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A Post-genomic Forensic Crime Drama

CSI: Crime Scene Investigation as Cultural Forum on Science

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Sofia Bull

Introduction: Mapping the Genome of the Thesis

When *CSI: Crime Scene Investigation* (CBS, 2000–) premiered in the US on Friday, October 6th 2000, it differentiated itself from its crime drama peers by placing a team of Las Vegas criminalists (i.e. crime scene investigators, forensic scientists and laboratory technicians) centre stage. Attempting to situate this move within a longer generic tradition, one reviewer explained that a criminalist was essentially "a modern-day Sherlock Holmes".[1] Since then, many scholarly commentators on *CSI: Crime Scene Investigation* (henceforth abbreviated as *CSI*) have discussed the figure of Sherlock Holmes as a kind of forefather to, and a prominent source of inspiration for, the current cultural interest in forensic science.[2] Almost a decade later, in July 2010, *Sherlock* (BBC, 2010–) premiered in the UK, featuring the most recent televisual incarnation of Arthur Conan Doyle's classic gentleman detective.[3] At that point I had worked on this project for four years, having watched nine seasons of *CSI* and numerous episodes of other forensic crime dramas, examining their discourse on science. Watching *Sherlock*, I was interested to note the intriguing way in which it acknowledges the generic links already established between Doyle's books and contemporary forensic crime dramas.

Sherlock transfers the classic characters from Victorian-era London to a present-day version of the city. This 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. Holmes prefers to communicate with In-

[1] "Forensic Sleuthing Comes to Prime Time on 'C.S.I'", *CNN Entertainment*, November 21, 2000, http://articles.cnn.com/2000-11-21/entertainment/*CSI*.interview_1_forensic-science_*CSI*-crime-scene?_s=PM:SHOWBIZ (accessed March 6, 2012).

[2] See for example: Ellen Burton Harrington, "Nation, Identity and the Fascination of Forensic Science in Sherlock Holmes and *CSI*", *International Journal of Cultural Studies*, Vol. 10(3), 2007, 365-382; Charlie Gere, "Reading the Traces" in *Reading CSI: Crime TV Under the Microscope*, ed. Michael Allen (London: I.B. Tauris, 2007), 129; Lindsay Steenberg, *Sexy/Dead: Gender and Forensic Science in the Contemporary Crime Thriller* (PhD Thesis, The University of East Anglia, 2008), 14, 28, 52, 121; and Derek Kompare, *CSI* (Malden: Wiley-Blackwell, 2010), 59.

[3] A much-awaited second season aired in early 2012 and a third has been commissioned, due to premiere in 2013.

spector Lestrade via text messages, Watson blogs about their adventures and the female morgue assistant Molly aids the sleuths in performing advanced laboratory analyses of evidence. This emphasis on signs of contemporaneity can appear somewhat frantic considering the series' simultaneous articulation of traditional Holmesian elements. For example, one otherwise positive reviewer in *The Guardian* exclaimed: "Sometimes I feel it's jabbing me in the chest and shouting in my face. 'This isn't the late 19th century! It's the beginning of the 21st! Look, no hansom cabs!'"[4]

However, *Sherlock*'s depiction of technology and science also has a more intricate function than simply attempting to bring Holmes up to date. Rather than making him the latest in what has become a long line of forensic heroes on television, the producers of *Sherlock* knowingly juxtapose the character of Holmes with the now familiar figure of the criminalist, thus playing up his singular status. In a promotional blog-post on BBC's website, the series' co-creator Mark Gatiss highlights the difficulties in establishing Holmes' exceptionality in the contemporary setting:

> [Sherlock Holmes] can't possibly wear a paper forensic suit or it's all too *CSI*. And what about that? Doyle virtually invented forensic detection. How can Sherlock exist in a world where the police do all the finger-printing, criminal profiling and analysis that were once his unique attribute? The answer, in our version anyway, is that Sherlock Holmes is still, and always, the best and wisest man there is. The police may be able to put clues together, but only Sherlock has the vast brain power and imagination that can make the huge leaps of deduction.[5]

Holmes' status within the popular discourse around contemporary forensic television, as the first fictional criminalist, actually becomes a problem: how can Holmes be recognised 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.

Holmes might have a mobile phone addiction and a fondness for microscopes, but he also heralds good old-fashioned brainpower. It is his pure cerebral skills – the ability to observe, deduct, analyse and interpret without any technoscientific aids – that ultimately distinguish Holmes from other criminalists.[6] This is especially the case in the second season, where the su-

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[4] Sam Wollaston, "TV review: Sherlock, Alan Titchmarsh's Walks of Fame and Come Dine with Me Down Under", *The Guardian*, 1 August 2010, http://www.guardian.co.uk/tv-and-radio/2010/aug/01/sherlock-alan-titchmarsh-walks (accessed January 12, 2012).

[5] Mark Gatiss, "Sherlock: For Holmes and Watson, The Game is Afoot", *BBC TV blog*, 23 July 2010, http://www.bbc.co.uk/blogs/tv/2010/07/sherlock.shtml (accessed 12 January, 2012).

[6] The series makes this particularly clear by juxtaposing Holmes with the regular forensic expert, Anderson, who is portrayed as pompous, incompetent and a stickler for rules and

perimposed graphic effects used for onscreen display of text messages and e-mails is utilised in even more spectacular ways when visualising Holmes' inner deductions, a juxtaposition between the technological tools and Holmes' cerebral powers that favours the aptitude of the latter. Hence, *Sherlock* brings us almost full circle. Holmes becomes a post-forensic detective, a reflexively constructed figure that both acknowledges and overthrows the prevalent assumption that forensic crime dramas use the figure of the criminalist to celebrate, and instil trust in, technoscientific tools and practices.

(1) Holmes' inner deductions visualised in the Sherlock *episode "The Hounds of Baskerville" (S02E02) and (2) technoscientific aids in the* CSI *episode "Swap Meet" (S05E05).*

As a show that reflexively comments on its genre context, *Sherlock* can be read as a rudimentary map of some of the associations currently tied to the forensic crime drama category. It is, however, important to remember that these connotations do not necessarily reflect individual programmes, but are primarily linked to the genre category as such. The popular assumption that science is forcefully celebrated in this type of genre text has been established through a complex interplay between the various production, promotion and reception contexts of a number of different programmes.[7] One extra-textual discourse that has been crucial for establishing this expectation is the global coverage on the "*CSI*-effect", which has circulated the idea that forensic crime dramas offer such a seductive image of forensic science that it impacts the American legal system in negative way. Allegedly, television-watching jurors now have unrealistic expectations about forensic science, assuming that swift scientific analyses always produce certain facts from the abundance of physical evidence recovered at each crime scene.[8] The wider

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regulations. Holmes' condescending attitude towards Anderson is indicative of the series' general relationship to the generic figure of the criminalist.

[7] I here adopt Jason Mittell's "cultural approach to television genre". See for example: Jason Mittell, "A Cultural Approach to Television Genre Theory", *Cinema Journal*, 40:3, Spring 2001, 3-24.

[8] The *CSI*-effect term has primarily been used to describe the notion that forensic crime dramas have problematically affected the expectations of jury members, but it has also been used to describe other effects caused by the celebration of forensic science: for example, that more people are attracted to pursue a career in science. However, it has also been argued that the *CSI*-effect rather should be used to describe the *media interest* in the possibility of such ef-

discursive framework around forensic crime dramas can make it difficult to approach any single show without expecting it to promote science, but this conjecture does not fully reflect the representation of science in either *Sherlock* or *CSI*.

This thesis attempts to study *CSI*'s discourse on science in a more sustained and in-depth manner, in order to look beyond the extra-textual genre assumption that it – as one of the most influential and popular of the forensic crime dramas of the early 2000s – simply celebrates science. My main material consists of the first 10 seasons of *CSI*, which includes 229 episodes (each running for 39–45 minutes) spanning a 10-year production period.[9] The series' main characters are a team of crime scene investigators, which includes: Gil Grissom (William Petersen), head of the crime scene investigators and a somewhat socially awkward hard-core scientist; Catherine Willows (Marg Helgenberger), a former stripper and single mother who is Grissom's second in command; Nick Stokes (George Eads), a empathic and somewhat conservative Texan; Warrick Brown (Gary Dourdan), a African-American Las Vegas native with a gambling addiction; Sara Sidle (Jorja Fox), a workaholic with a traumatic childhood; and Greg Sanders (Eric Szmanda), a nerdy DNA lab technician who decides to start working in the field in season 5.[10] Numerous forensic scientists, crime lab technicians, medical examiners and police department personnel support the main characters, including the frequently recurring medical examiners Dr Al Robbins (Robert David Hall) and David Phillips (David Berman) and the constant representative for the LVPD, Captain Jim Brass (Paul Guilfoyle).[11]

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fects. There are numerous articles on these different perspectives, but for a basic understanding on this scholarly debate see: Kimberlianne Podlas, "*CSI* Effect: Exposing the Media Myth", *Fordham Intellectual Property and Media & Entertainment Law Journal* 16, 2006, 429-466; Simon A. Cole and Rachel Dioso-Villa, "*CSI* and its Effects: Media, Juries, and the Burden of Proof", *New England Law Review*, Vol. 41, No. 3, 2007, 435-470; and Wendy Brickell, "Is It the *CSI* Effect or Do We Just Distrust Juries", *Criminal Justice* 23(2), 2008, 10-17.

[9] In my analysis I will also refer to a number of relevant episodes from seasons 11 and 12, although I have not studied these seasons with the same consistency due to time constraints. The scope of this study is thus an example of the basic difficulty of studying a contemporary long-running television text that is still in production.

[10] These characters appear in the following seasons Gil Grissom (seasons 1–9), Catherine Willows (seasons 1–12), Nick Stokes (seasons 1–12); Warrick Brown (seasons 1–9); Sara Sidle (seasons 1–8, 11–12); Greg Sanders (seasons 1–12). When Grissom left the team in season 9, Dr Ray Langston (Laurence Fishburne) substituted him during seasons 9–11, who in turn was replaced by D.B. Russell (Ted Danson) in season 12.

[11] Prominently featured lab technicians include: trace technician David Hodges (Wallace Langham, seasons 3–12); fingerprint expert Mandy Webster (Sheeri Rappaport, seasons 1–12); DNA technician Wendy Simms (Liz Vassey, seasons 6–11), toxicologist Henry Andrews (Jon Wellner, seasons 5–12) video/audio technician Archie Johnson (Archie Kao, seasons 2–12) and ballistics expert Bobby Dawson (Gerald McCallough, seasons 1–10). Other reoccurring crime scene investigators are: Holly Gribbs (Chandra West), Riley Adams (Lauren Lee

Adopting a textual-historical approach, I examine *CSI*'s discourse on science with the basic aim of accounting for its specificity. Fundamentally, I propose that it is reductive to understand *CSI*'s portrayal of science as solely celebratory, and that a more nuanced comprehension of its discourse on science is needed to fully understand its cultural significance. The thesis will, in short, demonstrate that *CSI* raises issues central to the current discourse around biomedical science. By doing so it expresses an emergent cultural shift that I term the post-genomic structure of feeling: a process that might result in the redefinition of foundational concepts such as truth, identity, body, kinship and emotions.[12] My analysis will show that *CSI* offers multiple perspectives on these issues, dealing with them in contradictory ways that construct science as both a problem and a solution. I will provide two frameworks for understanding the series' ambiguous treatment of contemporary scientific knowledge and practices. Firstly, *CSI* functions as a transnational cultural forum that deals with questions about biomedical science in ways that appeal to a wide and heterogeneous audience. Secondly, *CSI*'s discourse on science can in extension be understood as a bioethical debate that legitimises forensic science as a trustworthy medico-scientific institution of policing at a moment when cultural anxieties about biopower and unethical misuses of genomics are rife. The analysis will also lay bare the series' tendency to call on ideas about materiality and science that normalise and naturalise culturally constructed categories, behaviours and bodies. In doing so, the thesis will not only contribute to the growing body of work studying *CSI* and other forensic crime dramas, but also the wider fields of genre studies, television studies and cultural studies of science.[13]

Smith), Morgan Brody (Elisabeth Harnois), Michael Keppler (Liev Schreiber), Conrad Ecklie (Marc Vann) and Sofia Curtis (Louise Lombard).

[12] The term post-genomic, as well as the idea of an emergent post-genomic era, is increasingly becoming more commonly used to describe certain tendencies within the contemporary discourses around science, both within science and cultural studies of science, as well as in popular media coverage on science. In adopting this specific term I primarily draw on: Evelyn Fox Keller, "The Century Beyond the Gene", *Journal of Bioscience*, 30(1), February 2005, 6, 9; Sarah Franklin, *Dolly Mixtures: The Remaking of Genealogy* (Durham and London: Duke University Press, 2007), 33; and Paul Rabinow and Carlo Caduff, "Life – After Canguilhem", *Theory, Culture & Society* 23, 2006, 330.

[13] Since I started working on this project in 2006, there has been an explosive increase in studies on *CSI* and other forensic crime dramas. There are currently three monographs: Steven Cohan, *TV Classics: CSI: Crime Scene Investigation* (London: BFI Publishing, 2008); Elke Weissmann, *The Forensic Sciences of CSI: How to Know about Crime* (Saarbrücken: VDM Verlag Dr Müller, 2010); and Kompare (2010) and the two anthologies: Michael Allen, ed. *Reading CSI: Crime TV Under the Microscope* (London: I.B. Tauris, 2007) and Michele Byers and Val Marie Johnson, eds. *The CSI Effect: Television, Crime and Governance* (Plymouth, Lexington Books, 2009) that all focus either on *CSI* alone or on the *CSI* franchise. There are also hundreds of articles and individual book and anthology chapters discussing *CSI* or other forensic crime dramas.

A new structure of feeling: aims and research questions

An important starting point and source of inspiration for this study is Charlotte Brunsdon's insightful *Screen* article "Structure of Anxiety: Recent British Television Crime Fiction".[14] Published in 1998, at the point when several crime dramas had started shifting their focus from police officers to pathologists, Brunsdon's article looked back at three British landmark crime dramas of the late 1980s and early 1990s. She discusses *Inspector Morse* (ITV, 1987–2000), *Prime Suspect* (ITV, 1991–1996) and *Between the Lines* (BBC, 1992–1994) as part of wider discursive contexts specific to the moment of their production, suggesting that they speak "very directly to the concerns of Great Britain in decline under a radical Conservative government with a strong rhetoric of law and order."[15] Rather than understanding the programmes as mirroring the dominant ideology of society, Brunsdon proposes that each drama "works over and worries at" issues that stem from particular "structures of anxieties" of the current moment.[16]

Brunsdon's understanding of television programmes as being produced in, responding to, and articulating a historically specific structure of anxiety has its roots in Raymond Williams's writings on the concept "structures of feeling".[17] Williams first described this term in some detail in *The Long Revolution*, clarifying that:

> [It] is as firm and definite as 'structure' suggests, yet it operates in the most delicate and least tangible parts of our activity. In one sense the structure of feeling is the culture of a period: it is the particular living result of all the elements in the general organization. And it is in this respect that the art of a period, taking these to include characteristic approaches and tones in argument, are of major importance.[18]

In his study on Williams's work, Alan O'Connor has pointed out that subsequent usages of the term often take it "to describe something like the ordinary meaning today of the world *culture*: shared experience."[19] This largely includes Brunsdon's adaptation of the term, but in exchanging the word "feeling" with "anxiety" she specifically points to a set of shared worries circulating in television (and presumably other cultural expressions) at a given moment. According to Brunsdon, the shared worries articulated in the crime dramas of the late eighties and early nineties specifically relate to po-

[14] Charlotte Brunsdon, "Structure of Anxiety: Recent British Television Crime Fiction", *Screen*, 39:3 Autumn, 1998, 223–243.
[15] Brunsdon (1998), 223.
[16] Brunsdon (1998), 225, 242.
[17] Brunsdon (1998), 242.
[18] Raymond Williams, *The Long Revolution* (Harmondsworth: Penguin, 1961), 64–65.
[19] Alan O'Connor, *Raymond Williams* (Oxford: Rowman and Littlefield, 2006), 79.

lice (mis)conduct and responsibility, posing questions such as "who can police?" and "who is accountable?"[20]

While Brunsdon understands the nineties as a particularly dynamic and fruitful period for the genre, she expresses scepticism about the future. Towards the end of the article, she notes that the increased medicalisation of crime dramas in the late nineties meant a gradual move away from questioning the accountability of law enforcement. While she suggests that more dynamic inquiries were being substituted with corporeal spectacles, Brunston also acknowledges – in passing – that she is unsure whether the new medicalised crime dramas actually lacked a structure of anxiety: might they simply be worrying about different issues?[21] This tentative remark is the baton that I pick up from Brunsdon, in an effort to continue her discursively grounded historicisation of television crime dramas. Inspired by Brunsdon, I assert that *CSI* raises a new set of dynamic questions speaking to its particular moment of production. I do, however, prefer to use Williams's original term structure of feeling when describing the issues that the series articulates. One reason for this is that the term is somewhat more emotionally neutral that Brunsdon's structure of anxiety, which could be said to pre-impose assumptions about the nature of these issues.

