit{Sheltered} (S13E18), \textit{Ghost of the past} (S13E21) and \textit{Skin in the game} (S13E22).

Since I am a crime drama junkie, I had already watched every episode of both series, so I already had quite a proper overview. I have been choosing episodes containing prominent examples relevant for this study. In order to present how cognitive processes was represented in the series when they first started airing, I am analyzing the first three episodes of the first season of \textit{CSI} and the first episode of \textit{Sherlock} in a separate introduction.

\textsuperscript{84} Netflix, Inc. (2013), \textit{Netflix declares Bing-Watching the new normal: Study Finds 73% of TV streamers feels good about it}. Netflix, https://pr.netflix.com/WebClient/getNewsSummary.do?newsId=496, (March 27\textsuperscript{th}, 2015)
to the analysis chapter, placed just before the analysis. I have identified different scenes where the main characters use cognitive processes i.e. gather knowledge, talk about knowledge or use their knowledge in some sense. After localizing the material, I categorized it based on the different terms of cognitive processes I present in the theoretical chapter; perception, justification, rationality, scientific knowledge and abductive reasoning. During the analyzing process, I constantly re-watched certain scenes to make this an as accurate analysis as possible. As I am using dialogue as examples in the analysis, I have been reading fan-written quotes and transcripts from episodes. This was very helpful since I did not have to watch an entire episode when questioning what the characters said in a particular scene.\textsuperscript{85} This is also an example of the dedication fans have for the series. The user Adriane DeVere on Live Journal have been making complete and - to my knowledge - correct transcripts of every episode of \textit{Sherlock}, thus being - rightfully - praised by other fans for her dedication. After categorizing the episodes based on terms of cognitive processes, I recognised similarities and differences between the series that I present in the analysis chapter. But first I will put this study in a context by present television studies as an academic field.

4. What Has Been Done

4.1 Television studies

The so-called “death of television” that experts predicted would take place in the mid-2000s’, was quickly regarded as irrelevant. There were speculations about how the audience would relocate their seven hours a day spent in front of the television and instead starting to focus on new media; facebook, twitter, texting and online videos. As we all know, television is still alive and prosper, the only thing changing are the forms of distribution. In the year 2010, Toby Miller wrote that television was more popular than ever and two years later television scholars Jonathan Grey and Amanda D. Lotz wrote that television was one of the most well-known mediums, and only seemed to be growing in popularity. Today, the consumption of television is no longer tied to a specific device or schedule, now television can be watched on a tablet or on your phone. Streaming sites provides viewers with the opportunity to watch entire seasons at once without commercial breaks, making television series available anywhere, anytime.

Modern television studies emerged from two main threads; literature studies and film studies. Because television was - for a long time - seen as a “... vast wasteland, filled with mindless, cheap fare” or an “idiot box”, the humanistic study of television was slow to generate. It took until the 1970s’ until the term “quality television” started circulating among critics. These new type of programs was, “... better, more sophisticated, and more artistic than the usual network fare.” Because of this new quality stamp on television, researchers started to focus more on the quality than the quantity of television. Gray and Lotz writes that, “Television programs, in short, were now definitively open for analysis, and given their popular status, some critics regarded them as especially rich for study.”

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89 Gray, J, & Lotz, A.D, (2011), 11
91 Gray, J, & Lotz, A.D, (2011), 12
John Ellis describes television as an intimate part of the domestic existence of almost everyone in the developed world in his text *Television as Working Through* (1999). It is this intimacy that makes the medium a very powerful one. Television has become an important object of study through the serious treatment of the medium by humanists such as Fiske, Williams and Newcomb. As I mentioned earlier; television is representational and it helps to construct and maintain social norms and values. The viewers can learn values, prioritizes, and aspirations from characterization in media content. In this study, the interest is focussed on how cognitive processes are represented in these two popular series. If this study can tell us something about how knowledge is represented on television, it may tell us how knowledge is thought about in society at large.

While working on this study, it has become clear that crime drama is not a priority for Swedish television scholars. Michael Tapper – however - focus on crime drama in his PhD thesis; *Snuten I skymningslandet – Svenska poliserättelser i roman och film 1965-2010* (2011). Tapper is making a review of Swedish police stories between 1965 - 2010, including - but not solely focusing on - television. There is some inspiring work on the subject, as Sofia Bulls doctoral thesis *A Post-genomic Forensic Crime Drama: CSI: Crime Scene Investigation as Cultural Forum on Science* (2012), focusing on the cultural forum on science in the first ten seasons of CSI. Bull’s thesis has been an important inspiration for the making of this study.

### 4.2 Crime drama

In an average day on Swedish television, no less than 14 different fictional crime dramas airs on television. Crime drama is one of the most popular genres on television, and has been for almost 50 years. In 1998 Charlotte Brundson wrote the article *Structure of Anxiety: Recent British Television Crime Fiction* and pointed out that, “It is a common complaint

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93 Gray, J, & Lotz, A.D, (2011), 13
95 Kahlenberg, S, (2008), 109
amongst television previewers and critics that the British television schedules are dominated by crime fiction.” In *Variety* - the entertainment industry’s premier trade publication - 6 of the top 20 television shows from the first week of 2014’s television season in USA are classified as crime dramas, with an average of 14 million viewers.

This popular genre arose in the mid 1950’s with the police as main character. One of the first series, British *Dixon of Dock Greens* (BBC, 1955-76), took place in a London Police station. Every week the main character addressed the camera to clarify that week’s moral of the story and enhance the ideological message, “... that the police were working for the common good of society at large.” To address the camera and sum up the episode is a narrative manner that is still used today. In *Criminal Minds* (CBS, 2005 - ) each episode ends with one of the characters summing up the episode with a quote from e.g. literature or some well-known person. Another early British crime drama was *Fabian of Scotland Yard* (BBC, 1954-56) which, unlike *Dixon*, focused on the Scotland Yard where the detectives used their analytic skills to solve crimes rather than the common sense and intuition of the police. These differences - the skilled detective on one hand and the ordinary policeman on the other - set a pattern for the genre that still lives on. In the television tableau today, crime dramas about skilled detectives who use analytic skills are common. *Criminal Minds* is a crime drama about a group of FBI profilers who aids local law enforcement with solving particularly difficult and ghastly crimes. The profilers use their analytic skills to predict the killer’s next move. In *Criminal Minds*, there are often a big difference between the portrayal of the agent’s rationality and knowledge and the less understanding, and sometimes incompetent local policemen. In *Ashes to Dust* (S02E19), the team helps the police detectives to catch a serial arsonist who target people in their sleep. As the team briefs the police force about the suspect, the following conversation takes place between local detective Castro and team member - boy genius - Spencer Reid,

Detective Castro: Okay, this scumbag has issues. We all get it. But why fire?

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100 Cooke, L (2008), 29

101 Cooke, L (2009), 32 ff.
Spender Reid: He's, uh, like a drug addict. Only fire's his drug, and each time an addict needs a fix, they need more of the drug to get off. So his crimes will most likely get much worse. Be almost impossible for him to quit without help.

In the 1970’s, the self-righteous, rule bending police detective begin to appear on television. The main characters where often one, or a pair of, police detectives with the attitude that the ends justify the means.\textsuperscript{102} Brundson describes these new policemen as, “... two younger criminal personae – the drug abuser (black, white, male and female) and the joy-rider (usually white male).”\textsuperscript{103} The cop-shows were beloved by the viewers, but in the beginning of the 21\textsuperscript{st} century a new kind of main characters showed up; the criminal investigator.\textsuperscript{104} Creeber claims that there are endless variations of the basic formula for the protection of society through forces of law and order.\textsuperscript{105} Brundson,

This genre, I would argue, has proven so resonant with both producers and audiences because it repeatedly, even obsessively, stages the drama of the responsible citizen caught in the embrace of what seems to be an irresponsible state.\textsuperscript{106}

4.3 Crime drama in television studies

Crime drama is a popular research topic for international television scholars, in contrast to the Swedish scholars focus.\textsuperscript{107} Popular research areas concentrate on the realism in crime dramas, crime drama viewership and crime as entertainment.\textsuperscript{108} A number of studies has concentrated on the CSI-effect i.e. how jurors in the USA gets a distorted image of the justice system due to crime dramas such as CSI.\textsuperscript{109}

\textsuperscript{103} Brundson, C. (1998)
\textsuperscript{104} Cooke, L (2008), 30
\textsuperscript{105} Cooke, L (2008), 29
\textsuperscript{106} Brundson, C, (1998)
\textsuperscript{107} See page 25
\textsuperscript{109} See for example; Mann, M, (2006), The 'CSI Effect': Better Jurors through Television and Science? Buffalo Public Interest Law Journal, 157-183
Some studies have been made on fictional television programs impact on the audience. One example of such a study is presented by Gary R. Pettey and Cheryl Campanella Bracken in the book *Common Sense: Intelligence as presented in popular television*. Pettey and Bracken examined if an audience of *CSI* could have a more positive attitude towards science than people who watched other shows. The experiment was performed on undergraduate students; one group watched *CSI* and the other group watched *The West Wing* (NBC, 1999-2006). The students were then asked to answer a survey with two attitude scales that measured the individual’s reservations concerning science and technology and their beliefs in the promise of science. The results showed that students who watched *CSI* had a more positive attitude towards science and scientist than students who watched *The West Wing*.

Pettey and Bracken reasoned, “In only one exposure to *CSI*, and for many participants it was their only exposure, to find significant difference in attitudes towards science and scientists suggests that a cumulative effect might be even greater.” They conclude that the results suggests that television audience can be primed to reflect on scientist and science more favourably depending on how science and scientists are presented in an entertainment program.

We watch a film, and find ourselves becoming attached to a particular character or characters on the basis of values of qualities roughly congruent with those we possess, or those we wish to possess, and experience vicariously the emotional experience of the character: we identify with the character.

If an audience can get a more positive attitude towards science after only one screening it is not farfetched to consider that people who watch a lot of crime dramas can get an awareness of - hence enhancing the values of knowledge and knowing characters - from representation in such television series. At least, the idea that it can work this way seems pervasive.

4.4 The consultant detective

Series about consultants have not only emerged from the changing practices of criminal investigation, but also in relation to audience tastes and production contexts. In later 21st

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century, this trend towards the character as the ‘specialist’ is significant for the development of the crime drama genre. The consultant is often portrayed as a person who is prominent in one specific field and for some reason turns in to an invaluable asset for the police. They are often highly educated, or have a lot of experience in their field.\textsuperscript{113} When it comes to the consultant as a character, there are similarities to the traditional detective. In \textit{The Journal of Applied Behavioural Science} (1969) consultant Fritz Steele wrote about the similarities between a consultant and a detective in the business world. The activities that Steele acknowledge is; focus on evidence, temporary involvement, incorporation into the system, intuitions, a sense of the dramatic, the expert, who are the suspects?, action intervention, self-consciousness, collaboration and sequential and parallel cases.\textsuperscript{114}

A lot of these activities can be found in modern crime drama within the consultant genre. I am going to describe the activities that are most evident in relation to \textit{Sherlock} and \textit{CSI}. The focus on evidence is obvious. The detective’s job is to find clues and identifying causality. As I write in the theory chapter, belief and incomplete evidence must be considered when evaluating evidence.\textsuperscript{115} The evidence will help the consultant to understand what has happened and then use that understanding to search for more adequate evidence, this in order to prove to others what have occurred.\textsuperscript{116} Both in \textit{Sherlock} and \textit{CSI} the evidence is the centre of attention.