Previous scholarly studies on *CSI* have typically placed the series within the discursive framework of either postmodernity,[22] post-9/11 culture,[23] neoconservative or neoliberal society,[24] which could all be understood as raising and circulating questions about uncertainty, risk, responsibility, control and truth. Considering *CSI*'s prominent visual and narrative focus on science, I instead wish to shift the attention onto the series' articulation of issues expressly tied to scientific knowledge and practices. Hence, the thesis is con-

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[20] Brunsdon (1998), 225, 228.

[21] Brunsdon (1998), 242.

[22] See for example: Steenberg (2008); Harrington (2007); Sue Turnbull, "The Hook and the Look: *CSI* and the Aesthetics of the Television Crime Series" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 15–32; and Lucia Rahilly, "The Quintessence of Con: The Las Vegas of *CSI*" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 122–125.

[23] See for example: Dennis Broe, "Genre Regression and the New Cold War: The Return of the Police Procedural" *Framework*, 45:2, Fall 2004, 81–101; Michael Allen, "Introduction: This Much I Know…" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 3–14; and Lawrence Kramer, "Forensic Music: Channeling the Dead on Post-9/11 Television" in *The CSI Effect: Television, Crime and Governance*, Michele Byers and Val Marie Johnson, eds. (Plymouth, Lexington Books, 2009), 201–22.

[24] See for example: Michele Byers and Val Marie Johnson, "*CSI* as Neoliberalism: An Introduction" in *The CSI Effect: Television, Crime and Governance*, Michele Byers and Val Marie Johnson, eds. (Plymouth, Lexington Books, 2009), xiii–xxxvi and Kevin Denys Bonnycastle, "Not the Usual Suspects: The Obfuscation of Political Economy and Race in *CSI*" in *The CSI Effect: Television, Crime and Governance*, Michele Byers and Val Marie Johnson, eds. (Plymouth, Lexington Books, 2009), 149–176.

structed to answer a basic research question, namely: *how does CSI engage with discourses on science?* In other words, the thesis examines what scientific practices and knowledge *CSI* dramatizes and visualises, asking what scientific ideas it thus articulates and discusses, and what viewpoints and perspectives it expresses about these ideas. Crucially, I aim to answer these questions by providing insights on three different levels of enquiry: (1) wider cultural discursive contexts, (2) genre linkages, and (3) audio-visual form. The thesis will thus examine how *CSI*'s discourse on science is interconnected with, and affected by, wider cultural, generic and stylistic continuations and changes.

The post-genomic redefinition of life itself

Brunsdon argued that the police dramas of the late eighties and early nineties posed questions about the responsibility of the police, and in turn, I contend that *CSI* redirects these inquiries onto the institutions, practices and knowledge of science, asking the following questions: Who can do science? What can science do? What kind of knowledge does science produce? And how does this knowledge change our view of the world? Significantly, when posing such questions *CSI* places a particular focus on biomedical science of the present moment, or even the imminent future.

One reason why I use Williams's original concept, structure of feeling, is that it specifically refers to an emergent experience. While Brunsdon describes the structure of anxiety around the institutions of policing as "clearly articulated" in the nineties crime dramas, I propose that *CSI*'s structure of feeling rather is an emergent cultural tendency that the series is grasping at.[25] In *Marxism and Literature*, Williams specifically uses the concept structure of feeling to distinguish between "dominant, residual and emergent" aspects of a culture at any given moment.[26] This results in a more precise understanding of the term, which is important for my own analysis. Williams describes a structure of feeling as a "embryonic phase" where "new meanings and values, new practices, [and] new relationships" are first being expressed and experienced, before having become fully articulated, defined and built into institutions and formations.[27] Furthermore, Williams argues that the

[25] Brunsdon (1998), 424.
[26] As has been pointed out by Alan O'Connor, these ideas were already implicit in *The Long Revolution*: "because the structure of feeling that interests Williams is not a known culture but the emergent culture of a new generation. The whole point is that the emergent structure of feeling is in part unconscious. It is described with a great deal of difficulty by new literature and art." See: O'Connor (2006), 79; Raymond Williams, *Marxism and Literature* (Oxford: Oxford University Press, 1977), 121–135 and Williams (1961), 64–65.
[27] Williams (1977), 123, 131–132.

study of cultural products is important precisely because this is where emergent structures of feeling become tangible:

> The idea of a structure of feeling can be specifically related to the evidence of forms and conventions – semantic figures – which, in art and literature, are often among the first indications that such a new structure is forming. [As] a matter of cultural theory this is a way of defining forms and conventions in art and literature as inalienable elements of a social material process: not by derivation from other social forms and pre-forms, but as social formation of a specific kind which may in turn be seen as the articulation (often the only fully available articulation) of structures of feeling which as living processes are much more widely experienced.[28]

It is precisely in certain aspects of *CSI*'s form, narration and storytelling that a new set of experiences are slowly and implicitly becoming expressed. While Brunsdon discussed a dominant cultural tendency expressed by the nineties crime dramas, I thus understand *CSI*'s structure of feeling as an experience "in *solution*, as distinct from other social semantic formations which have been *precipitated* and are more evidently and more immediately available."[29]

To be exact, *CSI*'s structure of feeling is engaging with an emergent shift within the wider discourse around scientific practices and knowledge, whereby the arrival of post-genomic sensibilities has the potential of resulting in a redefinition of many of the foundational concepts of our culture, including that of life itself. A range of scholars from different fields have already provided important insights about this new cultural process, including historian/philosopher of science Evelyn Fox Keller, feminist philosopher Donna Haraway, film studies scholar Jackie Stacey and anthropologist Paul Rabinow.[30] There are two scholars whose respective discussions on this discursive shift that I find particularly fruitful, namely feminist anthropologist Sarah Franklin and sociologist Nikolas Rose.[31] Following Franklin, I understand this growing structure of feeling as a result of the following sequence of discursive changes: "nature becomes biology becomes genetics, through

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[28] Williams (1977), 133.

[29] Williams (1977), 133–134.

[30] See for example: Keller (2005); Donna Haraway, *Modest_Witness@Second_Millennium. FemaleMan_Meets_OncoMouse*: *Feminism and Technoscience* (New York and London: Routledge, 1997); Jackie Stacey, *Cinematic Life of the Gene* (Durham and London: Duke University Press, 2010); and Paul Rabinow, "Introduction: A Vital Rationalist" in *A Vital Rationalist: Selected Writings from George Canguilhem*, Francois Delaporte, ed. (New York: Zone Books, 2000), 11–22.

[31] See primarily: Sarah Franklin, "Global Nature and the Genetic Imaginary" in *Global Nature, Global Culture*, Sarah Franklin, Celia Lury and Jackie Stacey, eds. (London: SAGE Publications, 2000), 188–227; Franklin (2007); and Nikolas Rose, *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century* (Princeton: Princeton University Press, 2007).

which life itself becomes reprogrammable information."[32] The fields of molecular biology and genetics are thus focal points for this move beyond the notions and formulations that have been characteristic of the discursive frameworks of biology and genomic science, towards a new post-genomic experience.

Both Franklin and Rose map the historical background of this shift by combining the insights of French philosophers and historians Georges Canguilhem and Michel Foucault. In a 1966 essay, Canguilhem began examining how the very concept of life had been transformed from antiquity to present day.[33] This line of enquiry that was then picked up by Foucault when attempting to trace a particular epistemic shift taking place in the eighteenth century, namely that of Darwinist biology emerging as a framework for understanding "the facts of life".[34] Foucault argued that the category of "life itself" only came into existence in its modern meaning when the representational models used for understanding nature shifted from the "non-temporal rectangle" (which sorted things according to their position in God's creation), to the framework of biology.[35]

Canguilhem's research provides the next building block in this epistemological history, proposing that a new major shift was taking place in in the 1960s: life was becoming redefined by the scientific field of molecular biology.[36] Discussing the discourses emerging from the discovery of the structure of the double helix (the DNA molecule), Canguilhem argued that the conceptual construction of life was now increasingly dropping "the vocabulary and concepts of classical mechanics, physics and chemistry […] in favour of the vocabulary of linguistics and communications theory. Messages, information, programmes, codes, instructions, decoding: these are the new

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[32] Franklin (2000), 190.

[33] George Canguilhem, "The Concept of Life" in *A Vital Rationalist: Selected Writings from George Canguilhem*, Francois Delaporte, ed. (New York: Zone Books, 2000 [1966]), 303–320.

[34] Foucault traced this change in *The Order of Things* as part of his endeavour to excavate of the history of the human sciences and establish a more suitable method for this type of history writing. See: Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (London and New York: Routledge, 2002 [1970]), 136–179. For a more detailed summary and comparison between Canguilhem and Foucault's respective perspectives on life itself, see: Franklin (2000), 191–194.

[35] Foucault elaborates that: "Historians want to write histories of biology in the nineteenth century; but they do not realise that biology did not exist then, and that the pattern of knowledge that has been familiar to us for a hundred and fifty years is not valid for a previous period. And that, if biology was unknown, there was a very simple reason for it: that life itself did not exist. All that existed was living beings, which were viewed through grid of knowledge constituted by natural history." See: Foucault (2002 [1970]), 139.

[36] For the importance of this assertion, see Canguilhem (2000 [1966]), 317; Rabinow (2000), 20; Franklin (2000), 192, 194; Nikolas Rose, "The Politics of Life Itself", *Theory, Culture & Society*, Vol. 18(6), 2001, 13–14; and Rose (2007), 44.

concepts of the life sciences."[37] As Franklin derives from Canguilhem, this inauguration of a genetic era reconfigured life so that it increasingly became understood in terms of information.[38] Canguilhem's prediction that "if we are to understand life, its message must be decoded before it can be read" has since been more or less literally realised in scientific practices, such as the Human Genome Project which aimed to 'decode' the entire sequence of human DNA.[39]

Scholars such as Fox Keller, Franklin, Dorothy Nelkin and Susan M. Lindee have in some detail analysed the discourses that rendered the gene a major cultural icon of the latter half of the 21st century.[40] The cultural ideas tied to the gene during this period are familiar to all of us; it became understood as harbouring firm facts about our past, present and future. As summarised by Nelkin and Lindee, the genome has been referred to:

> […] as the Bible, the holy Grail, and the Book of Man. Explicit religious metaphors suggest that the genome – when mapped and sequenced – will be a powerful guide to moral order. Other common references to the genome as a dictionary, a library a recipe, a map, or a blueprint construct DNA as a comprehensive and unbiased resource, an orderly reference work.[41]

CSI's discourse on science is, as others have already shown, saturated with the types of ideas that are characteristic of what Fox Keller has called "the century of the gene".[42] However, what I am arguing is that it also expresses a new structure of feeling, pointing towards an emergent post-genomic discourse that potentially moves beyond the now traditionally deterministic and essentialist understanding of the gene.

As the cultural drive towards geneticization (in Franklin's terminology), or molecularization (in Rose's terminology), has continued, things have seemingly become increasingly complicated.[43] For example, the Human Genome Project and other similar scientific undertakings have not resulted in the expected revelation of all the genome's hidden secrets about life itself,

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[37] Canguilhem (2000 [1966]), 316.
[38] Canguilhem (2000 [1966]), 312–317.
[39] Canguilhem (2000 [1966]), 312 and Franklin (2000), 194.
[40] See: Dorothy Nelkin and Susan M. Lindee, *The DNA Mystique: The Gene as a Cultural Icon* (New York: W.H. Freeman and Company, 1995); Keller (2000); and Sarah Franklin, "Life Story: The Gene as Fetish Object on TV", *Science as Cultur*e, 1:3, 1988, 92–100.
[41] Nelkin and Lindee (1995), 8.
[42] Keller (2000). A number of other scholars have pointed out that *CSI* is invested in an essentialist understanding of genes, see for example: Corinna Kruse, "Producing Absolute Truth: *CSI* Science as Wishful Thinking", *American Anthropologist*, Vol. 112, Issue 1, 2010b, 79–91 and Barbara Ley, Nathalie Jankowski and Paul R. Brewer, "Investigating *CSI*: Portrayals of DNA testing on a forensic crime show and their potential effects", *Public Understanding of Science,* May 27, 2010, 1–17.
[43] Franklin (2000), 189 and Rose (2007), 5, 11–15.

but have rather produced more questions and uncertainties. Furthermore, the new information framework of science has enabled a "literal and metaphorical prospect of *reprogramming biology*", which has resulted in a significant shift from explanatory to experimental scientific practices.[44] In other words, with molecules becoming understood as building blocks of life that can be reprogrammed and recombined, the spotlight is now on biomedical technologies that can interfere in biological processes in complex ways.

One can identify two interconnected tendencies as characteristic of the wider discursive shift around science that engenders the post-genomic structure of feeling. Firstly, a cultural process has emerged through which concepts such as truth, cause and effect, identity, body, reproduction, kinship, emotions, nature, life and death are being redefined.[45] This cultural reconfiguration specifically has the potential of allowing for more uncertainty and complexity. Secondly, there has been an increased instrumentalisation of molecular science that intensifies the wider process of redefinition by seemingly making bodies and biological processes modifiable.[46] These two elements have been aptly summarised by Franklin, in her book about the discourses around Dolly, the first cloned sheep:

> The new view of biology, the deconditionalized view of post-genomic biology is defined by a return to the cell – the first primary unit of the life sciences, overtaken mid-century by the gene, but back in the ascendancy in part because of Dolly […]. New models of life as complex, autopoeitic, informatic, semiotic, and indeterminate now sit alongside the older models of an essentially bipartite division between genetic instructions and everything else. The new unconditional biologies of the age of biological control are primarily imagined as plastic, flexible, and partible. They no longer work to a logic of a fixed structural system, but to that of flexibly reengineered functionality. In fast-growing fields of post-genomic science, such as tissue engineering and computational biology, as in agriculture, the questions of what the biological *is* has become inextricable from what the biological *does* or can be made to do.[47]

Before moving on to present the exact post-genomic issues that *CSI* deals with, I want to point out that this cultural structure of feeling is international and not only present in the United States of America (as *CSI*'s country of

[44] Franklin (2000), 190. See also Rose (2007), 15–22.

[45] Franklin lists the following concepts: nature, biology, living being, vitality, human, body, organism, synthetic and technology. See Franklin (2000), 188–191 and Rose (2007), 9–40.

[46] Franklin's analysis focuses particularly on how new reproduction technologies, as one such instrumentalisation, results in a drastic restructuring of genealogy that reconfigures the concepts of reproduction and kinship. Rose, in turn, is more interested in how new biomedical technologies promise to enhance and maximise biological processes, bodies and life itself and how this changes the notion of individuality. See: Franklin (2000), 215–222 and Rose (2007), 15–27.