The temporary involvement is also characteristic for the detective and the consultant; they always have a temporary involvement, establishes a network of relations and then moves on to the next case. The consultant and the detective want to take the first opportunity they get to get out of the system but, “... each has a certain innate basic curiosity or desire to be competent.” Steel continues, “In the detective’s case, generally the system has little or no power over him.”\textsuperscript{117} This can be applicable on the series I am analyzing since Holmes wok with the police as a way to show off his skills. He does however mostly cooperate with the

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{113} Turnbull, Sue, (2014), 125 ff.
\item \textsuperscript{114} Steele, F.I, (1969) \textit{Consultants and detectives. The Journal of behavioural science}. 5(2) 187-202
\item DOI: 10.1177/002188636900500205
\item \textsuperscript{115} Weinberg, (2013), 764
\item \textsuperscript{116} Steele, F.I, (1969)
\item \textsuperscript{117} Steele, F.I, (1969)
\end{itemize}
\end{footnotesize}
same people inside the police force even though he dislikes the system and wants to work on his own. The crime scene investigators in CSI on the other hand can be considered as part of the system since they work within the law enforcement and consult the police in the investigation but they always work with different cases which has them cooperating with different people.

Intuition is probably the characteristic that best can be applied to the television detectives. Intuition is in Steels article described as the British detective’s mode of operation. The detective generates a hypothesis from within and test it by gathering new data or sifting through old data again. Steel explains that the consultant, “…often does not know for a considerable length of time why he is looking at a particular corner of the data pile, but his intuition keeps him there until the connections are made.”\textsuperscript{118} This can be related to abductive reasoning, a cognitive processes that focus on making intelligent guesses based on perception. Both CSI and Sherlock uses abductive reasoning as a major part of their crime solving. I am elaborating this in the analysis.

Sense of the dramatic is shown by controlling the timing of events and being at centre stage. Steel thinks that choosing the right time for action can help shake the situation and bring up more data to the surface. In the series, the police is often reluctant to work with the consultants. There is however a sense of the clients feeling safe in the hands of the detective. In Sherlock, Detective Inspector Lestrade expresses his reliance on Sherlock Holmes on several occasions. Both the crime scene investigators and Sherlock Holmes are considered experts in these series. As I wrote in the introduction, the police need Holmes when they are “out of their depth."

Most of the British detectives collaborate with a partner to talk, get new ideas, restore energy, relieve tension and have someone to which they can speak the same language. In working together they can refer to other cases and draw conclusions in new cases, they also think along the same dimensions. This is present in both CSI and Sherlock. Since the characters in CSI have similar educations and background they certainly think along the same

\textsuperscript{118} Steele F.I, (1969)
dimension. They also often work in teams, both on the crime scene and in the lab since they are specialised on different techniques. Sherlock Holmes and Watson are on the other hand quite different; Watson is a trained doctor while Sherlock Holmes academic background is incoherent.

These are some of the traits that describes consultants in crime dramas. In the next two chapters, I am going to give an introduction to the series I am analyzing.
5. Who Are They?

5.1 Sherlock

*Sherlock* is a British television crime drama based on Sir Arthur Conan Doyle’s stories about Sherlock Holmes. The series was co-created by Steven Moffat and Mark Gatiss for BBC One. Moffat,

Conan Doyle’s stories were never about frock coats and gas light; they’re about brilliant detection, dreadful villains and blood-curdling crimes – and frankly, to hell with the crinoline. Other detectives have cases, Sherlock Holmes has adventures, and that’s what matters.\(^{119}\)

Sherlock Holmes (Benedict Cumberbatch) now lives and works in contemporary London. In this modernization of the classic detective story, Holmes uses nicotine patches instead of smoking the pipe since - according to Holmes in *A Study in Pink* (S01E01) - it is, “... impossible to sustain a smoking habit in London these days.” Even though Holmes represents the good old fashioned brainpower, he also uses a lot of modern technique such as a mobile phone and has a fondness for the microscope.\(^{120}\) Bull develops these thoughts,

The premise is stressed by an obsessive visual and narrative focus on technological equipment, which also echoes the stylised display of scientific technology that has characterised most forensic crime dramas of the last 10 years.\(^{121}\)

Bull recognizes Holmes use of text messaging as a way to communicate and that Dr. Watson (Martin Freeman) writes about their adventures on his blog.\(^{122}\) One similarity to the traditional Sherlock Holmes is the companionship with Dr. John Watson, a veteran army doctor. In the first episode of the series, Holmes is introduced to Watson for the purpose of a potential roommate. Holmes explains to Watson that he works as the world’s only consultant detective an occupation that he invented, and Watson’s skills as a doctor is quickly found useful. After solving their first murder together, the pair becomes crime-solving partners and roommates. The traditional characters from Conan Doyle’s books are revived in the television series: Ms. Hudson (Una Stubbs), Jim Moriarty (Andrew Scott),

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\(^{120}\) Bull, S, (2012), 12

\(^{121}\) Bull, S, (2012), 11

\(^{122}\) Bull, S, (2012), 12
Mycroft Holmes (Mark Gatiss) and Inspector Lestrade (Rupert Graves). Even though Sherlock Holmes is a physicist - not mentioned in the series though - his primary skill is abduction. By using science, Holmes has ensured his position at the cutting edge of crime.  

Holmes’ status within the popular discourse around contemporary forensic television, as the first fictional criminalist, actually becomes a problem: how can Holmes be recognized as a superior crime-solver when the whole police force are already savvy to the miracles of forensic science? Sherlock solves this by regularly questioning the effectiveness and importance of the toolbox offered by recent developments in technology and science.

Herein lays the main contrast to CSI; they still believe and rely on the “miracles of forensic science.” Another contrast that I mentioned earlier is that CSI is part of the law enforcement while Holmes is not. Holmes use crime solving as a way to show off knowledge rather than a way to be socially and morally upright. In the text “Don’t make people into heroes, John” (re/de) constructing the Detective as Hero, Francesca M. Marionaro and Kayley Thomas quotes Head of Drama at BBC Whales Piers Wenger saying about Holmes that he is, “… driven by a desire to prove himself cleverer than the perpetrator and the police – everyone, in fact.” CSI on the other hand use crime solving as a way to make society a better place through the law enforcement.

Sherlock has aired three seasons with three 90 minute episodes each. The first episode A Study in Pink was broadcasted in July 2010 on BBC1 and later aired on Swedish television SVT in January 2011. A fourth season is scheduled to be airing in early 2016. The first season had around 8 million viewers per episode in the UK according to Broadcaster’s audience research board. When season two aired in 2012, the first episode had about ten million viewers, a number that was consistent during the season. The ratings kept increasing and

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123 Turnbull, S, (2014), 113
124 Bull, S, (2012), 12
128 Viewer ratings for Sherlock season 2 according to Bard: S02E01: 10 663 000 viewers, S02E02: 10 226 000 viewers, S02E03: 9 776 000 viewers.
over 12 million people in the UK viewed the first episode of season 3, where Holmes is brought back from the dead. At the end of BBC Worldwide’s sales event in 2012, Sherlock had been sold to 200 regions and is one of the bestselling series overseas. The high production value and the status of Sherlock Holmes as a character have helped to establish Sherlock as ‘quality’ television.

Sherlock is as shown very popular. Along with high ratings, the series has a dedicated fan-base. The blog platform Tumblr is popular for creating and sharing Sherlock-dedicated blogs and blogposts. There has also been a lot of literature published dedicated to, or sold through, the BBC series, for example: Sherlock: Chronicles (2014), Sherlock: The Case Book (2012), Sherlock Holmes: The Adventure of Sherlock Holmes (2011) and Sherlock Holmes for the 21st century: Essays on new adaptations (2012).

5.2 CSI: Crime Scene Investigation

CSI: Crime Scene Investigation is an American crime drama that started airing in 2000, created by Anthony E. Zuiker. Since then, CSI has become a, “... worldwide television phenomenon.” It is a procedural drama, which means that every episode can stand alone and there are not a lot of focus on the characters personal life. The series general lack of character development and formulaic repetition - for which it is often criticised - is seen as attractive for those who are responsible for buying and scheduling shows. This is also one reason that the show has been sold to so many countries and is a popular rerun.

When CSI premiered in 2000 it quickly became well-known for its visual style and dramatic take on science. The audience follows the crime scene investigators in the field and the lab as they work together with Las Vegas Metropolitan Police Department in order to solve crimes. In his text CSI: Crime scene investigation: Quality, the fifth channel, and Americas finest (2007), Ian Goode writes about the focus on forensic science, “The application of the techniques of forensic science by the different members of the team at the various crime

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129 Viewers ratings for Sherlock season 3 according to Bard: S03E01: 12 724 000 viewers, S03E02: 11 376 000 viewers, S03E03: 11 379 000 viewers.
131 Turnbull, S, (2014), , 115
133 Allen, M, (2007), 3
134 Allen, M (2007), 7
The close scrutiny of the crime scene using optical technologies and other machinery of the forensic laboratory created the visual style of *CSI*. Inspired by new digital technologies and computer-generated imagery, with visual inspiration from the excessive style from *Miami Vice* (NBC, 1984-89), *CSI* was differenced itself from previous shows. The visual style of forensic investigations was also new. Through digital special effects the camera could take the audience inside the victim’s body and lab machines in the search for clues. The series quickly became a success, climbing to the second place on the US ratings in its second season. In 2014, CSI creator and producer Anthony E. Zuiker won the Lifetime Achievement Award at the Monte Carlo Television Festival.

Since the start in 2000, some of the main character in the series has come and gone. In season 13, the season I am analyzing, D.B. Russell (Ted Danson) is team supervisor. His crew of forensic scientists includes Ass. Supervisor Julie Finlay (Elisabeth Shue), crime scene investigators Nick Stokes (George Eads), Sara Sidle (Jorja Fox), Greg Sanders (Eric Szmanda) and Morgan Brody (Elisabeth Harnois). Reoccurring characters are also Chief Medical Examiner Doctor Al Robbins (Robert David Hall), lab technician David Hodges (Wallace Langham) and LVPD Homicide Detective Capt. Jim Brass (Paul Guilfoyle).

David Bianculli writes the following about the crime scene investigators of CSI in the text *The CSI Phenomenon* (2007),

...they do, indeed, fulfil a fantasy. With their state-of-the-art equipment, their individual specialities and their leaps of logic that seem unfettered by either logic or gravity, they always get their man, or their woman. Always. No matter how little trace evidence is available, they find something. They not only get justice, they get closure.