[47] Franklin (2007), 33.

origin).[48] The scholarly work on this wider shift in the discourses around science has identified cultural texts from different parts of the world as articulating these tendencies. In extension, I am not suggesting that *CSI* is the only, or the first, popular text to engage with this discursive shift and articulate the post-genomic structure of feeling; this cultural experience already started emerging in popular texts during the nineties.[49] However, while this structure of feeling is not completely new as such, I do propose that it is largely new to the forensic crime genre.

Questions about science and materiality: the issues that *CSI* articulates

Corinna Kruse, a scholar working within the field of cultural studies of (techno)science, has already convincingly argued that the wider "forensic imaginary", i.e. the discourses that surrounds the cultures, practices, knowledge of forensic science, should be understood as participating in the wider cultural process of "imagining and thinking about life itself in its genetic articulations".[50] Kruse's ethnographical research on the role of forensic science in the contemporary Swedish judicial system importantly points to the way that materiality becomes a central issue when the recent shift in the wider scientific discourse begins to impact the forensic imaginary. Kruse points out that a central function of the forensic apparatus is to materialise forensic evidence and the body of the criminal, which indicates how materiality and physicality are concepts that are actively being constructed and reconfigured.[51] Kruse's discussion suggests that the utilisation of molecular science in forensic practices has the potential of reconfiguring our understanding of the materiality of objects and bodies, constructed as physical traces from criminal events. For example, she suggests that:

> The forensic apparatus does not materialize whole bodies through making forensic evidence, but particular bodily constellations – for example, finger-

[48] The transnational nature of this discourse is, for example, indicated by the fact that one of Sarah Franklins' main texts on the wider cultural the redefinition of life itself is published in the book *Global, Nature, Global Culture*, as part of an wider attempt (by Franklin, Celia Lury and Jackie Stacey) to account for "the ways in which the global is performed, imagined and practised across a number of locations." See: Sarah Franklin, Celia Lury and Jackie Stacey, "Introduction" in *Global Nature, Global Culture*, Sarah Franklin, Celia Lury and Jackie Stacey, eds. (SAGE Publications: London, 2000), 1–16.

[49] For example, Jackie Stacey has convincingly discussed a number of cloning films from the nineties as expressing a number of cultural anxieties tied to both the traditional genetic imaginary and the current redefinition of life itself. See: Stacey (2010).

[50] Corinna Kruse, "Forensic Evidence: Materializing Bodies, Materializing Crimes", *European Journal of Women's Studies*, 17(4), 2010a, 372–373.

[51] Kruse (2010a), 364.

> prints or DNA profiles – that are regarded as relevant to solving crimes. A fingerprint or DNA profile becomes a stand-in for a complete body and, in extension, a whole person; it is not an uncommon wording to refer to people (and not their profiles or fingerprints) as being in a database. In other words, persons become matter becomes data […].[52]

This tendency to construct and redefine materiality is, I would argue, equally present in *CSI*'s discourse on science.[53]

Previous research on *CSI* has already pointed out that the concept of materiality is central to understanding the series' representation of physical evidence.[54] Issues of materiality have been most prominently discussed in relation to the series' depiction of autopsy practices.[55] The scholarly interest in the representation of autopsies might partly be explained by the fact that many academic commentators write on *CSI* as part of a more general interest in the forensic crime genre as a whole. *CSI* is thus discussed in relation to series such as *Silent Witness* (BBC, 1996–), *Crossing Jordan* (NBC, 2001–2007) or *Bones* (Fox, 2005–), which in some ways focus even more closely on the dead body as the centre of the investigative procedure. However, my own interest in *CSI*'s articulation of the post-genomic structure of feeling

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[52] Kruse (2010a), 371.

[53] Kruse has also written an article specifically analysing *CSI*'s representation of forensic science, but as she adopts the *CSI*-effect concept to primarily discuss the series investment in older scientific knowledge and practices, she does not address the ways in which the series could be said to participate in the processes of "imagining and thinking about life itself in its genetic articulations", that she identifies within the wider forensic imaginary in her article "Forensic Evidence: Materializing bodies, Materializing Crimes". See, Kruse (2010b), 79–91 and Kruse (2010a), 372–373.

[54] The following texts focus specifically on *CSI*'s representation of physical evidence: Gere (2007); Ruble, Raymond, *Round Up the Usual Suspects: Criminal Investigation in Law and Order, Cold Case, and CSI* (Westport and London: Praeger, 2009), 1–28; Silke Panse, "'The Bullets Confirm the Story Told by the Potato': Materials without Motives in *CSI*: Crime Scene Investigation" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 153–166; and William J. Turkel, "The Crime Scene, the Evidential Fetish, and the Usable Past" in *The CSI Effect: Television, Crime and Governance*, Michele Byers and Val Marie Johnson eds. (Plymouth, Lexington Books, 2009), 133–147.

[55] The sheer number of texts focusing on the depiction of dead bodies and the autopsy practice indicates that this topic has been dominant within the scholarly study of *CSI* up until the present moment. See for example: Basil Glynn and Jeongmee Kim, "Corpses, Spectacle, Illusion: The Body as Abject and Object in *CSI*" in *The CSI Effect: Television, Crime and Governance*, Michele Byers and Val Marie Johnson, eds. (Plymouth, Lexington Books, 2009), 93–110; Tina Weber, *Drop Dead Gorgeous: Representations of Corpses in American TV Shows* (Chicago: University of Chicago Press, 2012); David Levente Palatinus, *Framing the Body, Staging the Gaze: Representations of the Body in Forensic Crime Fiction and Film*, (PhD Thesis, Peter Pazmany Catholic University, 2009); Alexia Jayne Smit, *Broadcasting the Body: Affect, Embodiment and Bodily Excess on Contemporary Television* (PhD Thesis: University of Glasgow, 2010); and Jacque Lynn Foltyn, "Dead Famous and Dead Sexy: Popular Culture, Forensics, and the Rise of the Corpse", *Morality*, Vol. 13, No. 2, May 2008, 153–173.

partly shifts the attention from the blatant display of corporeality in autopsy scenes to a number of other, comparatively rarely discussed scenes, figures and themes that also bring up dynamic questions about materiality. I understand the series' representation of bodies, in the more general meaning of the word, as central to its treatment of materiality. The study will consider *CSI*'s treatment of corporeality and materiality, and pay attention to the ways in which these concepts intersect with questions of gender and sexuality, as general concerns of the wider discourses around science.[56]

Hence, the specific post-genomic issues that are raised within *CSI*'s discourse on science implicitly entail questions concerning not only scientific knowledge and practice, but also materiality and corporeality, as well as sexuality and gender. Each of the four chapters will present one of the following issues: (1) *the complexity of molecular life*; (2) *the plasticity of bodily identity*; (3) *the artefactuality of kinship*; and (4) *the redefinition of the objectivity/subjectivity dialectic*. In identifying these issues, I am heavily indebted to Jackie Stacey's study *The Cinematic Life of the Gene*, in which she discusses several comparable themes as being featured in cloning films from the late 1990s.[57] My analysis also draws on a number of scholarly studies from a range of different fields, which have examined these issues as currently circulating in the wider discursive contexts around contemporary science. These studies cannot be understood as forming a coherent body of work, as they vary significantly in backgrounds, frameworks, focuses and aims, but they examine in parallel the same set of interconnected contemporary discourses.[58]

The complexity of molecular life is an issue rooted in the idea that the scientific gaze is becoming increasingly perceptive with recent developments in molecular science and the possibility that this might result in an increased

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[56] In discussing issues about corporeality, gender and sexuality, I follow in the footsteps of a number of scholars writing on *CSI* within the fields of feminist and gender studies. See for example: Steenberg (2008); Rahilly (2007); Smit (2010); Elke Weissmann, "Two Versions of the Victim: Uncovering Contradictions in *CSI*: Crime Scene Investigation Though Textual Analysis", *Journal of e-Media Studies*, Vol. 2, Issue 1, 2009, http://journals.dartmouth.edu/cgi-bin/WebObjects/Journals.woa/2/xmlpage/4/article/341, (accessed March 4, 2012); Melinda Lo, "*CSI*'s Mixed Track Record on LGTB Characters", *AfterEllen.com*, May 9, 2005, http://www.afterellen.com/TV/2005/5/*CSI*.html/ (accessed Marsh 4, 2012); Sofia Bull, "What Happens in Vegas Stays in Vegas: Sexual Subcultures and Forensic Science in *CSI*: Crime Scene Investigation", *Film International*, Issue 36, November 2008, 40–50; and Carlen Lavigne, "Death Wore Black Chiffon: Sex and Gender in *CSI*", *Canadian Review of American Studies*, 39, no.4, 2009, 383–398.

[57] Stacey (2010).

[58] While some use the terms post-genomic or the redefinition of life itself (i.e. explicitly placing themselves within in the same scholarly debate as Franklin and Rose), others favour different concepts, while discussing the same wider discursive shift around contemporary science. The fact that this shift calls for interdisciplinary and transnational analyses points to its diverse and global nature.

sense of complexity and indeterminacy, rather than an increase in straightforward scientific knowledge. This issue raises a range of questions about the kinds of information that miniscule biological entities (such as molecules and genes) are understood as harbouring in the current scientific context, and the ways in which this information might redefine our understanding of the material world. When examining how *CSI* deals with this issue I draw on scholarly writings about dynamic systems, non-linearity and unpredictability, encompassed by the umbrella term of complexity theory. By primarily using the work of Nigel Thrift, John Urry and Brian Wynne, I show that *CSI* engages with a wider cultural discourse dealing with ideas about complexity.[59]

The plasticity of bodily identity, in turn, refers to the understanding of medico-scientific discoveries as increasingly able to modify, transform and create biological entities. This has the potential of redefining both bodies and identities as more malleable than before. Studying how *CSI* deals with this possibility, I primarily evoke a number of recent feminist debates about the changing cultural representation of materiality, corporeality and the body. My argument is particularly indebted to Susan Bordo's writings on what she terms the paradigm of plasticity, but I also use the work of a number of other scholars writing on current discourses on corporeality, identity and the makeover narrative, including Anna M. Cronin and Brenda R. Weber.[60]

The artefactuality of kinship focuses on the cultural implications of biomedical practices that interfere in the reproductive processes, like in vitro fertilisation, egg donation and stem cell manufacture. These technologies have the potential of redefining our understanding of concepts such as sexuality, reproduction, kinship and genealogy, asking questions not only about the materiality of genetic heritage, but also about different social bonds and codes of conduct. In discussing this issue I draw on Sarah Franklin's scholarship on reproductive and genetic technologies.[61] I also consider the work of

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[59] See for example: Nigel Thrift, "The Place of Complexity", *Theory, Culture & Society*, 16(3), 1999, 31–69; John Urry, "The Complexity Turn", *Theory, Culture & Society*, 22(5), 2005a, 1–14; and Brian Wynne, "Reflexing Complexity: Post-genomic Knowledge and Reductionist Returns in Public Science", *Theory, Culture & Society*, 22(5), 2005, 67–94.

[60] See for example: Susan Bordo, "'Material Girl': The Effacements of Postmodern Culture" in *The Female Body: Figures, Styles, Speculations*, Laurence Goldstein, ed. (Ann Arbor, The University of Michigan Press: 1991), 106–130; Anne M. Cronin, "Consumerism and Compulsory Individuality: Women, will and potential" in *Transformations: Thinking Through Feminism*, Sarah Ahmed, Jane Kilby, Celia Lury, Maureen McNeil and Beverly Skeggs, eds. (USA: Routledge, 2000), 273–287; and Brenda R. Weber, *Makeover TV: Selfhood, Citizenship, and Celebrity* (Durham and London: Duke University Press: 2009).

[61] Primarily: Franklin (2000) and Sarah Franklin, "Biologization Revisited: Kinship Theories in the Context of the New Biologies" in *Relative Values: Reconfiguring Kinship Studies*, Sarah Franklin and Susan McKinnon, eds. (Durham and London: Duke University Press, 2001), 302–325 and Sarah Franklin, "Making Miracles: Scientific Progress and the Facts of Life" in *Reproducing Reproduction: Kinship, Power, and Technological Innovation*, Sarah

a number of her peers from the field of kinship studies, including David Schneider's work on substantive kinship and Catherine Nash's writings on the concept of genetic kinship.[62]

Finally, *the redefinition of the objectivity/subjectivity dialectic* refers to the way in which molecular biology might redefine our understanding of sensations, feelings and emotions. By providing these phenomena with new biological frameworks of explanation, they seemingly turn material, corporeal, and objectively observable. In *CSI*, this results in a reconfiguration of the generic subjectivity/objectivity dialectic, a tension discussed by many earlier forensic crime dramas. Contemporary molecular science, on the one hand, seems to offer a potential solution to the long running problems associated with subjective and empathic approaches to policing. On the other hand, by constructing affects as having a molecular materiality *CSI* also questions the traditional understanding of the human body as a bounded entity. When discussing this issue I refer to a number of scholars who have participated in, or reflected on, what some call the affective turn in science and academia, including Derek P. McCormack, Teresa Brennan and Lisa Blackman.[63]

Before moving on to outline how *CSI* deals with these post-genomic issues, I want to point out that *CSI* is an intriguing case study precisely because it engages with the contemporary discursive shift around science in a more sustained way than most other forensic crime dramas of the early 2000s. While other contemporary series occasionally articulate this structure of feeling, *CSI* does so more frequently and explicitly. This becomes apparent when examining the two spin-offs *CSI: Miami* (CBS, 2002–) and *CSI: NY* (CBS, 2004–), which on several accounts diverge from *CSI*'s discourse on science. As has already been pointed out by television scholar Elke Weissmann, science plays different roles in these series: "*CSI: Miami* uses the sciences in order to highlight the suffering of the victim [and] *CSI: NY* depicts the sciences as a means to overcome the trauma of crime and presents them as a work of mourning."[64] Hence, while questions about scientific

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Franklin and Helena Ragoné, eds. (Philadelphia: University of Pennsylvania Press, 1998), 102–113.

[62] See for example: David Schneider, *American Kinship: A Cultural Account*, 2nd edition (Chicago: University of Chicago, 1980) and Catherine Nash, "Genetic Kinship", *Cultural Studies*, 18:1, 2004, 1–33.

[63] See for example: Derek P. McCormack, "Molecular Affects in Human Geographies", *Environment and Planning A*, Vol. 39, 2007, 359–377; Teresa Brennan, *The Transmission of Affect* (Ithaca and London: Cornell University Press, 2004) and Lisa Blackman, "Embodying Affect: Voice-hearing, Telepathy, Suggestion and Modelling the Non-conscious", *Body & Society*, Vol. 16(1), 2010, 163–192.

[64] Elke Weissmann, *Crime, the Body and the Truth: Understanding the Shift towards Forensic Science in Television Crime Drama with the CSI-franchise* (PhD Thesis, University of Glasgow, 2006), 2.

knowledge and practices are a central in *CSI*, its two sister series rather feature science as a means to investigate other cultural topics.[65]

CSI as a transnational cultural forum in the network era

My analysis will show that *CSI* portrays molecular science and new scientific technologies as providing invaluable tools for a more reliable and swift crime solving process, while simultaneously voicing a number of worries about the implications of these recent scientific developments. In other words, contemporary scientific practices and knowledge are constructed as both problems and solutions. The above-mentioned issues are brought up as problems pertaining to science at the current moment, but molecular science is also presented as the very thing that will solve these problems.[66] One of the central arguments of the thesis is therefore that *CSI*'s discourse on science is riddled with tensions and inconsistencies.