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136 McCabe & Akass, 2007, 125
137 Turnbull, S, (2014), 134
Since they work for the government, the CSI-team is part of the American legal system and therefore investigates all kinds of suspicious death. In order to find the perpetrator they use a lot on forensic techniques, “It is this search for and collection of evidence using an array of forensic techniques in conjunction with DNA and fingerprint matching to detect, collect and process evidence that creates the style and drama of CSI.”¹⁴¹ In the book Reading CSI: crime TV under the microscope Elke Weissmann and Karen Boyle writes about the pornographic aesthetics used in CSI when portraying the body as the scene of the crime. An often used sequence is the CSI-shot where the victim gets penetrated by the camera in order to show internal damages, “There is an implicit assumption ... that by seeing more, by going deeper and closer, the viewer of CSI is placed in a position of greater knowledge.”¹⁴²

Another appellation created from CSI is the CSI-effect based in the problematic of making the scientific forefront available to television audience. The CSI-effect is defined as when audience of crime drama gets unrealistic perceptions of the availability and effectiveness of forensic evidence, and a false sense of expertise in forensic investigative methods.¹⁴³ This is by some considered to have made an impact on the justice system in US. Dante E. Mancini suggests in his article The ”CSI Effect” in an Actual Juror Sample: Why Crime Show Genre May Matter (2013), that CSI - and its immense popularity - sparked the public’s interest for forensic science and caused the so called CSI-effect. As early as 2002 the existence of this phenomenon was located by different media outlets in USA. Due to the CSI-effect, jurors automatically trust and give relevance to high-tech evidence. A troublesome aspect of this is that the jurors might expect technology that does not exist, or technology where availability does not correlate with admissibility. The phenomenon is addressed on the American Bar Associations website, Katie L. Dysart explains, “These high expectations result in part from the amalgamation of public awareness, use, and availability of modern science and technology derived from a variety of sources, including, but not limited to, mass media.” She later continues, “While the CSI Effect may not necessarily be the direct effect of watching

¹⁴¹ Goode, I, (2007), 125
the *CSI* program aired on CBS, the cultural phenomenon resulting from broad cultural changes, enhanced by mass media and television programs, cannot be ignored.”

*CSI* contains of 14 seasons, the 15th airing at the time of writing this study. The 14th season had approximately 12 million viewers per episode in US. In its first year, *CSI* earn 11th place in the ratings but attained pole position just one year later. CBS decided that, due to new programs debuting in 2015, the 15th season of *CSI* consist of 18 episodes instead of the 22 that was originally ordered. One of the new series debuting is the latest *CSI* spinoff *CSI: Cyber.*

There are a number of fan-sites dedicated to *CSI*, for example csifiles.com, crimelab.nl, csiforum.no and csi.wikia.com. The fan-base of the show is a dedicated one, and on fan-sites; “Everything about the CSI-world is discussed in exhaustive detail.” One of the enticements is that the show is, “… not just a dumb cop show.” *CSI* is a television series that have been thoroughly studied and written about, for example: *Reading CSI: Crime TV under the microscope* (2007), *CSI* (2010), *The CSI-effect: television, crime and governance* (2009) and *A Post-genomic forensic crime drama: CSI: crime scene investigation as cultural forum on science* (2012).

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146 Allen, M, (2007), 5
148 Allen, M, (2007), 7
6. Through the Magnifying Glass

6.1 An Introduction to CSI and Sherlock

I will start this analysis by examining how cognitive processes and knowledge are introduced to the audience of CSI and Sherlock. By looking at the first episode of Sherlock - A Study in Pink (S01E01) - and the 3 first episodes of CSI - Pilot (S01E01), Cool Change (S01E02) and Crate and Burial (S01E03) - I want the reader to get an understanding of in what context knowledge, and the knowing characters, were presented to the audience in the beginning of both series.

6.1.1 An Introduction of Gil Grissom in CSI

As supervisor Gil Grissom (William Petersen) and Captain Jim Brass enter the crime scene in the first episode of CSI, Grissom calmly steps into the bathroom where a man is lying in his bathtub with a bullet hole in his skull. Grissom opens his forensic science kit, puts on his latex gloves and his glasses, and starts examining the body up close. He uses tweezers to pick up a larva from the dead body and says, “Pupa, stage three.” By looking at the larva, Grissom is able to determine that the man has been dead for seven days. Grissom uses perception - sight, touch and smell - to get a first impression of the crime committed on the scene. As noted earlier it is important to interpret what we see when using perception. Just as Weisberg claims, you knowledge of something plays an important role in recognizing the world and that education plays a role in how we categorize objects. Grissom has gained testimonial knowledge of determining the time of death based on larva since he is a trained entomologist. At this moment in the series however, Grissoms education is not explained, but we take his word for it anyway. Because Grissom has a forensic toolkit and is able to determine time of death by examining a larva, we get a feeling that Grissom is rooted in the scientific community, thus giving him legitimacy. Here, Grissoms expert’s role is what is giving him justification. Scientific attitude is after all the highest ideal. The education of the crime scene investigators in CSI is in fact hardly mentioned at all in the first three episodes, but is implied by the new recruit Holly Gibbs (Chandra West), who mentions her education in passing. The extent of their schooling, however, is not given any importance.

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Before Grissom starts examining the body, Captain Jim Brass enters the crime scene and quickly draws the conclusion, “Suicide.” When Grissom challenges him, Brass explains, “He gets the sleeping bag; for easy clean-up, bathtub to catch the bullet. Open window so the stench alerts the neighbors.” Here, Brass’s reasoning is that of an abductive character, basing his belief on the perceived evidence, just as Grissom. At first glance it appears that the man has killed himself since the scene has the usual traits of a suicide scene. Based on this, Brass has evidence to justify his belief. Abductive reasoning centers on observing a single phenomenon, in this case the crime scene, and figuring out the best explanation for that phenomenon, in this case suicide. In his book *Abductive reasoning* (2013), Walton explains that reasons can be based on previous knowledge. Brass looks at the sleeping bag, the bathtub, and the open window, and makes assumptions based on what he has seen before in his professional life i.e. previous knowledge. Just as Weisberg and O’Brien writes, in order to interpret the world we must possess concepts of it, ways of thinking about the world. Here Brass makes a fast conclusion based on his concept of the world and what he previously has experienced. Grissom, on the other hand, is skeptical to Brass’s way of making this quick conclusion. When investigating the body further, Grissom finds a tape recorder with the victim’s suicide note recorded on it. When Grissom and Brass plays it for the victim’s mother, they find out that it is not the victim’s voice on the recording. Here, Brass’s prediction of a suicide is proven wrong by the recorded message.

A similar incident takes place in *Crate and Burial* (S01E03), in which where Sarah Sidle speculates on the crime scene where a woman has been kidnapped that it, “... looks like a professional job. Our guy bypasses the security system, surprises the wife in the back hall. Drags her in here, she grabs onto the doorway. Sign of a struggle. No sign of sexual assault. He’s in, they’re out.” As Grissom and Sidle walks out from the bedroom into the yard, Grissom finds a cloth used to sedate the woman. Grissom asks Sidle if she wants to reassess her speculation since a professional would not leave the cloth at the crime scene. New evidence make Sidle reconsider her theory. One of Weisberg’s two situations when it comes to evidence is that people rely too much on their belief that they do not

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151 Walton, D, (2013), 1 ff.
accept new evidence, this is not the case in CSI where the crime scene investigators are quick to disregard their theories in favour of evidence.

The use of abductive reasoning is common in CSI. At the crime scene and when investigating suspects, the crime scene investigators often make “intelligent guesses” based on what they see on the crime scene. As Catharine Willows (Marg Helgenberger) enters a crime scene in Cool Changes (S01E02), the police officers on the scene asks her what she thinks happened. Catharine says, “First blush...” and the audience then get to see her speculation visualized through flashbacks. These flashbacks occur repeatedly throughout the episodes and change as new evidence is found. In the same episode, Grissom and crime scene investigator Nick Stokes arrive at a crime scene where a man has fallen from the balcony. Grissom asks Stokes to tell him what happened. Stokes asks, “You want me to play it blind?” To which Grissom replies, “You’ve read the woman’s statement. The room is full of evidentiary clues. Talk it out, what does the room say?”

Later, Stokes and Grissom hold the victim’s girlfriend as a suspect in the interrogation room. Grissom asks Stoke,

My turn to play it blind? If Ted didn’t come back to the room, why were presidential fibers from the cape found in the band of his brand new watch? Because he did come back. And you did the smart thing. After you threw him off the balcony, you cleaned up the crime scene. You left blood-soaked towels in plain sight. Your alibi: the blood came from Ted’s forearm...

Even though Grissom says that he “plays it blind”, he bases all of his beliefs on physical evidence that have been examined in a lab and use them to draw conclusions. As I write in the chapter on theory, a regress loop may occur when trying to justify your belief. The characters in CSI use physical evidence in order to prevent that looping. He tells the suspect what he knows has happened based on the evidence, and he is right.

In the CSI universe, physical evidence is the main justifier for the crime scene investigators beliefs. In the lab - a central place in the series - the investigators have the technology to find traces invisible to the human eye. In the first three episodes, the importance of evidence is addressed on multiple occasions. In Pilot (S01E01), Grissom tell crime scene investigator Warrick Brown (Gary Dourdan), “Concentrate on what cannot lie: the evidence.” He later explains the work routine to Holly Gibbs, a new member of the team, “We scrutinize the crime scene, collecting the evidence, recreate what happened,
without ever having been there.” In *Crate and Burial*, Grissom says, “… I tend not to believe in people. People lie. The evidence doesn’t lie.” In the same episode Grissom tells Stokes, “People leave us clues, Nick. They speak to us in thousands of different ways. It’s our job to make sure we’ve tried to hear every single thing they’ve said.” The criminalists in *CSI* use physical evidence as the justifying foundation for their house of abductive reasoning.

### 6.1.2 An Introduction of Holmes in *Sherlock*

In *Sherlock*, Holmes is presented in a slightly different manner from the meticulous and calm Gil Grissom. The first time the audience gets to see Holmes on a crime scene, he is invited by Detective Inspector Lestrade to help the Metropolitan Police Service solve a case where three seemingly unconnected people ingested the same kind of fatal poison, making the deaths look like suicides. Since the police are stuck in their investigation, Detective Inspector Lestrade comes to Holmes for help. As Holmes enters the crime scene and approaches the dead body, he looks at it for a while before starting to examine it. Just as Grissom, Holmes rely on perception as he investigates the body. He looks at the dead woman’s jewelry through a magnifying glass and then touches her coat to see if it is wet. In contrast to Grissom who enters the crime scene with a full forensic toolbox, Holmes use a magnifying glass as only tool. Based on the wet coat and the dry umbrella carried by the victim, Holmes makes the conclusion that the woman came from a city with rain and strong winds, too strong to use an umbrella. Holmes look at the weather reports in his cell phone, finding out that the victim came from Cardiff. Holmes speculates to Lestrade that the victim is in her late thirties, works as a media professional, hails from Cardiff, that she is staying in London for one night, and that she is a serial adulterer. When Lestrade asks Holmes if he is just making things up, Holmes explains,

> Her wedding ring. Ten years old at least. The rest of her jewelry has been regularly clean, but not her wedding ring. State of her marriage right there. The inside of the ring is shinier than the outside – that means it’s regularly removed. The only polishing it gets is when she works it off her finger … clearly not one lover. She’d never sustain the fiction of being single over that amount of time, so more likely a string of them. Simple.

When Holmes is on the crime scene, he use abductive reasoning and his cell phone in order to draw conclusions about the victim. He is justifying his beliefs to the sceptic
Lestrade by explaining what he has seen. Interpretation is an important part of perception, to interpret the world based on one’s perception of the world.\textsuperscript{152} Holmes is quick to draw conclusions; a wedding ring regularly removed must mean serial adulterer, her pink outfit must mean that she works with media etc. He use previous knowledge, concepts of the world and rationality. Another thing that justifies Holmes is the certainty and assertiveness he shows when using abductive reasoning. He does not speculate; he tells it like it is. This could be connected to what is written in the theory chapter about testimonial knowledge which is considered to be telling someone what is what. Here Holmes use abductive reasoning to tell what is what without any hesitation.