This ambiguous treatment can partly be explained by precisely identifying *CSI* as articulating an emergent structure of feeling: as a set of new meanings, practices and relationships that are just beginning to be discussed, questioned and tested, the post-genomic experience would necessarily be wrought with tension. According to Williams, a structure of feeling always exists alongside other pre-existing notions and viewpoints.[67] *CSI's* discourse on science indeed incorporates oppositional perspectives on both the traditional framework of Darwinist biology and the genetic imaginary central to the 21st century, as well as the current shifts within molecular science that give rise to the emerging post-genomic structure of feeling. However, in order to account for *CSI*'s discourse on science it is also important to acknowledge its media specificity: namely, this text's status as a television series produced by the American network CBS, aimed at a wide audience and globally exported. My study thus follows the traditions of television studies invested in cultural criticism, examining the cultural work done by

[65] This difference is also indicated by the different ways the three series depict their main characters. Weissmann has summarised this difference aptly in her book: "While in *Crime Scene Investigation*, the investigators are scientists who work for the police, in *Miami*, the members of the team are cops. The head of the lab, Horatio Cane (David Caruso), is particularly characterised by this: he used to work for the bomb squad, has a brother and a sister-in-law who also work for the police and is a very good shot who often uses his gun to make arrests. […] The last spin-off of the franchise, *New York*, revolves around the team of Marc "Mac" Taylor (Gary Sinise) who, like his counterpart in *Miami*, is characterised as cop rather than scientist." See: Weissmann (2010), 76.

[66] This is not unlike the way that some pornographic films "forcefully present sex as a problem and propose to find better sex as the solution", as shown by film scholar Linda Williams. See: Linda Williams, *Hard Core: Power, Pleasure and the 'Frenzy of the Visible'* (Berkley and Los Angeles: University of California Press, 1989), 166.

[67] See: Williams (1961), 64–65 and Williams (1977), 121–135.

this text with consideration to the contemporary transnational television landscape as a significant context.

I again use Brunsdon as a foundational stepping-stone in this endeavour, adopting her understanding of the nineties crime dramas as "working over" and "worrying at" certain contemporary issues.[68] Brunsdon's perspective can be traced back to Horace M. Newcomb and Paul M. Hirsch's theory of television as a cultural forum.[69] This framework understands television as participating in a wider process of public thinking, simultaneously representing, negotiating and constructing the social reality in tandem with other media, art forms and cultural expressions. It is thus a perspective that fruitfully opposes the tendency of traditional ideological television criticism to assume that the medium has one monolithic meaning (traditionally thought to be the dominant ideology of that particular moment), and offers a more nuanced way to consider the politics of television texts.[70] Newcomb and Hirsch understand television as precisely presenting a multiplicity of meanings. They suggest that highly traditional, repressive and reactionary viewpoints, as well as more subversive and emancipatory affinities, are being simultaneously "upheld, examined, maintained and transformed" by both television as a medium and some individual series.[71]

This framework is in many ways comparable to that which John Ellis' promotes in his often quoted book *Seeing Things: Television in the Age of Uncertainty*.[72] Where Brunsdon's terms working over and worrying at might evoke implicit psychoanalytic connotations, Ellis argues that the Freudian notion of "working though" (a psychoanalytical technique whereby forgotten or repressed memories are repeatedly returned to) can be used as a model for understanding the role television plays in contemporary society: continually examining and re-examining different experiences.[73] There are, however,

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[68] Brunsdon (1998), 225.

[69] In arguing this, Newcomb and Hirsch was attempting to bridge the traditionally oppositional perspectives on the medium as both a tool for communication and as an aesthetic object of story-telling. See: Horace M. Newcomb, and Paul M. Hirsch, "Television as a Cultural Forum: Implications for Research", *Quarterly Review of Film Studies*, 8:3, 1983, 47.

[70] Newcomb and Hirsch (1983), 46.

[71] They argue that this is particularly true for the television flow as a whole, but their close-reading of an episode of *Father Knows Best* (CBS, 1954–1960) suggests that this is also is true for individual programmes. See: Newcomb and Hirsch (1983), 47–49.

[72] John Ellis, *Seeing Things: Television in the Age of Uncertainty* (London and New York: I.B. Tauris, 2000).

[73] This is how Ellis describes the cultural work done by the medium: "Television attempts definitions, tries out explanations, creates narratives, talks over, makes intelligible, tries to marginalize, harness speculation, tries to make fit, and, very occasionally, anathemizes. So the process of working though is not a straightforward process that takes in hunks of meat at the news end, and parcels them out as sausages at the other. It is a far more multi-faceted and leaky process than that. At the same time as a news story breaks about a racially motivated

certain aspects of his terminology that make it less useful for my own purposes. For example, there is a risk that it results in an understanding of television as primarily a medium of representation that mediates a range of original experiences from the surrounding world.[74] As I understand television texts as actively producing events, moments and ideas, and engaging with wider cultural discourses, my own perspective is closer to Jason Jacobs' take on the cultural forum tradition, that describes television as able to "anticipate and articulate quite amorphous trends, feelings and attitudes that only emerge concretely later on."[75]

In instead adopting Brunsdon's vocabulary of working over and worrying at, I also wish to emphasise the open-ended nature of *CSI*'s discourse on science.[76] In doing so, I follow in the footsteps of Helen Wheatley, who has voiced concerns that the concept of working through implicitly suggests a "sense of conclusion", and thus chooses to use the term worrying at, when implementing the theory of television as cultural forum.[77] While Ellis's emphasises that the cultural work of television is highly complicated and fragmentary, its Freudian roots still imbue the term working through with a sense of purpose that is misleading when used to describe *CSI*'s cultural work.[78] As a therapeutic method, working through holds the promise of treatment: Freud

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murder, for example, there will already be various other kinds of programming dealing with the issue of race and racism in various ways." See: Ellis (2000), 79.

[74] Specifically, Ellis proposes that television repeatedly returns to the same pre-existing events, moments and ideas, displaying them from different perspectives in attempts to therapeutically deal with the traumatic feelings that have allegedly arisen in the audience as a result of being placed in such a position of "witnessing" in the first place. In other words, the medium confronts the audience with unfamiliar images of the world, which causes a trauma that then has to be worked through by returning to these images. See: Ellis (2000), 10–11.

[75] This perspective is also compatible with Raymond Williams's understanding of cultural practices as playing a particularly important role in the process whereby an emergent structure of feeling surfaces, which points towards the creative potential of cultural texts. See: Jason Jacobs, *Body Trauma TV: The New Hospital Drama* (London: BFI Publishing, 2003), 30 and Williams (1977), 129.

[76] Both these terms evoke apt metaphors for the cultural work of *CSI*. 'Working over' explicitly suggests a process that is repeatedly reworking or altering objects, ideas or relationships. In turn, the somewhat more odd-sounding 'worrying at' not only connotes feelings of worry or anxiousness, but also – more importantly – evokes the act of pulling, tearing or scratching at something repeatedly: an act that could both be understood as aggressive, and as more gentle. The term to worry at, can also describe a process of continuous touching, moving and toying with.

[77] Helen Wheatley, "Rooms Within Rooms: Upstairs Downstairs and the Studio Costume Drama of the 1970s" in *ITV Cultures: Independent Television Over Fifty Years*, Catherine Johnson and Rob Turnock, eds. (Maidenhead: Open University Press, 2005), 149. See also: Helen Wheatley, *Gothic Television*, (Manchester: Manchester University Press, 2006), 24.

[78] Ellis does point out that the term indicates a process whereby "material is continually worried over until it is exhausted." See: Ellis (2000), 79.

explained it as a technique to eventually overcome repressed and traumatic experiences.[79]

I find Wheatley's particular adaptation of the cultural forum theory insightful in many ways, particularly her instructive avoidance of any overreaching claims about the television medium. In her analysis of *Upstairs Downstairs* (ITV, 1971–1975) she explicitly points out that she only understands a specific text as resisting any clear conclusions about the topics it deals with.[80] Implicit in such an assertion is a sensible awareness of the dangers in attempting to claim one function for the whole of the television medium.[81] To further avoid such generalising claims when implementing Newcomb and Hirsch's framework, my study also takes into account the points made by Amanda D. Lotz when examining the applicability of the notion of the cultural forum on contemporary television programmes.[82] Lotz points out that the increased audience dispersion of the current "post-network era", i.e. the move towards niche programming and the subsequent redistribution of audiences into highly specialised homogenous groups, poses the question whether individual programs still perform a type of public thinking that brings up and discusses highly contradictory ideas.[83] Newcomb and Hirsch's theory is built on an assumption that television is watched by a heterogeneous mass audience, whose different ideological convictions must be negoti-

[79] See: Sigmund Freud, "Remembering, Repeating and Working-Through: Further Recommendations of the Technique of Psycho-Analysis (1914)" in *The Standard Edition of the Complete Psychological works of Sigmund Freud: Vol XII*, James Strachey and Anna Freud, eds. (London: The Hogarth Press, 2001), 155.

[80] Wheatley (2005), 149.

[81] It should be acknowledged that Ellis does not make such a claim, as he historicises the process of working through, arguing that it is a historically specific role of television in what he calls the current "era of plenty" where multi-channel services and varied programming requires more complex discussions, rather than presenting a limited perspective to its mass audience. However, this particular historicisation stands in some opposition to the analyses by Wheatley and Newcomb and Hirsch, which convincingly show that older television programmes also expressing oppositional viewpoints. See: Ellis (2000), 74–90, 162–178, Wheatley (2005) and Newcomb and Hirsch (1983).

[82] See: Amanda D. Lotz, "Using 'Network' Theory in the Post-network Era: Fictional 9/11 US Television Discourse as a 'Cultural Forum'", *Screen* 45:4 Winter 2004, 423–439 and Amanda D. Lotz, *The Television Will be Revolutionized* (New York and London: New York University Press, 2007).

[83] Lotz's description of the current state of television thus differs somewhat from Ellis's deliberations on the "era of plenty", which rather emphasises that television content has increased in quantity and variety. The differences between the two perspectives can in part, as pointed out by Lotz, be explained by a difference in national focus. Lotz's research focuses on the American context, whereas Ellis' theories are influenced by the British context of his scholarship. It could be argued that the redistribution of US television audiences that Lotz discusses has not yet occurred to the same extent in the UK. See: Lotz (2004), 426.

ated: a premise that might no longer hold when it is "increasingly unlikely that ideologically polarized audiences will be watching the same series."[84]

However, rather than completely rejecting the notion of television as a cultural forum, Lotz simply asserts the importance of reflecting on what type of programming one is examining and how it might differ from the material examined by Newcomb and Hirsch. In her book *Television Will be Revolutionized* Lotz proposes that there still is "a particular category of programming that retains the social importance attributed to television's earlier operation as a cultural forum despite of the changes of the post-network era": namely, what she calls "phenomenal television".[85] *CSI* is, I propose, an example of such phenomenal television, making it an object of study that can still be fruitfully understood through the cultural forum framework. This conclusion can be reached by considering *CSI* in relation to the criteria that Lotz outlines as characteristic of phenomenal television in the network era.

For example, Lotz emphasises the need to consider institutional factors when determining if a programme functions as a cultural forum:

> Attention to institutional factors such as *what network or type of network airs a show relative to the network's common audience* derives increased importance after the network era and plays a role in determining phenomenal television. Despite all being forms of television, broadcast, basic cable, and subscription cable have different regulatory and economic processes that contribute to their norms of operation and the possible programs they can create. These outlets also vary amply in audience size – and this, too, is a factor that we must address in considering the reach and importance of program or theme.[86]

Although *CSI* is not reaching the exceptionally high viewing figures of network era programming, it has played a significant role as one of the flagship shows significantly raising CBS's viewing figures, broadening its demographics and retrieving some of its old prestige as one of the original "big three" broadcast networks.[87]

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[84] Lotz (2004), 429.
[85] Lotz (2007), 37.
[86] Lotz (2007), 38.
[87] *CSI* quickly climbed in audience ratings quickly after it began airing in 2000. Halfway through its first season, CBS transferred it from the less popular Friday 9pm timeslot, to Thursdays at 9pm: notorious as a stronghold for NBC's "Must-See TV" label. As has been explained by CBS president Nancy Tellem, this move was a gamble that turned out to be significant for the revitalization of the network, resulting in CBS surpassing NBC and archiving "primetime dominance" anew. Tellem has been quoted saying: "We obviously had no idea then that this show would mark the sea change, along with 'Survivor', that turned the network around" See: Ray Richmond, "Scene of the Crime", *Hollywood Reporter Special Issue: CSI 100th*, November 18, 2004, http://www.hollywoodreporter.com/ (accessed March 1, 2010).

Throughout its first 10 seasons, *CSI* has gained and retained a domestic audience that, in relation to current standards, is very large and heterogeneous, aspects that mark it as phenomenal television.[88] Nielsen Media Research listed the first season of *CSI* as having 17.8 million US viewers. The ratings peaked during seasons 2–7, with between 20.34 and 26.26 million viewers. There has since been something of a decline, with seasons 8–10 having between 14.92–18.52 million viewers.[89] In 2002–2003 it was the highest rating show in the US, a title that has never before been held by a crime drama.[90] Furthermore, it has attracted the loyalty of a wide range of demographics, allegedly appealing to both genders and a wide range of age-groups.[91] The series' heterogeneous audience is indicative of its wider audience address, making it stand out from shows more clearly marketed to niche audiences.[92]

Crucially, the size and heterogeneity of *CSI*'s audience also increases significantly with its wide global distribution. *CSI* promptly received much interest from international broadcasters when first previewed at MIPCOM, the annual TV trade show in Cannes.[93] In 2010, CBS's website stated that the three series forming the *CSI* franchise together were licensed in over 200

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[88] Lotz compares *CSI*'s ratings as the most watched television show with the 1959–1960 season of *Gunsmoke* (CBS, 1955–1975), which drew an average rating of 40.3 million viewers. However, by contemporary standards, *CSI*'s ratings are very high. See: Lotz (2004), 428.

[89] Season 11 had 13.52 million viewers and season 12 had 12.49 million viewers, a lower figure that might in part reflect CBS's choice to transfer it from its primetime timeslot to Wednesdays at 10 pm.

[90] From season 1–9, *CSI* has continuously been within the top 10 of the highest rating shows.

[91] This claim is put forth in James L. Longworth's interview with Anthony Zuiker, but I have been unable to locate the actual statistics supporting this. See: James L. Longworth, *TV Creators: Conversations with America's Top Producers of Television Drama, Volume Two* (Syracuse: Syracuse University Press, 2002), 95.

[92] Its wide address is particularly noticeable because it breaks with the crime drama convention of predominantly addressing and attracting male audiences. Lindsay Steenberg has convincingly shown how various discourses around *CSI* discusses it as addressed to – and popular amongst – women. Steenberg, and others, have fruitfully shown that there is a tension between the series empowering representation of professional female investigators and its sexualised portrayal of female corpses. Such studies implicitly indicate that *CSI* attempts to attract a heterogeneous audience. See: Steenberg (2008), 232; Sue Tait, "Autopic Vision and the Necrophilic Imaginary in *CSI*", *International journal of cultural studies*, Vol. 9(1), 2006, 45–62; Foltyn (2008), 153–173; David P. Pierson, "Evidential Bodies: The Forensic and Abject Gazes in *CSI*: Crime Scene Investigation", *Journal of Communication Inquiry*, 34(2), 2010, 184–203; and Ami Kleminski, "*CSI*: The New Face of the Male Gaze", *Global Media Journal*, Volume 5, Issue 9, Fall 2006, http://lass.calumet.purdue.edu/cca/gmj/fa06/ graduate-fa06/ gmj_grad_fa06_kleminski.htm (accessed March 4, 2012).