Another example of Holmes’s skill using abductive reasoning can be found in a conversation earlier in the same episode. Holmes explains to Watson about what he knows of the drinking habits of Watson’s sibling, based on Watson’s cell phone with the name Harry Watson engraved on it,

Sherlock: Harry Watson, clearly a family member who has given you his old phone. Not your father, this is a young man’s gadget. Could be a cousin, but you are a war hero who can’t find a place to live.

Unlikely you’ve got an extended family, certainly not one you’re close to, so brother it is. Now, Clara.

Who is Clara? Three kisses says it is a romantic attachment. The expense of the phone says wife, not girlfriend. She must have given it to him recently – this model is six month old. Marriage in trouble then – six months on he’s just given it away. If she’d left him, he would have kept it. People do – sentiment. But no, he wanted rid of it. He left her. He gave the phone to you: that says he want to stay in touch. You are looking for cheap accommodation, but you’re not going to your brother for help: that says you’ve got a problem with him. Maybe you like his wife; maybe you don’t like his drinking.

John: How could you possible know about the drinking?

Sherlock: Shot in the dark. Good one, though. Power connection: tiny little scuff marks around the edge of it. Every night he goes to plug it in to charge but his hands are shaking. You never see those on a sober man’s phone; never see a drunk’s without them.

As I wrote in the theory chapter, abductive reasoning has been called inference to the best explanation and intelligent guesses.\textsuperscript{153} As seen in both examples above, Holmes has an

\textsuperscript{152} Rescher, N, (2003), 86
\textsuperscript{153} See page 17
exceptional attention to detail and uses perception to find evidence. This is the foundation for Holmes beliefs. He does not justify his beliefs by textbooks but rather by previous experience and rationality. According to Walton, abductive reasoning means that it is implausible for the premises to be true and the conclusion false.\textsuperscript{154} So there is a chance of being wrong when using abductive reasoning. When Watson asks how Holmes could know about the drinking, Holmes confesses that it was a, “… shot in the dark.” Holmes claims that one never sees a drunk’s phone without scuff-marks around the power connection and that three kisses means romantic attachment. This is another example of Holmes basing his conclusions and justifying his belief based on previous experiences.

Holmes is also using norm as justification when he presupposes that Harry is Watsons’ brother, since the phone is from a Clara- a woman - and Harry is usually a man’s name. It is, however, revealed that Harry is Watson’s sister Harriet, so norm as justification to one’s belief is not always reliable. It is made clear that Holmes is not always right as he says, “Spot on, then. I didn’t expect to be right about everything”, right before Watson explains that Harry is short for Harriet. One of Weisberg’s situations when evaluations evidence is when people have incompetent evidence and thus has to perform statistical reasoning.\textsuperscript{155} This is something that is recurring in Sherlock, Holmes performing statistical reasoning, often with the right outcome, but sometimes not.

6.1.3 Subjective vs. Objective

Just like the examples with Sidle and Brass from CSI, it is made clear that abductive reasoning is based on incomplete evidence and that the beliefs can change when new evidence is found. In order to make assumptions and intelligent guesses, Holmes allows himself to be subjective and use his subjectivity and social norms when drawing conclusions. This is in contrast to CSI where subjectivity is seen as something that can be disturbing when trying to figuring out the truth. In Pilot (S01E01) Gil Grissom tells fellow crime scene investigator Brown, “There is no room for subjectivity in this department Warrick, you know that. We handle each case objectively without preconceptions regardless of race, color, creed or bubble-gum flavor.” Objectivity is crucial in CSI.

\textsuperscript{154} Walton, D, (2013), 1 ff.
\textsuperscript{155} Weisberg, R.W, Reeves, L.M, (2013), 746
A few examples of the importance of evidence and the objectivity in processing evidence has been given above. This near-obsession with the objectivity of evidence can be explained by the legal system in America and the need for untampered evidence in court. The crime scene investigation team has a lot of regulations to follow when they process a crime scene in order to build a case against a suspect. In *Crate and Burial* (S01E03), after Grissom and Stockes have matched the suspect’s voice to the ransom note, Grissom states, “... perfect match to the naked ear. Now where is my spectrograph, so the defense attorneys can’t claim that our alternation is altered?” In the same episode, Grissom asks the kidnapped woman for a blood sample and when her husband objects Grissom explains, “... if we can find traces of your blood in Rundles truck, we can match the DNA, and make our case against him that much stronger.” As Holmes is not officially part of the law enforcement, the same restrictions does not apply to him.

6.1.4 Science and Technology

The television series *CSI*, in its initial three episodes, enhances the theory that, “A scientific attitude is the highest ideal...”156 and portray the scientist as a problem solver. In *Crate and Burial* (S01E03), Brass takes the suspect in for questioning as Grissom needs a recording of the suspect’s voice in order to compare it to a ransom note. When Grissom asks Brass if the suspect knew that he was recorded Brass answers, “Yeah, the guy has no idea what you science types can do with a little audiotape.” i.e. the public have no idea of the technology that is available to the law enforcement. Later in the episode, Sidle and Grissom find out that the kidnapped woman was in a conspiracy with the kidnapper, trying to get her husband’s money without going through the complications of a divorce. As they play up the ransom note where the woman’s voice is audible, Grissom explains, “It’s amazing what we can do now with the forensic audio programs.”

One thing that Holmes and the crime scene investigators in *CSI* somewhat have in common is the use of forensic science and technology, even if it is way more prominent in *CSI*. The audience does get to see Holmes in a laboratory environment: first in the morgue at St. Bartholomew’s hospital, and later in the laboratory at the same hospital. The apartment Holmes and Watson move into together later in the episode is filled with laboratory

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156 Benner, M & Widmalm, S, (2009), 9
equipment and Watson finds human eyes in their microwave, Holmes explains that he is conducting an experiment. Even though Holmes does not have any access to the lab at the police station, he often uses the lab at St. Bartholomew’s hospital or does experiments at home. While the crime scene investigators in CSI see scientific knowledge as important in itself, Holmes mainly uses technology and science to, “… serve as a magnifier for the knowledge he already possesses.”

The co-creators of Sherlock (2010), have said that there was no doubt that Sherlock would be a man of his time and embrace technology. In A study in Pink (S01E01), he looks up the weather report on his cell phone in order to find out where the victim was before she got murdered. He also uses a computer in order to track down the cell phone left behind by the victim.

The use of forensic science in A study in Pink (S01E01) is not quite as evident as in CSI though. When entering the crime scene, Holmes does not collect any physical evidence like the crime scene investigators in CSI do. He does, however, feel the woman’s coat and take off her ring to look closely at it. The professional forensic science in Sherlock is mainly represented by forensic scientist Philip Anderson who is working the crime scenes. In A study in Pink (S01E01), it is made clear that Anderson and Holmes do not work well - or at all - together, as Holmes is quick to dismiss Anderson’s theory about the murder. Later Holmes yells, “Anderson, don’t talk out loud. You lower the I.Q. of the whole street”, when Anderson does not understand that by logging in to the victims e-mail address they can trace her phone that the killer has in his possession.

Here, Holmes abductive reasoning is put on a pedestal by Holmes himself as he constantly heckles Anderson and other representatives from the police force. It is also an indicator that Holmes has some technological knowledge even though his tools are for available for laymen. Another clear example that standard police-code does not apply to Holmes is that when he and Watson arrive at the crime scene, Holmes is the only one who does not put on a coverall, even though Anderson has told him in the previous scene to not contaminate the crime scene.

157 La Paz, A.E, (2012), 89
In *CSI*, other departments of law enforcement are looked down on. In *Pilot (S01E01)*, Willows tells their newest recruit Holly Gibbs, “The cops. Forget it. They wouldn’t know a fingerprint from a paw print. And the detectives chase the lie. We solve. We restore peace of mind, and when you’re a victim, that’s everything.” When Sarah Sidle enters a crime scene in *Crate and burial (S01E03)* she says, “Someone touches it before it’s dusted, I break their fingers”, clearly addressing the police officers on site. And finally, in the first scene of *Pilot (S01E01)*, where Detective Brass and Grissom are looking at the murder staged like suicide, Brass says that he does not understand Grissom’s “science-talk.”
6.2 The Recent Episodes of CSI and Sherlock

In the more recent seasons of CSI there are some changes in how perception is represented. Keep in mind the meticulous Gil Grissom, immediately kneeling down to be able to take a close look at the victim in the bathtub.

6.2.1 Perception

In Wild Flower (S13E03), when first entering a crime scene where a young woman is found shot dead, night shift supervisor D.B Russell and crime scene investigator Sarah Sidle ask the police officer at the scene what has happened and then ask for potential witnesses. Assistant Coroner David Phillips (David Berman) is already on the scene, examining the body and giving his report to Russell and Sidle before they start processing the body on their own. This portrayal of their arrival at the crime scene, and them trying to figure out what happened, reflects a sense of teamwork and wholeness, much more than the scene in the premiering episode of the series when Grissom enters the crime scene alone.

In Fallen Angels (S13E07), the body of a local Priest is found on a cemetery. The body is resting over former crime scene investigator Warrick Brown’s grave. When Russell enters the crime scene, he sees a holy bible in the victim’s pocket and says, “Holy man.” Stokes and Russell look around at the crime scene, not in the same, close-up, kneeling way Grissom did, but instead they walk around, trying to get an overview. When a news anchor is found dead on her desk after a short power outage in Dead Air (S13E11), Russell and Sidle get information from the officer at the scene and ask for witnesses. Sidle, “Well somebody must have seen something...”

Grissom’s philosophy about never trusting people and only trusting the evidence has become outdated. Once again assistant coroner Phillips is on site, investigating the body. In these cases, detail-oriented perception is no longer the primary way to gather knowledge when entering a crime scene. Instead there is a focus on the dead body and the forensic technology in the lab. There are still instances of the crime scene investigators taking a closer look and kneeling down to look closely at the evidence, but these are fewer than, and not as prominent as, they used to be. Instead, the witnesses and the testimonial knowledge of the coroner are in focus at the crime scene.

In Sherlock, perception is still the major way to gather knowledge. In The Great Game
(S01E03), an explosion takes place in a house across the street from Holmes and Watson's apartment. Shortly thereafter, Holmes gets a package containing a white envelope sent to him at the police station. Holmes take a look at the envelope and is able to conclude, only by looking at it, that the paper is Bohemian, from the Czech Republic and that a woman used a Parker Doufold Iridium Nib pen to write “Sherlock Holmes” on the envelope. Inside the envelope is a pink cell phone made to look like the phone used to track the murderer in A Study in Pink (S01E01). On the phone is a photo of an empty room that Holmes quickly recognizes as Mrs. Hudson's basement.

Here Holmes uses previous experience and memory in order to interpret what he sees. He recognizes the room since he was there when looking for an apartment to rent at Mrs. Hudson’s place. Weisberg stresses the importance of previous knowledge to cognition, something that Holmes use in this scenario. The phone also has a recorded message consisting of five short sound signals. When Lestrade asks what the sound means, Holmes replies, “Some secret societies used to send dried melon seeds, orange pips, things like that.” Here Holmes once again use perception together with previous knowledge in order to interpret the sound signals.

When Lestrade, Holmes and Watson enter the basement where the picture of the shoes was taken, Holmes goes down on his knees to get a closer look at the shoes. This is very similar to how he processed the scene in A Study in Pink (S01E01), and how Grissom processed the scene in the early episodes of CSI. In the first episode of the series, Holmes does not collect any evidence. This is probably due to the fact that he helped the police solve that case and was thus unable to disturb the crime scene or take any evidence with him. In this case, where Holmes himself is the target and he does not have to play by the rules of the police, he takes the shoes to the lab at Bartholomew’s hospital in order to process them.

6.2.2 Deceptive Perception

Even though perception is essential for Holmes to gain knowledge, it can be deceptive. In Sherlock, Holmes ability to draw conclusions based on perception is questioned in The Hounds of Baskerville (S02E02). Holmes and Watson are hired by a young man who have hallucinations and who thinks that a giant hound lives in the forest surrounding the village. He also thinks that the hound killed his father ten years ago in that forest, just next to a government lab facility.
When Holmes and Watson accompanies the young man into the woods, Holmes thinks that he sees the hound himself. When Holmes tells Watson what he has seen, Watson does not believe him and think that they should, “... stick to the facts.” Holmes replies, “Once you have ruled out the impossible, whatever remains - however improbable - must be true.” Holmes relies on his perception and abductive reasoning to gain knowledge and considers what he percept to be the truth. This is made clear as Holmes says that it is impossible that he did not see the hound, “Once you have ruled out the impossible...“ He presupposes that what he has seen is in fact the truth.

Holmes continues to talk about how his body is betraying him and starts using his abductive reasoning skills on an old woman and her son in the pub to show Watson that he is not losing his mind, “… now, he was a fisherman. Scattered patterns on his hands, very distinctive - fish hooks. They’re quite old now, which suggest he’s been unemployed for some time. Not much industry in this part of the world, so he’s turned to his widowed mother for help.” Since Holmes completely relies on perception to gain knowledge, seeing things that, rationally, should not exist creates contradictions for Holmes.

In this example, Holmes rationality is used to disprove the perception. His rationality tells him that he must have been hallucinating and that he thus must have been poisoned, presumably by the sugar he puts in his coffee. Here interpretation plays a big role, and it becomes important for Holmes to refine his responses and take into account that there must be something that is altering the perception. Holmes tests his hypothesis, by using Watson as a guinea-pig. Holmes suspects that the young man’s sugar is poisoned and spikes Watson’s coffee with the sugar. Holmes then locks Watson inside the governmental lab and scares him with lights and sounds, which causes Watson to also hallucinate.

By causing Watson to see the same thing he has seen, Holmes thinks that he has proof that the sugar was poisoned. But when examining the sugar under a microscope, Holmes cannot discover the poison. When proven wrong by the scientific investigation, he seeks for answers using his memory. It is later explained that Holmes and the victim were poisoned by a scientist who worked on biological weapons in form of a gas that cause fearful hallucinations.
In this example, Holmes begin with using abductive reasoning to draw conclusions. Since he and the victim have sugar in their coffee and Watson does not, the poison should be in the sugar i.e. he draw a logical conclusion based on the evidence. He then uses science and gets proven wrong, just as in the theory chapter where new evidence can change the outcome when using abductive reasoning. The ultimate solution is however then retrieved from his memory.

One similar incident occurs in the CSI episode Ghost of the past (S13E21). A man is murdered while ghost hunting with his friends in an old slaughterhouse previously used by a mass murderer as a place to kill victims. As the crime scene investigators start to investigate the scene, the victim’s friends, the property development manager, and some of the crime scene investigators claims to get a haunted feeling when being inside the slaughter-house. As David Hodges and Henry Andrew (Jon Wellner) investigates the whereabouts of a suspect using sound technology, they detect an infrasound below the human hearing range. Henry Andrew, “There are studies that actually suggest that infrasound can be the scientific cause of haunttings, the vibrations creates sensory phenomenon suggestive of a ghost.”

Andrew tells Hodges that these are only theories, but that they should follow the noise, turn off the source, and test the theory. As they walk towards the sound, Andrew continues to explain that infrasound can give people the feeling of butterflies in their stomachs and chills, and concludes with, “... not realizing that there is a physical cause, people attribute all these sensations to a haunting.” As they find the source of the infrasound - the ventilation system - and turn it off, the haunted feeling stops.

In this example, scientific knowledge is the answer to something that appears supernatural. Here Andrew has information from scientific studies and trusts that information. This kind of knowledge has been systemically legitimatized by being published in a scientific context. As Pritchard writes, it is important to be able to refine one’s responses to one’s sensory experiences and that inference is an important part of perception.

These two examples show that perception can be deceiving but that, using interpretation, there is an explanation to everything. Holmes uses rationality and memory as the main sources of knowledge while disproving the errors in his perception. He then tries confirm his

159 See page 18
theory with experiment and science but fails. The crime scene investigators on the other hand uses testimonial knowledge as justifier when disproving the haunted feelings. Ramsland claims that science is knowledge gained from observation, grounded by deduction from physical laws, and proven with experimentation.\textsuperscript{160}

Based on this, both Holmes and Andrew use scientific knowledge. They both observe, Holmes sees and Andrew feels, ground it in logic based on physical laws - Holmes know that he could not have seen a giant hound with glowing red eyes and Andrew knows that there are no ghosts - and then prove it wrong with experimentation. The main difference is that when Holmes experiment shows the wrong result and the technology is used to show that, while the crime scene investigators experiment turns out to work.

6.2.3 Forensic Science and Technology

The forensic technology used in Holmes rarely gets any explanation or attention; it is used as a tool to in order to expand what can be known by perception. In \textit{The Great Game} (S01E03), Holmes uses a machine with the purpose of telling where the pair of shoes found in Mrs. Hudson’s basement came from. In the laboratory, Holmes asks Watson to do what he does i.e. use abductive reasoning in order to interpret the shoes origin.

Watson gives it a try,

I don’t know, they’re just a pair of shoes, trainers ... they’re in good nick. I’d say they were pretty new, except the sole has been well-worn, so the owner must have had them for a while. They’re very eighties, probably one of those retro designs ... quite big, so a man’s ... but there’s traces of a name inside in felt-tip. Adults don’t write their names inside their shoes, so these belonged to a kid.

Watson asks Holmes how he did and Holmes answers that he did well, but that he left out almost everything of importance. In this scenario, Watson represent the audience, seeing what a normal person sees and make the abductive reasoning a normal person would.

Holmes then uses his abductive reasoning on the shoes,

The owner loved these. Scrubbed them clean, whitened them where they got discolored. Changed the laces three, no, four times. Even so, there are traces of his flaky skin where his fingers have come into contact with them, so he suffered from eczema. Shoes are well-worn, more so in the inside, which means the owner had weak arches. British-made, twenty years old ... they’re not retro, they’re original.

\textsuperscript{160} Ramsland, K, (2001) \textit{The Forensic science of CSI}. The Berkley publishing group, New York, 124
Limited edition: two blue stripes, nineteen eighty-nine ... quite a bit of mud caked on the soles. Analysis shows it’s from Sussex, with London mud overlaying it.

It is made clear that Holmes looked up the design of the shoes on the internet, since he holds up his cell phone to Watson when he says that the shoes are limited edition. If Holmes got any of the other information, like the traces of flaky skin, from his own perception or some analytic tool is not mentioned. It is just made clear that Holmes has a greater attention to detail than most people and can draw conclusions that other people cannot.

When Watson asks Holmes how he knows about the origin of the mud, Holmes explains, “Pollen. Clear as a map reference to me.” The audience has already been shown how Holmes gets a result on a machine that analyzes pollen. It is made clear that forensic technology and science are put second in Sherlock, since it is only mention in passing while Holmes abductive skills gets the attention. Later in the same episode, Holmes stands in his kitchen looking down a microscope. When Watson asks what he is doing, Holmes answers, “Clostridium botulinum. It is one of the deadliest poisons on the planet.” Holmes later continues, “The boy suffered from eczema. It’d be the easiest thing in the world to introduce the poison into his medication. Two hours later he comes up to London, the poison takes effect, paralyses the muscles and he drowns.” Watson asks how the autopsy did not pick that up and Holmes replies, “It’s virtually undetectable. Nobody would have been looking for it.” Once again technology and science is used without any further explanation.

Forensic science and the technology in the lab plays a big role in CSI and it is often thoroughly explained. Since the first season, the forensic technology has developed enormously, something that reflects in the series. When a mushroom is found on a dead woman’s shoe in Wild Flowers (S13E03) is taken to the lab where Hodges analyzes it and then tells Stokes,

Time for a little fun fact about fungi. They are like these little biological sponges. Whatever’s in their environment, nutrients, toxins, elemental metals, they absorb it all. I performed micro FTIR and hit pay dirt in our fungi, confirmed the results on XRF and found a high concentration of one particular metal.

The technology used to process the evidence is named and explained. In In Vino Veritas (S13E13), Hodges’s knowledge of wine helps solving the case when a man is found shot to death and stuffed inside a wine barrel. Hodges tells Morgan Brody that his wife’s family
owns a vineyard in Tuscany. It turns out that the victim was part of a scam consisting of faking old wine and selling it at high price auctions. Hodges is able to tell that it is fake wine because he has a perfect sense of smell. However, Hodges says, “... we need more than my pallet and nose, we need science.” He explains how he uses a GCMS to analyze the wine and find radioactive isotopes that indicate that the wine is from after 1936.

Even though Hodges can tell with certainty that it the wine is fake, they still need to process it in the lab to get the correct result i.e. they value science higher than the characters abduction skills and previous knowledge. These two examples also make clear that the forensic techniques used gets recognition. Hodges mentions different machines for processing evidence: Micro FTIR, XRF and GCMS. This is one kind of justification for their beliefs: trust in science and technology. This way of naming technical devices and explaining how they work does not occur in Sherlock.

6.2.4 Scientific Knowledge and the “Real” Science of CSI

Another example of referring to other scientists in CSI occurs in episode Skin in the game (S13E22), when a body is found mummified. The crime scene investigators investigate a series of bodies that have been staged to represent the different circles of hell from Dante’s Divine Comedy. The first victim is a former porn star who have been mummified and staged on a bed to represent lust. The investigators cannot get any identification of the porn star since the corpse is in such a bad shape. Chief Coroner Albert Robbins suggests a facial recognition, but Nick Stokes claims that the face is too disfigured for that. Assistant coroner David Phillips to Robbins, “You’re thinking about Dr. Stevens?”

It is explained that Dr. Stevens has invented a way to bloat bodies who have been mummified. The crime scene investigators chose to use new technique, invented by other scientists something that they have come to know by books or a scientific journals, which is an example of testimonial knowledge. Since Dr. Steven is an expert, they trust him. This way of bloating bodies that has been dead for a long time was inspired by a scientific breakthrough from real life. Dr. Hernández Cárdenas has almost single handily developed a rehydration technique that bloats decomposed body parts to make them identifiable again. By letting the body parts soak in Dr. Cárdenas’s “secret solution” for three days, “The putrid head looked human again, with full lips, large pores and a massive bruise on the forehead.
The hands had recovered their identifying prints."\textsuperscript{161} The article about Dr. Cárdenas was released in October 2012 and the CSI episode was aired in May 2013, so it is not inconceivable that the script writers were influenced by Dr. Cárdenas’s research.

The concept of science as a truth-teller explained in the theory chapter, is further exemplified by an interesting conversation taking place in Risky Business Class (S13E10). In the episode, the team investigates a plane crash in which five people have died. The investigators find out that one of the passengers is searching for her biological father. The father has passed away but the victim finds her sister instead. To help with the case, genealogist Donna Hoppe (Pamela Reed) visits the lab. Hoppe is a recurring character who has helped the team find family connections before. The following dialog unfolds between supervisor D.B Russell and Donna Hoppe,

Hoppe: You don’t see genealogy as a pure science, do you Mr. Russell?