[93] That the series was speedily exported globally could be understood as indicating that it has long been aimed at a heterogeneous global audience. See: Elizabeth Guider, "'*CSI*' Registers Strong O'Seas Sales: Bruckheimer Hits Mipcom to Tout Skein", *Daily Variety*, 4 October 2000, http://www.variety.com/article/VR1117787290?refcatid=14&printerfriendly=true (acessed October 3, 2012).

national markets.[94] The heterogeneity of *CSI*'s global audiences is indicated by Matt Hills and Amy Luther's study of the series' online fandom, which observes the lack of a singular fan identity in the fandom discourses around *CSI*.[95] The fact that *CSI* has been aired on different types of networks and channels, across several continents, also marks it as a television series more likely to function in accordance with the cultural forum theory. As Lotz points out: "trans-network themes derive importance in a narrowcast environment because such scope indicates content that has achieved or is likely to achieve uncommon audience breadth despite fragmentation and polarizations."[96]

When Lotz discusses phenomenal television she only considers the American context, but I propose that the transnational movement of a show is another industrial aspect that thus can be fruitfully taken into account when identifying individual shows as examples of phenomenal television. Today's increasingly transnational television landscape can be understood as encouraging programmes to voice multiple perspectives, thus allowing for a wider audience address, which raises the chances of attracting a large and diverse

[94] These national markets include: Australia, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, Colombia, Croatia, Canada, Denmark, Estonia, Finland, France, Germany, Greece, Georgia, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Latvia, Lithuania, Mauritius, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Macedonia, Serbia, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Taiwan, Turkey, Vietnam, the United States, and the United Kingdom. In 2010, *CSI* also won the "International TV Audience Award for Best Drama TV Series" for having more than 73.8 million viewers worldwide. This award is presented by the Monte-Carlo TV Festival and Eurodata TV Worldwide for drama programs having the highest viewing figures worldwide, and *CSI* has so far won it four times: in 2007, 2008, 2010 and 2011. See: "*CSI*: Crime Scene Investigation is the Most Watched Show in the world", *CBS Corporation Website*, 06/11/2010, http://www.cbscorporation.com/news-article.php?id=652 (accessed February 25, 2012).

[95] Matt Hills and Amy Luther, "Investigating '*CSI* Television Fandom': Fans' Textual Paths through the Franchise" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 212. The number of studies that discuss the export and reception of *CSI* outside the US, particularly in the UK, also indicate the overseas popularity of the show. See: Weissmann (2010), 71–75; Simone Knox, "Five's Finest: The Import of CS Ito British Terrestrial Television" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 183–197; Dermot Horan, "RTÉ and the *CSI* Franchise" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen ed. (London: I.B. Tauris, 2007), 198–200; David Bianculli, "The *CSI* Phenomenon" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 222–227; Ian Goode, "*CSI*: Crime Scene Investigation: Quality, the Fifth Channel and 'America's Finest'" in *Quality TV: Contemporary American Television and Beyond*, Janet McCabe and Kim Akass, eds. (London and New York: I.B. Tauris, 2007), 118–128; and Kim Akass, "*CSI* at the bfi" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 73–77.

[96] Lotz (2007), 37.

global audience.[97] In other words, *CSI*'s open-ended treatment of science makes it possible for people from different backgrounds and cultures, with different lifestyles, political affiliations and religious beliefs, to find points of interest and enjoyment in the series. The adoption of a transnational framework of analysis thus points to the continued currency and usefulness of both the model of television as cultural forum and the concept of phenomenal television, which can be used to account for the global popularity of individual programmes and specific themes.

Bioethical debates: deflecting biopower and legitimising *CSI*'s discourse on science

My analysis also calls upon the interdisciplinary field of cultural studies of science in order to account for *CSI*'s discourse on science in ways that pay particular attention to the relationship between science and power.[98] While the central argument of this thesis is that *CSI* functions as a cultural forum, I also propose that Foucault-inspired theories about science as a power structure can provide insights about further effects of its contradictory treatment of science. In short, this framework results in an analysis of *CSI*'s tendency to voice bioethical concerns about contemporary science, which suggests that such a critical discussion actually encourages investment in forensic science as a trustworthy medico-scientific method of policing. In other words, as part of expressing multiple perspectives on science, *CSI* stages a bioethical discussion that functions as a very nearly compulsory process of legitimization for both forensic science and the series' discourse on science.

With this line of inquiry, the study expresses an affiliation to the growing body of work that analyses the relationship between media and science, in particular the fairly recent wave of academic studies examining audio-visual representations of bioscience and medicine.[99] Within this interdisciplinary

[97] For more detailed discussions on the transnational nature of contemporary television, and in particular on the global flow of programmes and formats, see for example: Lisa Parks and Shanti Kumar, eds. *Planet TV: A Global Television Reader* (New York: New York University Press, 2003); Denise D. Bielby and C. Lee Harrington, eds. *Global TV: Exporting Television and Culture in the World Market* (New York: New York University Press, 2008); and Sasha Oren and Sharon Shahaf, eds. *Global Television Formats: Understanding Television Across Borders* (London and New York: Routledge, 2011).

[98] I understand cultural studies of science as an umbrella term that includes work in a number of different academic fields, including sociology of science, history of science, philosophy of science and feminist technoscience studies. It can also include representational studies of science or scientific iconography, performed within the fields of film studies, television studies, media studies and studies of visual culture. All share an aim to critically examine the wider cultural discourses around natural science.

[99] A few particularly fruitful examples of this type of research are: Lisa Cartwright, *Screening the Body: Tracing Medicine's Visual Culture* (Minneapolis: University of Minnesota Press,

field of research, it is often asserted that media and bioscience are locked into a collaborative relationship, which amongst other things results in a reciprocal exchange of power that needs to be mapped and scrutinised.[100] This often complex relationship could be condensed down to the following basic swap, as described by Leslie J. Regan, Nancy Tomes and Paula A. Treichler: "Medicine provides media with reliably popular content and expertise while media provide medicine with modern communication systems for the powerful delivery of its messages."[101] The popular understanding of *CSI* as celebrating science contains an implicit assumption that the series stages this type of exchange. The practice of forensic science is thought to provide *CSI* with intricate plotlines, cutting-edge scientific facts and spectacular technology, which lend the series an aura of innovation and expertise. In return, *CSI* is thought to encourage its viewers to place trust in forensic science as a system of surveillance and control. However, I would propose that *CSI*'s discourse on science contributes to an increased public acceptance of forensic science in a somewhat more complex manner.

Scholarly studies on the relationship between media and science have often drawn heavily on Michel Foucault's writings on the epistemic shift in the eighteenth century meaning that the concepts of seeing, knowing and power became conflated within medical/scientific discourse. In his book *Birth of the Clinic*, Foucault argues that this period witnessed the emergence of what he calls a medical gaze, whereby the sense of sight became understood as an objective tool that medical professionals used to establish the truth about not only diseases and bodies, but also about death and life itself.[102] The act of visually reading the body for signs of disease also meant that it became a subject of increased medical power; Foucault shows that practices of classification, normalisation and dehumanisation of bodies emerged in tandem with the medical gaze. He also indicates that what started as a diagnostic practice in teaching hospitals has since not only saturated scientific discourse at large, but also other parts of culture and society, including major institutions and political systems.[103] In other words, the knowledge/power structure that the medical gaze represents has gained a more totalising social position

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1995); Lester D. Friedman, ed. *Cultural Sutures: Medicine and Media* (Durham: Duke University Press, 2004); José van Dijck, *The Transparent Body: A Cultural Analysis of Medical Imaging* (Seattle and London: University of Washington Press, 2005) and Anneke Smelik and Nina Lykke, eds. *Bits of Life: Feminism at the Intersections of Media, Bioscience, and Technology* (Seattle, WA: University of Washington Press, 2008).

[100] See for example: Friedman (2004), 4–5 and Leslie J. Reagan, Nancy Tomes and Paula A. Treichler, eds. *Medicine's Moving Pictures: Medicine, Health, and Bodies in American Film and Television* (Rochester: University of Rochester Press, 2007), 2.

[101] Reagan, Tomes and Treichler (2007), 2.

[102] Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (London and New York: Routledge, 2008 [1963]).

[103] Foucault (2008 [1963]), 24–43, 242–243.

that is "diffused in space and time, open and mobile, linked to individual existence, as well as to the collective life of a nation".[104]

A number of scholars have continued Foucault's project of mapping the cultural role of the medical gaze by arguing that film, television and other visual media have played a crucial role in the continued process whereby certain systems, institution and professions are infused with the power to control and regulate bodies. One example is Lisa Cartwright's study of early uses of film as a scientific imaging technology, in which she argues that:

> [The] cinematic apparatus can be considered as a cultural technology for the discipline and management of the human body, and that the long history of bodily analysis and surveillance in medicine and science is critically tied to the history of the development of the cinema as a popular cultural institution and a technological apparatus.[105]

Like many audio-visual texts representing scientific knowledge, practices and technologies, *CSI* has been discussed as following this tradition by dramatizing the gaze of the scientist as able to objectively expose the truth hidden inside bodies.[106] This cultural tradition is indeed evoked by *CSI*'s discourse on science and Foucauldian theories on the medical gaze are an important background context for understanding *CSI*'s articulation of the post-genomic structure of feeling. The Foucauldian insight that scientific practices and knowledge often normalize and naturalize certain bodies, behaviours and relationships is, for example, central for my continuous examination of how *CSI*'s discourse on science naturalises cultural norms about gender, sexuality and kinship.[107]

However, it is also important to take into account that the medical gaze's traditional status as objective, neutral and ideologically innocent has been continuously exposed as a myth since Foucault began his project. Nikolas Rose has shown that recent developments in biomedicine and biotechnology are currently widely discussed and criticised for providing new technologies of power.[108] In other words, contemporary bioscience is placing scientific

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[104] Foucault (2008 [1963]), 36.

[105] Cartwright (1995), 3.

[106] The medical gaze does not seek to reveal the truth of the diseased body in *CSI*, but rather the truth about a crime that has left physical signs on – and inside – the body. See for example: Martha Gever, "The Spectacle of Crime Digitized: *CSI*: Crime Scene Investigation and Social Anatomy", *European Journal of Cultural Studies*, Vol.8 (4), 2005, 457; Tait (2006), 47; and Elke Weissmann and Karen Boyle, "Evidence of Things Unseen: The Pornographic Aesthetic and the Search for Truth in *CSI*" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007), 97.

[107] I primarily draw on a number of feminist scholars that have built on Foucault's writings to produce more detailed and updated theories on the processes of normalisation and naturalisation. For example: Haraway (1997); Stacey (2010); and Franklin (2000).

[108] Rose (2007), 3–4.

power under increased public scrutiny, precisely because it seems to produce new possibilities for scientific control. Rose's analysis of this current shift within the scientific discourse builds on Foucault's writings on the concepts of biopower or biopolitics.[109] In short, Foucault used these concepts to indicate new technologies of power that developed after the inauguration of the medical gaze, during the second half of the eighteenth century.[110] Unlike the contemporary "technologies of discipline" that Foucault discussed as rendering the individual body docile in *Discipline and Punish*, biopower is explained to be a form of governance that takes the vitality and health of whole populations as its object of knowledge and target of control.[111] As examples of this, Foucault mentions demographic research (that keep track of birth rates, mortality rates and longevity), public hygiene campaigns, health care initiatives, insurance and pension schemes, urban planning and birth control, but also eugenics and state-sanctioned racism aiming to wipe out undesirable parts of a population.[112] Continuing in Foucault's footsteps, Rose has in turn suggested that the scientific fields of genetics and biomedicine currently produce new kinds of "molecular biopower". [113]

Rose also argues that the molecularization of science has rendered biopolitics a capitalist endeavour; from previously having been closely tied to the state apparatus, it is now primarily large biomedical companies that possess and practice biopower over the vitality of populations.[114] However, within contemporary culture, perhaps particularly in the American context, anxieties about state endorsed biopower are still circulating widely. In *The Birth of Biopolitics*, Foucault briefly indicated that that the political reasoning of liberalism clashes with the notion of an active and powerful state controlling the biological processes of an entire population, which indeed suggests that the notion of a state sanctioned biopower is ill-fitted with the contemporary political climate in the US.[115] Rose has also pointed out that the idea of "an omni-competent social state that would shape, coordinate and manage the

[109] Foucault's discussions of these concepts can be found in the following books: Michel Foucault, S*ociety Must be Defended: Lectures at the Collège de France 1975–76* (London: Allen Lane/Penguin Books, 2003), 239–259; Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France 1977-1978* (Basingstoke: Palgrave Macmillan, 2009), 1, 120, 367; and Michel Foucault, *The Birth of Biopolitics: Lectures at the Collège de France 1978–1979* (Basingstoke: Palgrave Macmillan, 2009), 22, 78, 317–324.

[110] Foucault (2003), 241–243.

[111] For more on the technologies of discipline, see Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Random House, 1995 [1975]) and Foucault (2003), 243

[112] Foucault (2003), 243–245, 252, 256–257, 259.

[113] Rose (2007), 31–39.

[114] Rose (2007), 31–39.

[115] In a political system mainly concerned with respect for legal subjects and individual free enterprise, the management of whole populations sits uneasily. See: Foucault (2009), 317–319.

affairs of all sectors of society has fallen into dispute."[116] This cultural unease is also rooted in versions of biopower practiced by totalitarian regimes like Hitler's Germany, or Stalin's Russia.[117]

Hence, current cultural debates about scientific power often place a specific spotlight on the state as a regulatory body, questioning what power it should have in relation to the population, individual citizens and the scientific community.[118] Science studies scholars Brian Salter and Mavis Jones have even suggested that genetics and other types of biotechnology have recently suffered something of a "legitimation crisis" in the context of advanced liberal democracies.[119] Interestingly, drawing on Salter and Jones' discussion, Rose has suggested that this discursive context provides a explanatory context for the rapid growth in the importance and popularity of bioethics; namely, bioethical debates have become a practice that seemingly offers an escape route beyond the cultural anxieties about biopower. As a scholarly field and professional practice, bioethics has increasingly become a form of legitimization device that can be utilised to show awareness of the dangers of biopower.[120] In other words, bioethical considerations have become a way for biomedical professionals, institutions and nation states to "represent themselves as ethical and responsible actors" and thus deflect the negative associations of biopolitics.[121]

This current function of bioethical debates can, I propose, help account for why *CSI* discusses bioethical issues as part of its contradictory discourse on science. My analysis will show that *CSI* engages with the contemporary cultural debate about the dangers of biopower and consciously acknowledges the increased power that science has over bodies. This stages a bioethical

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[116] Rose argues that this has resulted in an individualisation, whereby individuals and families are now instead obliged to monitor and manage their own bodies: "Every citizen must now become an active partner in the drive for health, accepting their responsibility for securing their own well-being." Rose, (2007) 6–7.

[117] For more discussions on this see, for example: Foucault (2003), 259; Paul Rabinow and Nikolas Rose, "Biopower Today", *BioSocieties*, 1, 2006, 195–217; and Giorgio Agamben, *Homo Sacer: Sovereign Power and Bare Life* (Stanford: Stanford University Press, 1998).

[118] See for example: Lene Koch, "The Meaning of Eugenics: Reflections on the Government of Genetic Knowledge in the Past and Present", *Science in Context*, 17(3), 2004, 315–331; Brian Salter and Mavis Jones, "Regulating Human Genetics: The Changing Politics of Biotechnology Governance in the European Union, *Health, Risk and Society*, Vol. 4, No. 3, 2002, 325–340; and Ladelle McWorther, "Governmentality, Biopower, and the Debate over Genetic Enhancement", *Journal of Medicine and Philosophy*, 34, 2009, 409–437.

[119] See: Brian Salter and Mavis Jones, "Human Genetic Technologies, European Governance and the Politics of Bioethics", *Nature Reviews Genetics*, 3(10), 2002, 808–814 and Brian Salter and Mavis Jones, "Biobanks and Bioethics: The Politics of Legitimation", *Journal of European Public Policy*, 12(4), 2005, 710–732.

[120] Rose (2007), 30.