Russell: I wouldn’t say that. It is after all a systematic pursuit of knowledge, right? Seeking an understanding of who we are and where we came from. Well, that sounds like science to me. Maybe not pure but...

Here, science is elevated from simply a tool used to solve crimes to something universal and existential, “Seeking an understanding of who we are and where we came from.” Science is thus not only something that takes place in a lab but can answer all of life’s questions. This episode is very interesting when it comes to the discussion of science as pure knowledge and truth-telling. In CSI, forensic science is at the top of this hierarchy and results from the lab’s tests are considered to be the most accurate.

Earlier in the same episode, Donna Hoppe and Greg Sanders argue after they realize that they have contradictory results. Sanders, “I am sorry Donna, but it is science.” Hoppe, “Your science, not mine.” Hoppe later has to defend herself in front of Russell, “Mr. Russell, my research is meticulous, my methods precise. I fact-check and verify my information at every turn. I like to say that I make mistakes, but I don’t make mistakes.” Hoppe motivates her results by showing that she follows an epistemic norm. Sanders

replies, “Donna, I’m sorry. But science is science, and the DNA results show conclusively ...

Even though Hoppe uses a scientific norm and follows the “rules of science”, Sanders considers DNA results, and only DNA results infallible: whatever the DNA results show, is the truth.

This way of considering the DNA results to always have the answer, is one of the reasons that the CSI-effect exists. The audience is fed constant reminders that DNA evidence can show what really happens and because of this puts more trust than warranted in the DNA evidence. It turns out that both Sanders and Hoppe are right and that they have been subjected to a case of false identity. It is acknowledged here that there are different kinds of knowledge and scientific fields. Even though Hoppe is following an epistemic norm, her science is not considered as accurate as the science used by the crime scene investigators. Benner and Widman’s hierarchy of knowledge is made clear.162

In CSI, there are some other professions that are portrayed as experts. In *In Vino Veritas* (S13E13), an exclusive auctioneer is questioned in connection with a body that was found in a wine barrel. The auctioneer, named Vogel, presides over exclusive wine auctions that include bottles of wine sold for hundreds of thousands of dollars. Vogel, “… vine is art.” Brass shows his ignorance to the art of wine by saying, “I thought it was just something you drank with Italian food.” When hearing this, Vogel rolls his eyes at Brass. Vogel then continues to talk about the victim, “… once in a double-blind tasting, he picked out the region, the vintage and the wine maker. He was extraordinary.” In this episode, the wine experts are made to appear extravagant and wasteful. Any other expertise than that of forensic science is seen as less of a science in the CSI universe. In *Sherlock* however, Holmes seeks advice from a graffiti artist in *The Blind Baker* (S01E02) since he, “… need to talk to an expert.” Holmes is accustomed to seek help from unconventional sources such as his “homeless network” (*The Great Game*, S01E03), drug addicts (*His Last Vow*, S03E03), and metro enthusiasts (*The Empty Hearse*, S03E01).

6.2.5 Using Memory

In CSI, the crime scene investigators sometimes use memory in order to solve cases. There is said to be an asymmetrical relation between scientific- or expert knowledge, and

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everyday knowledge for example remembering. The technological knowledge, tied to its
superior attributes e.g. being institutionalized, has an elevated social role while everyday
knowledge is considered shallow and unreflective. As Stehr and Grundmann explains, the
only way for everyday knowledge to get ennobled is if or when it is used in a scientific context.163

Some examples of this, everyday knowledge getting ennobled, is when the crime scene
investigators use their everyday knowledge to consider the evidence from different
angles. In Sheltered (S13E18), David Hodgins knowledge about the traditions of origami
makes him examine the origin of the paper instead of the fingerprints on the paper. In the
end, the paper is the clue that cracks the case, and in Wild Flower (S13E03), Greg Sanders
knowledge about the history of the Las Vegas mafia makes the investigators look at the
evidence from a different angle, which in the end helps to solve the case.

As mentioned before, Holmes primarily uses abductive reasoning to solve crimes. Walton
explains that abductive reasoning signifies that it is implausible that the premises are true
and the conclusion false i.e. there are room for mistakes. Holmes makes “intelligent
guesses” and uses reason to find the best explanation for what have happened. In order
to do this, one must be able to connect premises and use previous experience. Holmes
uses a mind-palace in order to store and retrieve information. In Hounds of Baskerville
(S02E02), Holmes must try to figure out how he got poisoned - as I have written about
earlier - and decides to use his mind-palace in order to connect the dots. As the scientist
working in the secret lab looks skeptically at Holmes, Watson explains, “… it’s a memory
technique – a sort of mental map. You plot a map with a location … and then you deposit
memories there so that, theoretically, you can never forget anything; all you have to do is
find your way back to it.” Being able to do this, memory become an invaluable asset. Note
that when memory is used in the crime lab it gets ennobled, but not when Holmes use it.
Then it us just memories.

In the end of The Empty Hearse (S03E01) - as Holmes and Watson are trying to defuse a
bomb under the British parliament - Watson tells Holmes to use his mind-palace since he

163 Stehr, N & Grundmann, R (2005), General Introduction, Knowledge: critical concepts, Stehr, N &
has, “… salted away every fact under the sun.” Holmes replies, “Oh, and you think that I have just got ‘How to defuse a bomb’ tucked in there somewhere?” Using memory is a vital part of knowledge for Holmes. Since Holmes depends on his memory, he needs to be able to memorize different things and retrieve specific knowledge at specific times.

In *His Last Vow* (S03E03), Holmes is put up against one of his arch enemies Charles Augustus Magnussen (Lars Mikkelsen). He is contacted by a Lady Smallwood who is being blackmailed by Magnussen since he has sensitive information about her husband. Holmes and Watson later find out that Magnussen also has compromising information about Watson’s wife Mary Morstan (Amanda Abbington). They find out that Magnussen keeps all his compromising information, and he has a lot, in what is known as the Appeldore vaults.

In order to acquire the information about Mary, Holmes sets up a trade between himself and Magnussen, offering up his brother’s computer that is full of governmental secrets. When Holmes demands to see the vaults, Magnussen explains, “The Appledore vaults are my mind palace. You know about mind palaces, don’t you Holmes? How to store information so you never forget it, by picturing it. I just sit here, close my eyes, and down I go to my vault … my memories.” As Magnussen stores all his information about people inside his mind and not on a physical device, the information is untouchable.

Just as the technique in *CSI* is not limited to that one crime lab, Holmes’s way to use different types of knowledge is not limited to him. Magnussen uses the same technique (i.e. a mind-palace) and in the beginning of *His Last Vow* (S03E03), there is Bill. When Watson finds Holmes at a crack-quartz where he is allegedly working under cover, they meet Bill. He is a homeless drug addict with the skill to draw conclusions based on abductive reasoning, just as Holmes does. When Holmes asks Watson when he started cycling to work, Bill explains how Holmes could know that,

*It is his shirt? Well, it is the creases, isn’t it? The two creases down the front. It’s been recently folded, but it’s not new. Must have dressed in a hurry this morning, so all your shirts must be kept like that. But Why? Maybe because you cycle to work every morning, shower when you get there and then dress in the clothes you brought with you. You keep your shirts folded, ready to pack.*
Here, Bill shows that he has the same attention to details as Holmes and later in the series it turns out that Bill have become Holmes apprentice, being trained in abductive reasoning.

6.2.6 Abductive Reasoning

This kind of abductive reasoning based on perception is very often used in *Sherlock*. In *The Empty Hearse* (S03E01), after Holmes faked his own suicide in order to save his friends from being killed, he returns to London. Sherlock Holmes brother Mycroft Holmes needs help to uncover an underground terrorist cell planning an attack on London. As Holmes and his brother waits for the terrorist cell to blow their cover Holmes asks if they should “do deductions” on a hat that one of his clients left behind. In this scene, the following conversation takes place as they begin to analyze the hat,

Mycroft: Why would he be isolated?
Holmes: He?
Mycroft: Obviously.
Holmes: Why? Size of the hat?
Mycroft: Don’t be silly. Some women have large heads too. No – He recently had his hair cut. You can see the little hairs adhering to the perspiration stains on the inside.
Holmes: Some women have short hair, too.
Mycroft: Balance of probability.

As seen here, in *Sherlock*, balance of probability is an important cognitive process. In this example, Mycroft goes by social norms and rationality, more men than women have short hair. As in Pritchard’s example of seeing a pair of feet under the curtain and therefore presume that there is a man behind it, Mycroft assumes that the person owning the hat is a man based on the short hair. As I write in the theory, Walton calls this style of reasoning inference to the best explanation. Mycroft and Sherlock are both making conclusions based on bias, men have short hair, and use that to get a profile of the person.

Balance of probability is also often used by Holmes, as the example of believing that Watson’s sibling is a brother based on the fact that he/she divorced a woman. In this scene, they speculate that the owner of the hat is isolated and a lonely person based on, as Holmes put it, “Well, anybody who wears a hat as stupid as this is not in the habit of hanging around other people, is he?”
As mentioned, Holmes is an expert in observing details and drawing conclusions based on those details. In The Hounds of Baskerville (S02E02), Holmes needs a suspect’s password to enter a secret database. Holmes tells the suspect’s co-worker to describe the suspect to him to which she replies, “You’ve seen him.” Holmes, “But describe him.” By getting a description of the suspect’s traits and studying his office, Holmes is able to figure out the password on the first try. This is a prime example of using abductive reasoning: using only what he sees and then basing his justification on the preconceived notions of a man. Holmes,

Old-fashioned, traditionalist, not the sort that would use his children’s names as a password. He loves his job, proud of it and this is work-related, so what’s at eye level? Books ... One, two, three, four, five separate biographies of Thatcher ... With a man like Major Barrymore, only first name will do

Based on the clues, Holmes was able to guess that the password was Maggie, after Margaret Thatcher. Here, once again, justified certainty, being able to interpret the man’s thoughts, along with the truth, is justification for Sherlock. Once again Holmes use abductive reasoning to tell things like it is, without hesitation.

In CSI, abductive reasoning is often portrayed as speculation. The crime scene investigators find evidence at the crime scene and start speculating about different sequences of events that are either confirmed or disproven as the evidence is examined in the crime lab. In CSI the crime scene investigators do not hesitate to be proven wrong by the evidence in contrast to Holmes who rarely gets proven wrong. Gere writes in his text Reading the Trace (2007) that CSI episodes consist of a number of flashbacks that show reconstructions of the alleged crime, and that these flashbacks change due to the mounting evidence. Gere summarize, “In the end, contrary, possibly, to the spirit of philosophical hermeneutics, some kind of final and absolute truth about an event is usually arrived at.”164 In Ghost from the Past (S13E21), Sarah Sidle and Julie Finlay use abductive reasoning to figure out how a murder took place. The murder took place in an old slaughterhouse and the victim was hoisted up in one of the meat hooks dangling from the ceiling. Sidle and Finlay tests their theory with one of the meat hooks,

Finlay: So let’s say you are the victim. It is dark, your back is turned. You’re filming. I swing this hook hard enough to bury it in your back.

Sidle: That would be more than enough to incapacitate me and hoist me up into the air. Then it is just a single slash with the blade.

Based on this they conclude that the murderer could be one person working alone.

Abductive reasoning as speculation is a narrative device often used in CSI and the team’s speculations are often shown as flashbacks to the audience. In Fallen Angels (S13E07), the prime suspect is found dead on the street outside his apartment as he presumably jumped from the window. Brody dust the apartment, find shoeprints and then begins speculating: “All the traces match Cliff Paul’s shoes. So he’s getting his drink on, goes to enter the door, opens it. He stumbles back, drops his bottle. Steps back through the beer and then a dash to the window. Goes right through.” Brody continues her speculation with some help from Russell,

Brody: Both of Tina’s visitors dead in the same night; could be the piece that connects them

Russell: Reverend goes up to Tina’s house. Cliff is already there; probably all not that thrilled that the preacher butts in.

Brody: Reverend leaves, goes to the cemetery. Maybe for guidance from Warrick?

Russell: Cliff follows the Reverend to the cemetery, shoots him, comes back here, tucks the gun into the sofa. Somebody shows up at the door, somehow drives him out through the window

This is however not the case, the truth is found out by following the physical evidence. Abductive reasoning is also used at the coroner’s. In Wild Flowers (S13E07), Doc Robbins examines the body of a dead girl found shot at a rave,

… malnourished female, between the ages of sixteen and twenty. C.O.D. is a single gunshot wound to the torso, perforating the heart. Victim presents evidence of persistent, chronic trauma. Abrasions on the wrists consistent with ligature restraints, possible shackles. General muscular atrophy and posterior bedsores suggest victim was subjected to imprisonment for an extended period of time, confined to a bed or other flat surface.

Based on this evidence on the body, Robins and Sidle draw the conclusion that the young woman was a sex slave. Another type of cognitive processes often used in CSI is deductive argument, where the premises support the conclusion in such a way that it is impossible
for the premises to be true and the conclusion false.\textsuperscript{165} This is the case when they draw conclusions based on evidence processed in the lab.

6.2.7 Rationality, Norms and Previous Knowledge

One example of beliefs not having any justification or rationality is found Sherlock episode The Empty Hears (S03E01). During the episode the audience is presented with different theories concerning how Holmes survived the fall from the hospital roof when he faked his suicide. Anderson, the forensic investigator, has grown his beard, looks unkempt, and is a conspiracy theorist, leading a Sherlock Holmes fan club in which fans meet to discuss the different theories. In the episode, these theories are quickly dismissed since there are no justifications for them. It is as Pritchard writes, rational people are praised and irrational people are criticized.

In one scene, Laura, a member of Anderson’s fan club, gives a plausible explanation to the suicide, ending with Holmes and Moriarty kissing. Anderson quickly dismisses the theory and asks if she is out of her mind. Laura replies, “I don’t see why. It’s just as plausible as some of your theories.” As Pritchard writes, the problem with justification is what grounds the supporting beliefs. This is an example of such a problematisation. According to Anderson, \textit{his} beliefs can be justified but not Laura’s. Could this be because Laura gives an example of a gay romance, i.e. something that does not follow the heterosexual norm? It should also be pointed out that in one of Anderson’s theories, Holmes is making out with pathologist Molly Hooper so it cannot be the sexual element. Norms are a sort of reasoning that can prevent successful abductive reasoning. For example, norms prevented Holmes’s successful abductive reasoning about Watson’s sister.

In \textit{CSI}, the crime scene investigators use knowledge from previous cases rather than norms. In Sheltered (S13E18), a young man is found dead, and the crime scene investigators eventually find their way to a bunker in the desert. The bunker is made to look like a house with, as Sarah Sidle puts it, a “… survivalist touch.” Inside the bunker, a man is apprehended and a young girl is later found as she tries to escape. The crime scene investigators immediately suspect the man for kidnapping the girl, holding her hostage in the bunker.

When processing the house, Sidle and Finlay find a room fit for a little girl and when

\textsuperscript{165} Walton, D, (2013), \textit{Abductive reasoning}. University of Alabama Press, Available from: LiUB Library Catalogue. [7 march 2015], 5
processing the bed Finley says, “We’ve got signs of sexual activity. Not that I am surprised.” When Sidle says that she is surprise that there is no blood in the room, Finley replies, “Well, sex-room is not the same as kill-room.” Sidle concludes that the man must take the girls somewhere else to kill them.

When interviewing the man apprehended in the bunker, Russell tells him, “We might not know your name, but we got a pretty good picture of your crimes. We found the girl. The one you’ve been holding captive.” Stokes continues, “The one you kidnapped, and raped, and probably would have murdered, just like all the others.” Inside the bunker, the crime scene investigators find a dress with DNA from a ten-year old unsolved murder of a woman. They draw the rational conclusion that the suspect must have killed the woman and asks him if she was his first victim. Stokes, “What drives a man to kidnap, to rape and to murder?” Suspect, “I wouldn’t know. This woman that you said that I murdered, Rebecca Barns, she was my wife. The girl that you found, the one you accused me of, her name is Miranda and that’s my little girl.” Here the crime scene investigators draw conclusions based on previous experience. But just as when Brass jumped to the conclusion in the opening episode of the series, they are proven wrong. Once again, the physical evidence that leads the way and shows that it is wrong to make assumptions.

6.2.8 Utilizing Knowledge

In Sherlock, there are several scenes where the importance of utilizing one’s knowledge is expressed. In The Great Game (S01E03), Holmes reads Watsons blog about the crimes they solve together. Watson writes about Holmes, “… how spectacularly ignorant he is about some things.” Watson is referring to the fact that Holmes does not know that the earth revolves around the sun, something Watson call “primary school stuff”. Holmes answers that even if he did know at some point, he has deleted it. Holmes continues, as he points to his head, “This is my hard drive, and it only makes sense to put thing in that are useful, really useful. Ordinary people fill their head with rubbish, and that makes it hard to get to the stuff that matters.”

This way of deleting information and only keep the most important knowledge rational decisions must be made about what is worth knowing. Pritchard recognizes the importance
of utilizing one’s knowledge and use it to serve oneself. In *Sherlock*, it is explained that Holmes is the author of, at least, three blogs: one about perfume, one about 143 different tobaccos, and one about the varying strengths of different natural fibers. This could be interpreted as Holmes maximizing his beliefs, similar to Pritchard’s example of learning every name in the phone book.

The quote about his minds being a hard-drive that only fits a particular amount of knowledge is the key here. Perhaps Holmes wrote down all his knowledge in these blogs so that he would not have to remember it and instead could use his mind-palace to store more useful information. This would be the most rational thing to do. In *CSI*, the crime scene investigators do not have to use their memory to any large extent since their way of solving crimes consists of gathering physical evidence at the crime scene and take it back to the lab for analyzing.

6.2.9 Using Witnesses

As I mentioned earlier, there is a bigger interest and trust in witnesses in the later seasons of *CSI*. In *Pick and Roll* (S13E06), crime scene investigator Greg Sanders participates in an interrogation where a woman is suspected of killing her husband - the coach of a college basketball team - and her lover. As the investigation proceeds, the main suspect gets shot to death on a basketball court. The evidence starts to pile up against the coach’s wife. Sanders tells the suspect about their evidence against her, ”Phone calls between you and Oxford. DNA from his house puts you in his bed. Now, as far as your husband’s murder; shoes from your closet match shoe impressions from the scene. And a trace report says that you shed a tear over his body.”

Based on these premises, they draw the conclusion that the woman is guilty of the crime. As I wrote in the theory chapter there is a rational to think that the conclusion of these premises is true. After the interrogation, the investigators still do not have enough evidence against the suspected woman. In a conversation between Russell and Hodges, Russell says, “Except for the fact that her gun was wiped clean, we still don’t know what was used to bludgeon the coach to death, so forensically, we can’t place either weapon in her

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166 Pritchard, D, (2013), 47
167 See page 14
168 See page 14
Here, new premises offer the investigators a chance to draw new conclusions since the previous one is no longer relevant based on these new findings. This is an example of the crime scene investigators using abductive reasoning; they make assumptions based on given premises and make a plausible conclusion. When new evidence comes to light or the evidence at hand does not add up, new conclusions can be made. The woman later turns out to be innocent. She is a victim of someone framing her for the murders. This is, however, prevented by interviewing suspects, and analyzing, evaluating and following the evidence.

Holmes rarely interviews suspects, mostly because he does not have the same privileges as the police. In *The Great Game* (S01E03), Holmes does interviews a woman whose husband is missing and the police has found a car filled with his blood. Holmes does not tell the wife that he investigate the crime but instead poses as an old friend of the husband, telling the woman how her husband did not have a care in the world, and how it was strange that they found his blood in a rental car. As Holmes states these things, the woman starts to contradict him saying that her husband had been depressed for months and that he had forgotten to pay the tax on his own car. When Watson asks Holmes why he lied to the woman, Holmes explains, “People don’t like telling you things, but they love to contradict you.”

**6.2.10 Recognition**

Since the crime scene investigators operate in a scientific context, they measure their work based on recognition within that field. When Greg Sanders finds a 46-year old fingerprint on an old poster, Supervisor Russell tells Sanders in *It Was a Very Good Year* (S13E04), “You’re kidding me, a 46-year old print, you’re going to make the Journal of Forensic Science.” Recognition from the public is not portrayed as important in *CSI*. Instead, to be featured in a forensic journal and thus be recognized by peers in the scientific community is considered the highest form of recognition. Just as Weinberg writes, the exclusive journals are still exclusive and the scientific department still takes credentials very seriously.

In *Sherlock*, thanks to Watson’s blog about their adventure and the high-profile crimes that Holmes helps to solve, media gets interested in him. The blog has almost two thousand readers per day. As Holmes fakes his own death, he is front-page news and fan-clubs emerge. Watson repeatedly points out that Holmes likes the attention he gets from media
and even though Sherlock denies it, it becomes quite clear that he likes it. In His Last Vow (S03E03), Holmes goes out to meet the press and seems quite happy with it.
7. As Expected... or is it?

It is evident that there are two major ways to gather knowledge in the series; by forensic science in *CSI* and by abductive reasoning in *Sherlock*. It is also made clear that forensic science is not used so much in *Sherlock* and that abductive reasoning without physical evidence processed in the lab seems untrustworthy in *CSI*.

There are however some similarities, both the crime scene investigators in *CSI* and Holmes in *Sherlock* use perception, but on the other hand who does not? The interesting thing - as I mentioned earlier - is how they justify their beliefs. In *CSI*, physical evidence and forensic science is the main justifier and “cannot lie.” It is pretty clear that abductive reasoning is not the primary way to gain knowledge but rather a way to speculate until the evidence processed with forensic science brings forward what have actually happened.

Holmes however - with his assertiveness, excellent attention to details and justification based on previous experience, perception and rationality - does not need forensic science as justifier. Holmes interpreting evidence based on perception and his subjectivity, in contrast to *CSI* where subjectivity is considered something bad. Could this be because subjectivity relies on personal feelings? In *CSI*, personal feelings is something that affect the objectivity of the scientist in a negative way. Holmes use his feelings and biases as a way to gain knowledge and this is not considered negative.

Already in the first scene with Grissom and Brass in *CSI*, abductive reasoning is portrayed as something that cannot be trusted based on perception, or rather, based only on what can be seen with the naked eye. Brass represents the naïve Police Captain who is unfamiliar with forensic science - like most of us - but who draws conclusions despite that, and is quickly shown that he is wrong in doing so.