[121] Rose (2007), 30. For a more in depth discussion on how pharmaceutical companies utilise bioethics see: Carl Elliot, "Pharma Buys a Conscience", *The American Prospect*, 12(17), 2001, 16–20.

discussion that has a similar diegetic function as bioethics currently has in society more widely: it provides *CSI*'s discourse on science with what I would call a bioethical license. The series' willingness to problematise contemporary scientific practices and knowledge, at least partially deflects the fact that *CSI*'s discourse on science is saturated by a conviction that forensic science should be trusted precisely as a government body using medico-scientific techniques to control the population. Conversely, any critical views that the series voices about the bioethics of contemporary instrumentalisations of bioscience do not reflect back on forensic science, but rather construct it as a sound, conscientious and reliable institution of policing.

Methodological considerations: a textual-historical approach to studying television

When it comes to my choice of methods, I primarily follow in the footsteps of television studies scholars, particularly Brunsdon, Jacobs and Wheatley.[122] I aim to provide insights about *CSI*'s discursive context, genre articulation and form by adopting a textual-historical method that relies heavily on close textual analysis, and provides detailed readings of both the audio-visual material and its contextual debates. This approach grows more generally from a strand of television studies that has roots in the field of film studies and favours the examination of textual aspects of the medium. Due to the strong historical ties that television studies has had to the fields of sociology and media and communication studies, the discipline has otherwise traditionally favoured research on the institutions, policies, schedules, flows and audiences of the television medium. There has, however, been a surge of scholarly work aiming to re-engage with the textuality of individual television programmes during the last decade.[123]

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[122] Jacobs' study *Body Trauma TV: The New Hospital Dramas* utilises a type of textual approach that examines television series by attempting to situate them within historical, cultural and genre contexts, which in many ways is similar to Brunsdon's approach in her article on nineties crime dramas and Wheatley's study on gothic television. There are, however, differences between their individual approaches and my own. Wheatley, for one, combines her textual analysis with production research to contextualise the programmes she is discussing. In my own study, a wider contextualisation is rather achieved through comparisons to scholarship that have in different ways mapped the wider cultural discourse that I understand *CSI* as participating in. See: Brunsdon (1998); Jacobs (2003); Wheatley (2006); and Jason Jacobs, "Hospital Drama" in *The Television Genre Book: 2nd edition*, Glen Creeber, ed. (London: BFI Publishing, 2001), 34–36.

[123] One tangible effect of this is the growing number of academic book series focusing on individual television programmes. Many of the instalments in series such as Palgrave MacMillan's "BFI Television Classics" and I.B. Tauris' "Reading Contemporary Television" use textual analysis as a main method. There are also a number of fairly recent academic studies that explicitly argue for the necessity of paying close attention to the formal aspects of televi-

This move towards close readings of individual programmes can partly be explained by the increased availability of entire television series on DVD/Blu-ray and other digital formats. Developments in digital technology have made a larger number of programmes easily accessible for repeated and concentrated viewing, which has no doubt impacted the research processes of television scholars.[124] Arguably, this increased availability has also changed the viewing habits of television audiences in general.[125] The facilitation of more selective, sustained and repetitive viewing habits undermines the viability of the traditional argument against textual analysis of television texts: namely, that it is artificial due to the interrupted or distracted nature of most television consumption. As television programmes are now increasingly consumed in a manner that resembles the type of viewing that forms the basis for academic close readings, the currency of textual analysis seems stronger than ever. However, my choice of method is rooted in a conviction that textual analysis can be fruitfully applied to all types of televisual material, no matter how they are being watched. While I endorse awareness of the specificity of each text and its various viewing contexts, I think Jacobs is right in arguing that many types of cultural text are being consumed in fragmentary and distracted ways, including novels and advertising, but they have long received close academic scrutiny without its usefulness being questioned.[126]

I thus aim to execute what Wheatley calls a "close and sustained critical analysis of television texts, dwelling on illuminating moments in the history of television programming", while also providing ample contextualisation.[127] Performing textual analysis on a long-running serial television drama has forced me to carefully consider how I approach the text, and establish crite-

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sion texts, including: Jeremy G. Butler, *Television: Critical Methods and Applications, 2nd edition* (Mahwah, NJ: Lawrence Erlbaum Associates, 2002); Karen Lury, *Interpreting Television* (London: Hodder Arnold, 2005); and Glen Creeber, *Serial Television: Big Drama on the Small Screen* (London: BFI Publishing, 2004).

[124] In a brief article reflecting on the research done for her BFI Television Classics instalment *Law and Order*, Charlotte Brunsdon has insightfully discussed how the DVD release of this series – previously only available for on-site viewing at the British Film Institute archives – changed both her object of study and work methods. See: Charlotte Brunsdon, "Television Criticism and the Transformation of the Archive", *Television and New Media*, 19:28, 2009, 28–30.

[125] See for example: John Corner, *Critical Ideas In Television* (Oxford: Clarendon Press, 1999), 124 and Sue Turnbull, "Moments of Inspiration: Performing Spike", *European Journal of Cultural Studies*, 8:3, 2005, 369.

[126] Jacobs makes this argument as one of the major participants in a recent "aesthetic turn" within the field of television studies, a movement that defends textual analysis in order to also reclaim the viability of value judgements as a scholarly practice. I do not understand myself as part of this aesthetic turn, as I do not attempt to judge *CSI*'s 'value' based on its aesthetic qualities. See: Jason Jacobs, "Issues of Judgement and Value in Television Studies*", International Journal of Cultural Studies*, Volume 4(4), 2001, 431.

[127] See: Wheatley (2006), 21.

ria for limiting the scope of my study. American prime-time dramas on network channels from the early 2000s usually run for at least one season, which most commonly includes between 20–25 episodes of approximately 40–60 minutes each.[128] As mentioned above, I have limited my main material to the first 10 seasons of *CSI*, which includes 229 episodes of 39–45 minutes each and makes for approximately 160 hours of audio-visual material in total. One of the main reasons why I tackle such a vast amount of material is my interest in identifying a structure of feeling in *CSI*, which due to its emergent nature might not be as explicitly articulated as other more apparent notions and themes. All of *CSI*'s seasons articulate the post-genomic structure of feeling, but it becomes more clearly pronounced as accumulated over time, which means that a study of one or two individual seasons risks missing important aspects of *CSI*'s discourse on science.

It is immensely time-consuming to perform detailed readings of such a large quantity of material. After having watched the material once, I have therefore identified a number of more specific objects of study: textual or thematic elements that functions as limits, or focal points, for my analytical process. These include *thematic tropes* (visual knowledge, physical evidence, disguise, self-transformations, familial relationships, sexual behaviours, scientific experiments and empathy), *narrative devices* (temporal jumps, expressionistic inserts and re-enactment scenes) and *visual imagery or iconography* (scientific iconography, microscopic imagery, deep focus effects, makeover iconography, imagery of the human reproduction process, the iconography of family trees, family photos, blood, sexual imagery, fetish objects, and the figure of the bodies acting in affect) that I identify as relevant to *CSI*'s specific discourse on science. I have then used these elements to identify episodes or scenes in need of closer scrutiny and they also become nodes where my three different levels of enquiry (discourse, genre and form) intersect.[129]

My project might at first glance appear to be part of what television scholar John Corner has called the "frantically contemporary agenda" of television studies, but I do define my approach as textual-historical in nature.[130] The historical impulse is most clearly detectable in my examination

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[128] A season might be shorter if a series is commissioned mid-season, or if it has been cancelled early due to drastic drops in popularity or for other reasons. A season can also be shortened for one reason or another. For example, season 8 of *CSI* only included 17 episodes due to the strike called by the Writers Guild of America in 2007–2008. British drama series are normally less sprawling, but still add up to an extensive amount of material that needs to be studied closely and often repeatedly, if part of a textual analysis.

[129] The objects of study also guide my choice of additional material used in comparative genre analyses. My methods for analysis and material selection are thus interwoven, and can be described as inductive and non-systematic.

[130] See John Corner (1999), 126. For more on the textual-historical approach to television studies see: John Ellis, "Is it Possible to Construct a Canon of Television Programmes?: Im-

of *CSI*'s articulation of genre linkages, where I "do television history" by genealogically tracing how formal and thematic aspects create linkages and discontinuities between *CSI* and a number of audio-visual texts from earlier historical moments.[131] I incorporate this historical perspective because I agree with Corner's argument that "[an] enriched sense of 'then' produces, in its differences and commonalities combined, a stronger, imaginative and analytically energised sense of now".[132]

To fulfil my aim to discuss *CSI* on the level of genre, I have chosen to study a number of earlier forensic science dramas as points of reference and comparison. This includes a number of British series from the sixties and seventies, which are representative of earlier discourses on science. This required me to in part adopt a historiographically informed method based on archival research, because several of the programmes have either been completely wiped, or only exist as on-site screening copies at the BFI National Archive.[133] In the cases where no audio-visual material remains I have had to reconstruct a sense of the programmes' visual style, narrative structure, plots, and themes from what material is available at BBC Written Archives Centre and the BFI National Archive. This work has meant searching for, and analysing, a wide range of handwritten and printed material, including production documents, BBC-produced audience research reports, publicity and marketing material, as well as press clippings of reviews, listings guides and photos, primarily published in *Radio Times*.[134] However, my approach to analysing the archival material can also be defined as one of textual analysis: I do close readings of written and visual sources alike. Similarly, I would also define my basic textual analyses of *CSI* as historical, as I examine *CSI* as part of its "historical context, tying meaning to the period in which the programme was made", rather than doing what Ellis has called an "imma-

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manent Reading Versus Textual-historicism" in *Re-viewing Television History: Critical Issues in Television Historiography*, Helen Wheatley, ed. (London: I.B. Tauris, 2007), 15–26.

[131] For historiographical considerations on "doing television history", see Helen Wheatley, "Introduction: Re-viewing Television Histories" in *Re-viewing Television History: Critical Issues in Television Historiography*, Helen Wheatley, ed. (London: I.B. Tauris, 2007), 1–11.

[132] John Corner, "Finding Data, Reading Patterns, Telling Stories: Issues in the Historiography of Television", *Media, Culture and Society*, 25:2, 2003, 275.

[133] During a long period the BBC re-used the tapes used when recording its programmes, with the result that much of the early material has been wiped. For more on this practice, and the impact this has on historiographical considerations, see: Dick Fiddy, *Missing Believed Wiped: Searching for the Lost Treasures of British Television* (London: BFI Publishing, 2001) and Chris Perry and Simon Coward, "Swiped or Wiped? Kaleidoscope's Part in the Recovery of Lost Television Programmes", *Critical Studies in Television: Scholarly Studies in Small Screen Fictions*, Volume 5, Number 2, November 2010, 48–59.

[134] The material studied relates to British crime dramas, *Silent Evidence* (BBC, 1962), *Thorndyke* (BBC, 1964), *The Expert* (BBC, 1968–1976), and also *Detective* (BBC, 1964), which first featured the character Dr Thorndyke.

nent reading", where the meaning of the television text is perceived as inherent to the text itself.[135]

The forensic crime drama category and an extended cultural theory of genre

I consider *CSI*'s genre linkages in order to fully account for the specificity of its discourse on science and historicise the issues that it brings up. Implicitly, this line of inquiry builds on television scholar Jason Mittell's understanding of television genres as "cultural categories".[136] Like Steven Neale's work on genre in film studies, Mittell's genre theory emphasises that genres are historically situated and discursively constituted though extra-textual practices.[137] Arguing that we need a "cultural approach to television genre theory", he proposes a move beyond older perspectives where genre was understood as emerging from textual elements:

> According to this approach, genres are not lodged in the texts or programmes categorised by particular genres; instead, genres are forged by the cultural processes of categorisation itself. Genres are conceptual categories used to link together a number of television programmes, but they also articulate a range of cultural assumptions that become links to the category beyond the programming itself. These categories are forged by a wide range of cultural practices that add to the discourses of television genres, from critical commentaries to network promos, fan websites to governmental regulations.[138]

In accordance with this, a foundational assumption of this thesis is that the term forensic crime drama is a transnationally utilised cultural category that has been forged fairly recently through an interplay between industry professionals, audiences, critics and scholars.

The emergence of this category largely coincides with *CSI*'s global success, although it was not alone in inaugurating this category and neither was it the first crime drama to feature criminalists as main characters. It has, however, been one of the most influential of the series that could be counted

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[135] Ellis (2007), 15–16.

[136] See for example: Mittell (2001); Jason Mittell, "Genre Cycles: Innovation, Imitation, Saturation" in *The Television History Book*, Michele Hilmes, ed. (London: BFI Publishing, 2003), 48–49; and Jason Mittell, *Genre and Television: From Cop Shows to Cartoons in American Culture* (New York and London: Routledge, 2004).

[137] Mittell (2004), xiv, For some of Neale's most influential writings on genre, see: Steve Neale, *Genre* (London: BFI Publishing, 1980); Steve Neale, "Questions of Genre", *Screen*, Vol. 31, No.1, 1990, 45–66; and Steve Neale, *Genre and Hollywood* (London: Routledge, 2000).

[138] Jason Mittell, "Genre Study – Beyond the Text" in *The Television Genre Book: 2nd edition*, Glen Creeber, ed. (London: BFI Publishing, 2001), 12.

as part of this cluster of texts.[139] *CSI*'s unexpected success did no doubt function as a catalyst for the wave of forensics-centred crime dramas that hit the US television landscape in the early 2000s.[140] Many of the US shows were exported, but television producers in other parts of the world also started creating their own series depicting forensic scientists.[141] At some point during the early 2000s, the term forensic crime drama started circulating within the production and reception discourses of these series, linking them together. While this genre category had not previously been utilised in relation to earlier fictional series depicting forensic science procedures, many of these have retrospectively been tied to the forensic crime drama category.[142] A BBC-produced documentary called *Watching the Dead* (John Moulson, 2009) for example included the US shows *Quincy M.E* (NBC, 1976–1983), *Diagnosis: Unknown* (CBS, 1960), the Canadian series *Wojeck* (CBC, 1966–1968), and the UK programmes *The Expert* (BBC, 1968–1976), *McCallum*

[139] "*CSI*" has become the accepted shorthand for the forensic crime genre category in large, and is widely referenced in other popular media. As many of the media and television scholars writing on *CSI* have already shown, *CSI* has had a direct impact on other television programmes internationally, as a source of inspiration influencing styles, themes and formats. For example, I agree with television studies scholar Derek Kompare's claim that "[*CSI*] has undoubtedly changed the standards and expectations of procedural drama and television style, and has contributed to public debates about science, technology, professionalism and criminal justice". See: Kompare (2010), 2; Cohan (2008), 1–6; and Weissmann (2010), 9–10.

[140] NBC attempted to match its competitor with the pathologist-centred *Crossing Jordan* (NBC, 2001–2007) and made a Sherlock Holmes figure the main investigator in the latest strand of its own popular crime drama franchise *Law & Order: Criminal Intent* (NBC/USA Network 2001–); CBS produced the two spin-off series *CSI: Miami* (CBS, 2002–) and *CSI: NY* (CBS, 2004), as well as other forensic science heavy series such as *Without a Trace* (CBS, 2002–2009), *Cold Case* (CBS, 2003–2010) and *Navy NCIS: Naval Criminal Investigative Service* (CBS, 2003–) and Fox aired *Bones* (Fox, 2005–) focusing on a female forensic anthropologist.

[141] Following *CSI*'s global success, the BBC has reinvented the style of its long-running pathologist-centred crime drama *Silent Witness* (BBC, 1996–). It also recently started producing a spin-off called *Body Farm* (BBC, 2011–). There is also another long-running UK series, *Waking the Dead* (BBC, 2000-2011), which started airing the same year as *CSI*. In Italy, the series *R.I.S - Delitti imperfetti* (Canale 5, 2005–) became so popular that it resulted in a spin-off, *R.I.S Roma - Delitti imperfetti* (Canale 5, 2010–), and the format was exported to France *R.I.S Police scientifique* (TF1, 2006–), Germany *R.I.S Die Sprache der Toten* (Sat. 1, 2007–2008) and Spain *R.I.S Científica* (Telecinco, 2007). Other examples are the Indian series *Special Squad* (STAR One, 2005–2006), the Hong Kong-produced *Forensic Heroes* (TVB Jade, 2006–2011) and the Korean *Shin-ui Quiz* (*God's Quiz*, OCN, 2010).

[142] For examples of how the forensic crime drama category is applied to earlier shows, see: Weber (2012), 35–44; Pense (2007), 160; Joseph Turow, "The Answers are Always in the Body: Forensic Pathology in US Crime Programs", *Medicine, Crime and Punishment*, vol. 364, December 2004, 54–55; Nichola Dobson, "Generic Difference and Innovation in *CSI*" in *The CSI Effect: Television, Crime and Governance*, Michele Byers and Val Marie Johnson, eds. (Plymouth, Lexington Books, 2009), 75–91; and Nichola Dobson, "Darkness and Light: The Changing Mood of the *CSI* Franchise", *FLOW*, July 7th, 2006, http://flowtv.org/2006/07/178/ (accessed March 4, 2012).

(ITV, 1995–1998) and *Silent Witness* (BBC, 1996–) in its historicisation of the genre.[143] However, this study does not attempt to examine the history of the forensic crime drama category, and neither do I try to identify typical genre markers that such texts might have in common.

Rather, my aim is to historicise *CSI*'s discourse on science, and to do so by accounting for the historical genre context of thematic tropes, narrative devices and iconography that are used to articulate these issues. In his book *Genre and Television,* Mittell proposes that textual analysis can be a useful method for exploring how stylistic and ideological elements of a specific television programme function through complex generic linkages.[144] In particular, he argues that meanings are created by generic articulations that, on the one hand, incorporate textual conventions already attached to a set of associations, and on the other hand, rearticulate and change the elements, creating new assumptions and associations.[145] Building on Mittell's assertion, my analysis traces the generic roots of the formal and thematic elements that *CSI* ties to the post-genomic issues, in order to examine how the background of these elements impacts the series' discourse on science. I thus understand *CSI* as a site of association, discontinuation and re-articulation, alternatively incorporating, rejecting and altering elements and techniques from other texts. My own study goes somewhat further than Mittell in emphasising the importance of studying the ruptures and points of departure that *CSI* stages in relation to earlier programmes. I am particularly interested in *CSI*'s reconfiguration and rejection of certain generic elements, as this allows me to account for the specificity of its discourse on science. However, I still assert the importance of understanding the gradual generic change that usually prefigures these reconfigurations and shifts.

Significantly, I also adopt an extended concept of genre that highlights the importance and prevalence of genre hybridity within television. As Neale has argued in relation to film, individual genres are process-like in nature and "not only form part of a generic regime, but also themselves change,

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[143] A number of other shows have also, in hindsight, been linked to the forensic crime drama category, including the American shows *Craig Kennedy: Criminologist* (Weiss Productions, 1952) and *Diagnosis Murder (*ABC, 1993–2001), the UK programmes *Silent Evidence* (BBC, 1962), *Thorndyke* (BBC, 1964), *Dangerfield* (BBC, 1995–1999) and *Bliss* (ITV, 1995,1997), the Canadian crime drama *DaVinci Inquest* (CBC, 1998–2005), the Japanes series *Kasouken no Onna* (*Women of the Crime Lab*, TV Asahi, 1999–2002) and *Shin Kasouken no Onna* (*New Women of the Crime Lab*, TV Asahi, 2004–) and the Hong Kong costume crime drama *Witness to a Prosecution* (TVB Jade, 1999–2003).

[144] Mittell demonstrates this by doing a textual analysis of the classic American police show *Dragnet* (NBC, 1951–1959, 1967–1979), exploring "how the show linked [stylistic and ideological] elements to television genre categories and helped set vital precedents tying the television police show to dominant meanings of law, criminality, and social order[…].", Mittell (2004), xvii, 121–153.

[145] Mittell (2004), 123.

develop and vary by borrowing from, and overlapping with, one another."[146] The same is also true for television: Mittell even proposes that the current state of television – with niche segmentation and generic mixing – makes it even more important to take into account the "multiplicity of genres" when discussing contemporary television material.[147] Most of the scholarly texts that have discussed *CSI* in relation to genre have focused exclusively on the crime drama genre category, but there are a number of inspirational exceptions.[148] *CSI* has fruitfully been described as incorporating elements from the hospital drama genre, science documentaries or reality crime shows, and as using iconography associated with pornography when depicting the dead body.[149] The fact that my own study pays attention to hybridity, mixing and mutation is a result of making the elements tied to the post-genomic structure of feeling the backbone in my discussion on genre linkages. I compare *CSI* with a range of English-language texts, from different periods and genres, that either feature some version of the thematic or formal elements present in *CSI*, or that precisely lack one of these element even though they share other common aspects with the series.[150] This includes science documentaries and films, reality makeover shows, 'quirky television dramas' from the nineties, series centred on nuclear families and work families, reality crime shows and profiling narratives.

The impacts of *CSI*'s innovative special effects: televisuality and stylistic change

Besides the level of discourse and genre, I finally want to provide some insights about *CSI*'s discourse on science on the level of form. Considering my choice of method this is to be expected; the practice of textual analysis nec-

[146] Neale, (1990), 57–58.
[147] Mittell (2004), xiii.
[148] Such studies include: Turnbull (2007); Dobson (2006); Dobson (2009); Harrington (2007); Deborah Knight and George McKnight, "*CSI* and the Art of Forensic Detection" in *The Philosphy of TV Noir*, Steven M. Sanders and Aeon J. Skoble, eds. (Lexington: The University Press of Kentucky, 2008), 161–178; Sarah Keturah Deutsch and Gray Cavender, "*CSI* and Forensic Realism", *Journal of Criminal Justice and Popular Culture*, 15(1), 2008, 32–53; and Melissa M. Littlefield, "Historicizing *CSI* and its Effect(s): The Real and the Representational in American Scientific Detective Fiction and Print News Media, 1902–1935", *Crime Media Culture*, Vol. 7 No. 2, August 2011, 133–148.
[149] Examples of studies comparing *CSI* to other genres and formats include: Steenberg (2008); Smit (2010); Weber (2012); Lury (2005), 44–56; Weissmann and Boyle (2007); and Foltyn, (2008).
[150] Crucially, when I compare *CSI* with texts of different national origins I am not attempting to establish any direct causal links between the different texts and their production contexts. It is simply a way to acknowledge that the international historic backgrounds of the formal and thematic elements that *CSI* uses to articulate the post-genomic structure of feeling.

essarily requires attentiveness to the formal elements of the television text. However, by articulating this line of inquiry as a specific aim, I ensure that the thesis at least is partly conscious of how technological and industrial aspects impact style. This line of enquiry is, again, informed by the work of Wheatley, who fruitfully combines analyses of discursive themes that are being worried at in different television texts, with examinations of the complex relationship between technological, stylistic and generic change.[151]

Following Wheatley, I use television scholar John Thornton Caldwell's television theory to understand the industrial context of a number of formal aspects in *CSI* that in one way or another are constructed as innovative.[152] Caldwell argues that American television programmes increasingly "flaunt and display style" since the eighties, a sensibility that he calls televisuality: a method for attracting sustained audience attention within the newly competitive broadcast flow.[153] Crucially, the term televisuality does not refer to one particular spectacular look, but to the process whereby television strives to "constantly [reinvent] the stylistic wheel" and produce ever-changing innovative forms.[154] This framework can thus be used for understanding *CSI*'s style as a crucial part of its specificity: like many other contemporary television programmes, *CSI* continuously pushes the boundaries of television form in order to distinguish itself stylistically and thus attract audiences.[155] It

[151] Wheatley does this most prominently in the chapter "Televisuality and the New American Gothic" in her book *Gothic Television* and her article on landscape programming at the time that British television production and broadcasting started utilising HD technology. See: Wheatley (2006), 161–199 and Helen Wheatley, "Beautiful Images in Spectacular Clarity: Spectacular Television, Landscape Programming and the Question of (Tele)visual Pleasure", *Screen* 52:2, Summer 2011, 233–248.

[152] The effects that are usually labelled as cutting-edge in *CSI* include digital effects, digital animations and digital post-production techniques, but also the use of prosthetics, make-up and props. Susan LaTempa has explained that the writers of *CSI* collaborate closely with the special effects team when writing the scripts, thus assuring that special effects play a prominent role in each episode. The formal aspects constructed as innovative: include different uses of extreme close-ups, deep focus effects, cinematic camera movements, and the expressionistic use of lighting and colour. In using Caldwell to understand *CSI*'s spectacular style, I also follow in the footsteps of Weissmann, who has discussed *CSI*'s excessive visual style as an example of Caldwell's televisuality concept. See: John Thornton Caldwell, *Televisuality: Style, Crisis, and Authority in American Television* (New Brunswick, New Jersey: Rutgers University Press, 1995); Susan LaTempa, "The Women of *CSI*: Tough Girls Do Dance", *Writers Guild of America website: Written By*, October 2002, http://www.wga.org/WrittenBy/1002/*CSI*.html (accessed March 6, 2010); and Weissmann, (2010), 27–30 .

[153] Caldwell (1995), 5.

[154] Caldwell (1995), 6.

[155] However, taking into account that Caldwell's theory has been criticised for overstating the newness of this sensibility and that television programmes from earlier moments equally used stylistic innovation to attract audiences, I am not arguing that it is *CSI's* adherence to televisuality that differentiates it from previous shows. Rather, it is by identifying the specific stylistic features that are understood as innovative at the particular moment of the series' production that I account for the specificity of *CSI*'s discourse on science. For more on this critique,

should be pointed out that I adopt the framework of televisuality in a way that moves beyond Caldwell's fairly strict focus on innovative visual excess. Inspired by Karen Lury, whose writings on television analysis emphasise the wide range of formal elements that one could consider when adopting a textual approach to television studies, I discuss *CSI* as using a number of different formal and thematic features to distinguish itself within the television landscape.[156]

Furthermore, my discussion of *CSI*'s adherence to the sensibility of televisuality is ultimately motivated by an interest in the relationship between stylistic change (as brought on by technological development and changes in production practices) and the specificity of *CSI*'s discourse on science. While I adopt Caldwell's framework to acknowledge that *CSI*'s style functions to attract audience attention and is not necessarily primarily motivated by its discourse on science, I still understand its spectacular and innovative formal features as having a significant impact on how it represents science.[157] As the work of both Caldwell and Wheatley suggests, the innovative televisual features ultimately impact the meanings of the television texts in question.[158] My main point of interest is thus the correlations between stylistic change and the specific meanings of *CSI*'s discourse on science.

Thesis structure and chapter outline

The thesis presents its analysis and arguments in four thematic chapters, each focusing on one of the issues identified as being worried at within *CSI*'s discourse on science. The chapters can also be distinguished by the textual and thematic elements that focus and limit the discussions. All chapters in-

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see: Wheatley (2011), 238–239, and Mimi White, "The Attractions of Television: Reconsidering Liveness" in *MediaSpace: Place, Scale and Culture in a Media Age*, Nick Couldry and Anna McCarthy, eds. (London: Routledge, 2004), 85, 90.

[156] In her book *Interpreting Television*, Lury shows that not only focus on the image, but also aspects of sound, time and space, can open up a specific text to interpretation. Lury has elsewhere shown how analysing *CSI*'s soundscape results in a number of fruitful insights. See: Lury (2005), 2 and Karen Lury, "*CSI* and Sound" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007) 107–121. For other analysis on sound in *CSI*, see: Kramer (2009), 201–220 and Lisa Coulthard, "We're Gonna Need a Montage: Musical Cliché and the *CSI* Franchise", *FLOW*, September 10th, 2010, http://flowtv.org/2010/ 09/gonna-need-a-montage/ (accessed March 4, 2012).

[157] Televisuality renders stylistic spectacle and innovation into an attractive and important feature in itself, or as Caldwell puts it: "style, long seen as a mere signifier and vessel for content, issues, and ideas, has now itself become one of television's most privileged and showcased signified." See: Caldwell (1995), 5.

[158] This is made clear in Caldwell's chapter on the negotiation of race in the television coverage of the L.A. rebellion and Wheatley's chapter on the functions of televisuality in the "new American gothic". See: Caldwell (1995), 302–335 and Wheatley (2006), 161–199.

clude, to some extent, discussions on the three levels of enquiry mentioned above – discourse, form and genre – but these three types of considerations do not necessarily get equal amounts of attention in each chapter. In other words, each of the chapters follows an individual logic, and the lines of enquiry are often fluid and intersecting. The overall structure of the thesis is crafted so that each chapter adds new building blocks for the subsequent chapters.

Chapter 1 opens with an examination of the generic background of the depiction of forensic science as a visual practice, concluding that many earlier forensic crime dramas evoked traditional ideas about the medical gaze and the ideal of transparency by depicting scientific imaging technologies as important tools. A comparative analysis suggests that *CSI* stages an intensification of this generic trope, while also reconfiguring forensic science and physical evidence as newly molecular. I propose that *CSI*'s use of microscopic imagery, in tandem with certain narrative devices and plotlines, also articulates the post-genomic idea that molecular science reveals life as increasingly complex. Pointing out that the series' overall narrative structure still reduces complexity and provides a sense of closure, I conclude that ideas about complexity never become a dominant tendency of *CSI*'s discourse on science.

Chapter 2 begins by presenting a short overview of how the motif of disguise has figured within the crime genre as an expression of cultural anxieties about 'otherness' and social mobility. After accounting for the comparable lack of this motif in forensic crime dramas of the sixties and seventies, I then turn to examine *CSI*'s specific use of the motif to depict self-transformation narratives. Moving on to examine plotlines that focus on individuals utilising medico-scientific developments to alter their bodies, I show that *CSI* articulates post-genomic worries about increased bodily plasticity. The series' investment in essentialist ideas about corporeality are exemplified by its use of the iconography of 'inverted makeovers' and its criminalization of doctors that practise invasive and experimental science. I read these elements as staging a bioethical debate that deflect cultural fears about biopower away from the criminalists.

Chapter 3 also opens with a focus on genre, comparing *CSI*'s treatment of familial relationships with its generic background. I conclude that *CSI* features this issue more prominently, primarily due to its investment in genetic kinship as 'substantial', which governs its use of three visual tropes: (1) corporeal markers of likeness; (2) blood; and (3) the family tree. Moving on to discuss a number of plotlines about kinship relationships, I argue that *CSI* worries at post-genomic science as rendering kinship artefactual and respatialised. The remainder of the chapter discusses *CSI*'s habitual problematisa-

tion of non-reproductive sexual behaviours and family structures as symptomatic of its wider discourse on science, while also showing that it voices multiple perspectives on these topics.

Chapter 4 begins with an historical outline of how earlier forensic crime dramas dramatized objective and subjective approaches to policing as dialectic. I show, by comparison, that *CSI* partly continues in this tradition, while also reconfiguring this dialectic by depicting forensic science as an embodied practice. Examining the series use of re-enactment scenes and expressionistic flashbacks, I argue that the criminalists' multi-sensory approach at times are depicted as resulting in corporeally grounded emotional insights, presenting a new affective approach. Evoking post-genomic ideas of affect as having a molecular materiality, empathic engagements are provided with a scientific framework. However, through comparisons with nineties profiling narratives, I show that *CSI*'s specific treatment of affectivity is governed by cultural anxieties about identity loss and the paranormal roots of ideas about affect.