Every time the crime scene investigators speculate when first entering the crime scene their speculations seems change based on evidence found. These new evidence are often revealed by technology and invisible to human perception. This is just like as Walton writes about abductive reasoning as intelligent guesses that can change when new evidence are found. Nonetheless, when the crime scene investigators use abductive reasoning based on processed physical evidence in for example the interrogation room, they are almost always right. These microscopic, lab processed, evidences are often considered the most reliable. It
is often made clear that - by the use of forensic science and their professional role - the kind of knowledge used in *CSI* is hard for the everyday person to get. One must have an education and top-modern technology in order to get the right kind of, in this series - reliable, unquestionable - knowledge.

Using difficult words and ultra-modern technology are ways for the creators of the show to make the audience trust the characters i.e. we tend to believe knowledge based on testimonial interference because we are habituated to do so. It is also a way to distance the viewer from the characters of the series. In *CSI*, the lab process is a big part of the narrative and a lot of the characters' time is spent in the lab. Since every episode of *CSI* is based on the same structure, the episodes are very similar and the result is always the same; the crime scene investigators find the truth. The series can be seen as a metaphor for the scientific process, also based on a set structure and if the structure is followed, the result should be the same. Just like the narrative structure of the episodes in *CSI* are safe - the audience always know what they are going to get - the scientific structure is safe.

In contrast to *CSI*, Holmes base his investigation technique on making intelligent guesses based on primarily perception, and what can be seen with the naked eye. The characters in *CSI* often doubt their own abductive reasoning when on a crime scene, like they know that they are going to be shown wrong. This is not something Holmes does, he does not speculate, he is determined and tells it like it is. Since all Holmes speculations are rational, and often right, there is no need for the other characters to question him.

Justified certainty and the truth are considered to be vital knowledge. Being right is the main justifier for Holmes. Since people are used to him being right, they trust his knowledge. This is similar to Welbourne and his claims that we believe testimonial information since experience has accustomed us into doing so. In *Sherlock* the audience become accustomed to believing knowledge gathered from abductive reasoning. Abductive reasoning based solely on perception and everyday technology - e.g. cell phones - becomes legitimate.

As I wrote in the chapter *A short introduction to cognitive processes*; science and technology has an esteemed social role, and the only way for everyday knowledge to get ennobled is if it is used in a scientific context.169 Holmes use of abductive reasoning and common technology

169 See page 11
gets ennobled since it is used to catch criminals, and to outsmart the police. Holmes is useful for society based on his acquired knowledge.

In Holmes, science is never elevated. It is mostly considered a tool to help strengthen Holme’s abductive reasoning and prove that he is right, just as La Paz writes, “... it serves as a magnifier for the knowledge he already possesses.”\(^{170}\) According to Bull – quoted in the chapter about *Sherlock* - there is an obsessive visual and narrative focus on technological equipment.\(^{171}\) I agree that there is a visual and narrative focus on technological equipment, but when it comes to technological equipment as a way to acquire knowledge, it is not all that eminent. Science primarily serves as a magnifier for the knowledge that Holme already possess.

In *CSI*, the forensic science has the centre stage. This is made clear by the focus on evidence and the machines used to process them. When the different series present perception as deceptive, the characters find out the truth in different ways. The crime scene investigators in *CSI* use - as expected - forensic technology and testimonial knowledge in order to refute the deceptive perception. Holmes use reason, memory and experiment in order to do the same thing.

One thing that the series have in common is distrusting other parts of the law enforcement than the one they represent and for Holmes this means the entire law enforcement. The interesting thing is distrusting the departments that previously starred in crime dramas. The characters in *CSI* distrusts the police and consider them incompetent, the police who used to be the main characters. Holmes distrust the forensic scientists and view them as incompetent, making the characters of *CSI* useless. The main reason for this could be that the series are made in two different contexts since the crime drama genre developed a lot between 2000 and 2010. Today forensic science is more common and the public have an easier access to new technology. Maybe it has become harder for the producers of *CSI* to impress with forensic technology today when the public is so use to it. Abductive reasoning - away from technology and forensic science - might be the way to impress today.


\(^{171}\) See page 32
Another interesting thing to consider when looking at the representation of science in *Sherlock*, is that one of the two distinguished scientists - Anderson and Hooper - and the one scientist that is questioning Holmes - Anderson - becomes irrational, grows a beard and starts a Holmes fan club after Holmes suicide. The other distinguished scientist - Molly Hooper - has a crush on Holmes and acts subordinate when he is around, expressing her admiration for him. This can be linked to the article about the female scientists in *Big Bang Theory* where female scientists often are portrayed in their relationship to men. Even though Hooper is an educated pathologist it is overshadowed in her relationship to Holmes. Scientists are marvelled by Holmes abductive skill, and Watson’s medical knowledge is used only sporadically. Just as Donny Hooper and her genealogy cannot compete with the forensic science in *CSI*, science cannot compete with Holmes.

I started out this study focusing on different ways to represent cognitive processes and how they are narrated in *CSI* and *Sherlock*. I was told that this comparison would be like kicking in an open door since the differences is so clear to the audience, and that is somewhat true. This study has thus shown how these differences are portrayed and the cognitive ideals represented in the series; the crime scene investigators of *CSI* use forensic science and modern technology, Holmes use abductive reasoning and memory.

This is however not all. In *CSI*, the development is primary technological - in that the equipment in the lab always is up to date - and that the crime scene investigators goes from using perception - in the earlier episodes - to rely more on technology. Science is known to contribute to innovation and utility, and *CSI* is a way for forensic technology to display itself for the public. In the earlier seasons of *CSI*, the technology used was new to the audience but today it is harder for the producers to show technology that is new to the audience and still portray it as realistic and scientifically viable. Since there are not much time past between the first episode of *Sherlock* and the later episodes, there are no significant development in the technology used. The producers of Holmes does not have to keep up with professional, modern technology since Holmes does not use it. He does use a cell phone, but that is not even the latest version, stressing his non-dependence on state of the art technology.

In *CSI*, forensic science is seen as “pure” knowledge when being compared to other. Even a well-educated scientist like genealogist Donna Hoppe gets her science questioned by the
crime scene investigators. Holmes on the other hand, has a more relaxed and uncritical relation to gathering knowledge. Holmes takes advantage of the fact that there is knowledge to be obtained on the internet and there are no discussion or questions about criticism of source when Holmes use the internet to gain knowledge. Holmes relation to knowledge could be described as shallow and unreflective, just like information taken off the internet often is seen as shallow and unreflective.

Holmes use of cell phone as a way to gain knowledge is very interesting. It is never made clear what kind of websites Holmes use while looking for information online. As Welbourne writes, there is so much knowledge today, and it is easily obtained.\(^{172}\) Weinberg also writes about how internet have changed today’s society and that we can learn everything online i.e. “… one-click access to a near-infinity of works of knowledge.”\(^{173}\) According to Weinberg, the internet has smudged the lines between the professional and the amateur. Because Holmes do not work in the law enforcement or have any professional education in forensic science - he is an educated physicist, something that is not mentioned - the public could perceive him as an amateur.

Holmes use unconventional help in order to gain knowledge, for example the graffiti artist and the subway expert. Once again, Holmes ways to get knowledge are as diverse, open and uncritical as on the internet while the characters in CSI criticize an educated, acknowledge scientist just because she is part of a different scientific field.

In CSI, the crime scene investigators speculate based on physical evidence and are proven wrong by physical evidences processed in the lab. Holmes on the other hand, quickly retrieve something from his memory just as one can look up information on the internet. This makes Holmes connect to the audience, having access to the internet. CSI on the other hand distance the characters from the audience working in an institutional environment, using technology not accessible to ordinary people.

There are a lot of similarities between Holmes cognitive processes and the internet. Holmes use of a mind-palace - a possible metaphor for the internet - and his use of abductive


\(^{173}\) Weinberg, D, (2011), *Too big to know: Rethinking knowledge now that the facts aren’t the facts, experts are everywhere, and the smartest person in the room is the room*, Basic Books, New York, 136
reasoning - like using links on the internet - can be connected to a more modern way of using and representing knowledge. If I am going to continue this connection between the representation of knowledge in *Sherlock* and the internet with the character Magnussen who can be seen as a metaphor for the internet itself. Magnussen - just like the internet - has all this information that is not stored in a physical place, which makes it very hard to control. It is impossible to get information to disappear from the internet, just like it is impossible to get Magnussen to forget something. All this dangerous information is floating around, only waiting for someone - Magnussen - to use it against someone. For Holmes, the only way out is to shot Magnussen in the head, stopping him from ever spreading the information he obtains.

This metaphoric connection between Holmes and the internet may give us an idea why he is so popular. As I wrote earlier does the characters of *CSI* get distanced from the viewer by their education and state-of-the-art technology. Holmes on the other hand, is just like us. He does not need a long education or expensive technology. He trust the internet to provide him with useful information just like we do, and he use abductive reasoning just like most of us. He is just more observant than the ordinary person.

As the example I gave in the chapter “Intelligence in media”, people who saw one episode of *CSI* rates science higher than people who did not see the episode. Based on this, one can assume that being exposed to science and scientists in a popular cultural context offers the receiver a glorified view of science. One could also assume, that if persons thinks higher of science after only one episode of *CSI*, audience of *Sherlock* could be more positive to Holmes way of gathering knowledge by abductive reasoning after watching the series. Or is Holmes crime solving too far from reality to be taken seriously? Will this new characterisation of Holmes and his way to solve crime ever be a serious competitor to the forensic science in *CSI*? Is the audience getting tired of scientific knowledge or are they too used to new technology and harder to impress today? Do they want something else entirely? How is the status of the scientist in fictional television these days? In early 2000, *CSI* was a growing franchise but that has changed. *CSI: Miami* got cancelled in 2012 and *CSI: NY* the year after. The fictional crime dramas that focus on forensic science has taken a step back while series where the characters use other ways to gather knowledge are thriving.
While the characters in CSI just put evidence inside a machine and then wait for a result, Holmes takes responsibility in his abductive reasoning. The characters in CSI rely on forensic technology and thus disclaims responsibility over the process, while Holmes puts himself above technology. By doing this, the creators of Sherlock strengthens the subject’s knowledge position. Sherlock is based on Holmes identity and individualism while CSI is based on technology and forensic science. As Sherlock is based on subjectivity, CSI is based on objectivity; impossible to reproduce, the data decides the verdict, the characters are not responsible. In Sherlock, a person is using cognitive processes to create knowledge - and if I can continue with the internet-metaphors - just like on Wikipedia and other open-source formats on the internet. Holmes represent knowledge as individualistic, identifiable and easy. That may be what make him – and other crime drama consultants - so popular among the television audience. If the characters in CSI represent the “old” way of thinking about knowledge, as pure, institutional, unavailable and slow, Holmes represent a new way where knowledge is fast, uncritical and vast.

There are a different approaches on how to take this study further and proceed from this discussion. Hills and Luther claim that today’s television fans, “… become focused on critical but pleasurable analyses of … television texts, with fans adopting scholar-like strategies of close reading and detailed textual exegesis.”\textsuperscript{174} It would be interesting to do a fan study on the knowing characters and how their knowledge is discussed on fan-forums. Is knowledge part of the attraction for fans of the show, and in that case, how is it shown by the fans? It would also be interesting to analyze the female consultant characters’ knowledge since the knowing female character often are portrayed in relation to men.\textsuperscript{175} Questions about the relevance of forensic science in contemporary media and society are also worth studying. Another approach, and maybe the one I find most interesting, is a sociotechnological view. How does the characters of crime drama interact with the technology in order to gain knowledge? And is there any other metaphors that ties together knowledge, characters and technology like the parallel between the knowledge represented in Sherlock and the internet?


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