1. The Complexity of Molecular Evidence Under the Microscope

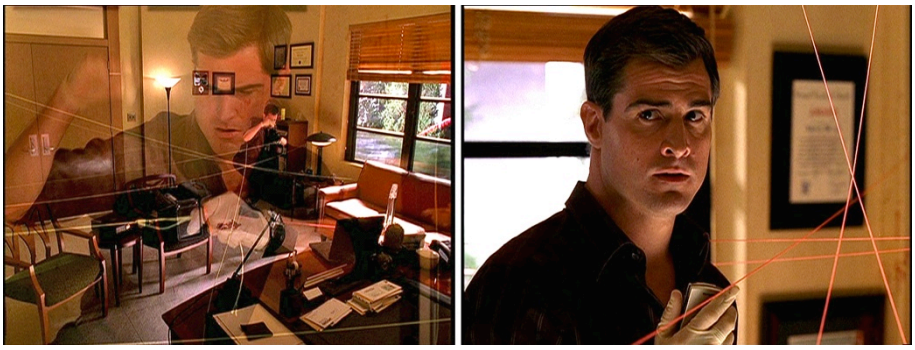
The season 1 episode "Friends and Lovers" (S01E05) features a plotline in which crime scene investigators Catherine Willows and Nick Stokes attempt to solve the murder of a local dean. One of his female co-workers has already admitted to the deed, claiming that she acted in self-defence after having been sexually assaulted. Her testimony is, however, found to contradict the evidence at the crime scene, validating head criminalist Gil Grissom's often repeated declaration: "I tend not to believe people. People lie. The evidence doesn't lie."[1] She claims that she hit the dean once in the head with a blunt object, but the whole room is covered in blood spatter, which suggests sustained and passionate violence. Catherine and Nick agree that there is only one method for scientifically deciphering the trajectories of the numerous tiny droplets of blood, namely by "stringing" the crime scene. This refers to a technique that is depicted at regular intervals throughout *CSI*, whereby brightly coloured strings are used to visualise spatially the points of origin and travel paths of evidence such as blood spatter, bullets or gunshot residue.[2] The method supposedly allows for an overview of both the temporal and spatial aspects of the events surrounding the crime and its narrative function is to establish a straightforward causal chain. However, the depiction of this method also results in an initial experience of these events as being confusingly complex.

"Friends and Lovers" (S01E05) depicts this process in a montage sequence that shows Nick mounting string after string between walls and furniture around the room, in a series of faded shots. An intricate web of strings soon criss-cross the room at different levels and directions, creating a visually complex pattern that is further enhanced by the fact that the fades overlap the webbing in the individual shots. The intricacy of these networks are also further emphasised through an extradiegetic music score that features multiple sets of intersecting and offbeat percussion, overlaying a restless electronic tune. Rather than creating an instantaneous understanding of the events,

[1] This quote is from the episode "Crate 'n Burial" (S01E03), but the sentiment that confessions and witness testimonies never can be trusted is continuously repeated throughout *CSI*.

[2] Strings are used in early seasons, but in accordance with the series' televisual drive towards continuous stylistic reinventions, later seasons depict more advanced technological aids that supply more spectacular imagery, such as laser lights or computer simulations.

these elements result in an acute sense of complexity, and even uncertainty, that is mirrored in Nick's puzzled facial expression in the final shot of the montage. This experience is only allowed to exist in passing, but it is still noteworthy. When Catherine comments on Nick's look of confusion he quickly composes himself and self-assuredly explains that the strings clearly show that the victim has been subjected to many repeated blows. Although the sequence ends with a strong assertion that the criminalists are able to easily observe significant and clear patterns in the tangle of the web, that initial sense of uncertainty or complexity is also part of *CSI*'s discourse on science.[3]



(1) Faded shots creating a more intricate web of strings and (2) Nick looking momentarily puzzled in "Friends and Lovers" (S01E05).

The sense of complexity created by these stylistic elements is also echoed in the moral ambiguity that is eventually revealed to be a characteristic of this particular crime: the investigation finally establishes that the dean was killed in an attempt to stop him from getting the woman fired because of her homosexuality. The plotline ends in a downtrodden conversation between Nick and Catherine that expresses sympathy with the woman's situation and highlights the difficulty of placing blame in a case like this. Hence, even when all the facts are laid bare in a neat causal chain, there is lingering feeling that science establishes the world as being more complex then was previously thought. This complicates Karen Lury's assertion that: "[the] science practiced in [*CSI*] is post-Enlightenment but pre-modern, in that it is a supremely rational discourse that is presented without the doubts and confusions opened up by twentieth-century scientific discoveries such as the theories of relativity and chaos."[4]

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[3] In arguing this I draw on Newcomb and Hirsch's argument that an analysis of a television text's cultural work must not only pay attention to its "formal conclusions", but also take as significant the kinds of issues that are brought up for discussion – in other words, to acknowledge the issues themselves as significant, alongside the series' treatment of them. See: Newcomb and Hirsch (1983), 49.

[4] Lury (2007), 107.

While I agree with Lury that *CSI* presents forensic science as being "supremely rational" and always able to establish stable facts, I propose that some of the series' formal elements actually do evoke "the doubts and confusions opened up by twentieth-century scientific discoveries such as the theories of relativity and chaos".[5] The idea that science is increasingly revealing the inherent complexity of life itself is one of the central notions of the current discursive shift around bioscience and this chapter will outline how certain visual elements, narrative devices and plotlines in *CSI* engage with this idea. The fact that *the complexity of molecular life* mainly surfaces through formal elements marks this issue as part of an emergent structure of feeling that is not necessarily dealt with in an explicit and coherent way.[6]

The generic background of *CSI*'s construction of science as a visual practice

CSI devotes the majority of its screen time to depicting the scientific labour of the criminalists. The characters perform a wide range of scientifically framed tasks. They locate, document and collect a wide range of trace evidence at various crime scenes. For example, they take photographs, swab for DNA, dust for fingerprints, make moulds of footprints, look for invisible body fluids with UV lights, study blood spatter patterns, collect hairs and fibres, and locate bullets. Furthermore, most plotlines are instigated by the discovery of a dead body, so the processing of a crime scene also tends to entail a preliminary study of the corpse, which is later continued in the setting of the autopsy room. The physical evidence is also brought back to the forensic laboratory, which contains numerous spaces for performing scientific analyses such as DNA tests, fingerprint matches, trace analyses, ballistics tests, forensic facial reconstructions, handwriting analyses, and analyses of photographs, films or audio recordings.

Steve Cohan has argued that *CSI*'s strict focus on the work of the criminalists usually makes for rather static scenes dedicated to "watching people think".[7] Indeed, in comparison to many contemporary crime dramas (including the spin-offs *CSI: Miami* and *CSI: NY*), *CSI* contains few conventional action scenes. But Cohan's description fails to capture the visual spectacle that is offered by the portrayal of mundane and repetitive scientific tasks. The series is widely known for its use of what Martha Gever describes as "aesthetic flourishes intended to generate visual excitement."[8] It would thus be more telling to claim that *CSI* offers its viewers the experience of 'watch-

[5] Lury (2007), 107.
[6] See: Williams (1977), 133.
[7] Cohan (2008), 8.
[8] Gever (2005), 449.

ing people watch physical evidence', as this indicates that the series' dynamic style constructs visual observation and material traces as the two cornerstones of the forensic investigation.

(1) Sara and (2) Warrick looking intently at physical evidence in the season 1 title sequence.

A number of scholarly studies have already discussed *CSI* as legitimising forensic science by presenting it as a visual practice.[9] For example, Lury has convincingly argued that *CSI*'s use of mise-en-scène conveys the idea that the act of looking is important in itself:

> [The offices and laboratories] are characterized by large amounts of glass, chrome, metal and other reflective surfaces, and nearly all the rooms either have glass walls or large windows and glass doors. This means that rooms can be seen from other rooms and characters and extras can be seen to pass being the main action in the foreground. […] This sense of both depth and transparency at a visual level neatly echoes the push towards 'transparency' and truth in the crime-solving narrative. [And] since they are constantly looking though glass themselves, viewers are reminded that the notion of 'looking' itself is a purposeful action. This is supported by the numerous instances in which we also look at characters looking though windows (or the two-way mirror in the interrogation room) at suspects and victims. 'Looking' as a scientific activity, as examination, whether at X-rays, or through a variety of lenses and with a variety of different screens, is implicit in the *mise-en-scène*.[10]

On a very basic level, *CSI* continuously depicts the gaze of the criminalist as the source of knowledge: the camera frequently lingers on the faces of the characters as they observe a piece of evidence, or a test result, with a look of deep concentration. Furthermore, the way in which the show conflates the gaze of the scientist with the gaze of the television camera (and in extension that of the viewer) has led several scholars to claim that it effectively dramatizes the Foucauldian notion of the medical gaze.[11] The camera is frequently

[9] I am primarily thinking of Gever (2005), 450–454; Lury (2005), 47; Kruse (2010b), 84; and Kompare (2010), 15–20.
[10] Lury (2005), 47.
[11] See: Gever (2005), 457; Tait (2006), 47; and Weissmann and Boyle (2007), 97.

aligned with the point of view of the criminalists, creating a close association between the two gazes. This link is arguably so powerful that the idea lingers in scenes that do not literally unite the two with a shot-reverse-shot exchange. Hence, shots where the camera seemingly moves inside the dead body by means of special effects are still marked as illustrating the scientists' penetrative gaze. *CSI* can thus be understood as rehearsing the long-running association between the sense of sight and scientific rationalism in Western culture.[12] However, to fully understand the role that this trope has within *CSI*'s discourse on science, it is fruitful to consider its generic history. Many of the series' predecessors stage vision as the primary tool of the criminalists and by doing so, authorise forensic science as a crime solving method that is both rational and reliable.

An examination of the visual language used by earlier forensic crime dramas suggests that the generic dramatization of the medical gaze was typically motivated by their aim to present the figure of criminalist as a more reliable alternative to conventional police or detectives. This is, for example, indicated by the significant difference between the early American show *Craig Kennedy: Criminologist*, which portrays its main character as a 'noirish' private sleuth with special skills, and the somewhat later British programme *The Expert*, which draws heavily on the stereotypical image of the scientist (in a lab coat and a white beard) when depicting its central character Dr Hardy. Whereas *Craig Kennedy: Criminologist* places fairly little visual and narrative emphasis on the gaze of the scientist, *The Expert* features many of the same elements as *CSI*: plenty of shots showing Dr Hardy and his assistants looking intently at evidence, recurrent close-ups displaying significant pieces of evidence and occasional close-ups depicting the scientists' point of view.[13] Tellingly, these conventions play a significant role in most of the earlier forensic crime dramas that in one way or another emphasise that their main characters are scientists or doctors, including *Thorndyke*, *Quincy M.E.*, *Diagnosis Murder*, *McCallum* and *Silent Witness*.[14]

It is also possible to observe an increase over time in the frequency and persuasion with which the scientist's gaze is staged. For example, a compari-

[12] For more in-depth analysis of the cultural history of the association between science and the sense of sight, see for example: Foucault (2008 [1963]); Marita Sturken and Lisa Cartwright, *Practices of Looking: An Introduction to Visual Culture* (Oxford: Oxford University Press, 2001), 279–314; Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the 19th Century* (Cambridge and London: MIT Press, 1992); and Mark M. Smith, *Sensory History* (Oxford and New York: Berg, 2007).

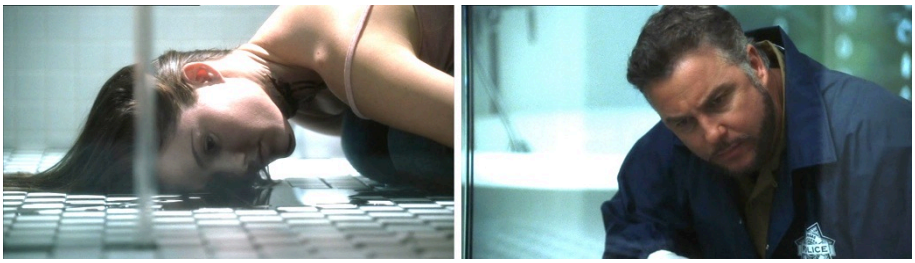
[13] This might also in part be explained by the modes of production and the technology used during the 1950s. *Craig Kennedy: Criminologist* is a studio-recorded show that to begin with used a minimal amount of close-ups.

[14] Such conventions are less prominent in shows like *Dangerfield* and *Da Vinci's Inquest* that do not differentiate between the criminalist and other law enforcement personnel as drastically.

son between the depiction of autopsy scenes in the pathologist-centred shows *The Expert*, *Quincy M.E*, *McCallum* and *Silent Witness* shows a growing standardisation of the shot-reverse-shot sequence where, firstly, a low angle shot shows the pathologist looking down at the corpse, and secondly, a point-of-view shot displays the body part being studied. The shows from the sixties and seventies favoured the first shot in this exchange, and only occasionally included the second point-of-view shot of the dead body. In turn, the nineties programmes featured the complete combination repeatedly, and allowed more frequent and extreme close-up shots of both the scientist's face and the corpse.

Single shots of Quincy *looking at dead bodies in "Hit and Run at Danny's" (S02E06).*

Shot-reverse-shot in the Silent Witness *episode "Long Days, Short Nights" (S01E03).*



Repeated and extended shot-reverse-shot in the CSI *episode "Butterflied" (S04E12).*

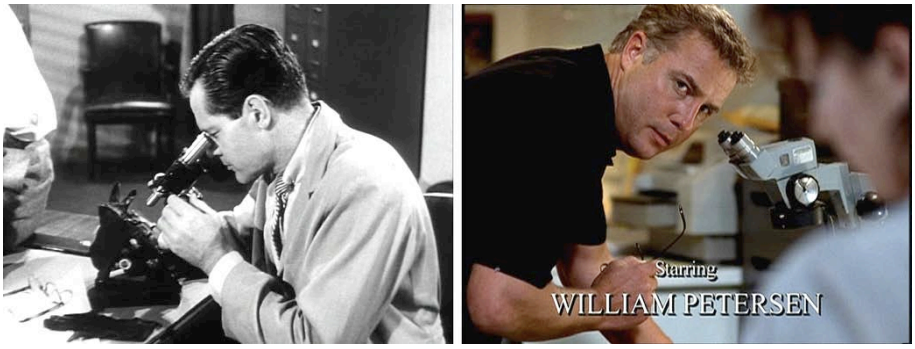
CSI has followed in this tradition and further increased the frequency and spectacle with which this type of shot-reverse-shot sequence is featured. A telling example of this is the pre-title teaser of *Butterflied* (S04E12), which features a two-minute sequence depicting Grissom's preliminary walk-though of a crime scene. Apart from a couple of establishing shots, the whole sequence consists of cuts between two different types of shots: close-ups of Grissom's concentrated face as he looks around the rooms, and point-of-view shots filmed with a smoothly moving Steadicam showing us what he sees as he illuminates various objects with a flashlight. He finally reaches the bathroom in which the dead body of a woman is located and the sequence ends with two slow zooms: one of Grissom's face as he sees the body and one point-of-view shot closing in on the woman's face. The generic shot-reverse-shot is thus prolonged, with the result that even more emphasis is placed on the act of looking at physical evidence.[15]

Another way in which *CSI* intensifies the generic dramatization of the scientists' gaze is through a spectacular depiction of scientific imaging technologies, which enhance and extend the gaze further. However, this also follows a long-running tradition. The use of scientific imaging technologies is a generic trope that has a history extending back to early examples of crime literature; Edgar Allen Poe, Charles Dickens and Arthur Conan Doyle already depicted technological aids such as magnifying glasses, microscopes and photography as vital investigative tools.[16] Correspondingly, all the earlier forensic crime dramas I have examined feature some type of scientific imaging technology, from low-tech flashlights and magnifying glasses, to state of the art microscopes and x-rays. For example, even though the visual language of *Craig Kennedy: Criminologist* did not generally dramatize science as a visual practice to the same extent as other series, it still placed some importance on imaging technologies. Kennedy's office is equipped with a surveillance camera, allowing him to snoop on visitors before they enter the building. Later episodes also featured a title sequence showing Kennedy looking into a microscope, a type of shot that has long functioned as a kind of genre marker. It is featured in promotional material for *Silent Evidence*, *The Expert* and *Quincy M.E.*, and can also be found in the title

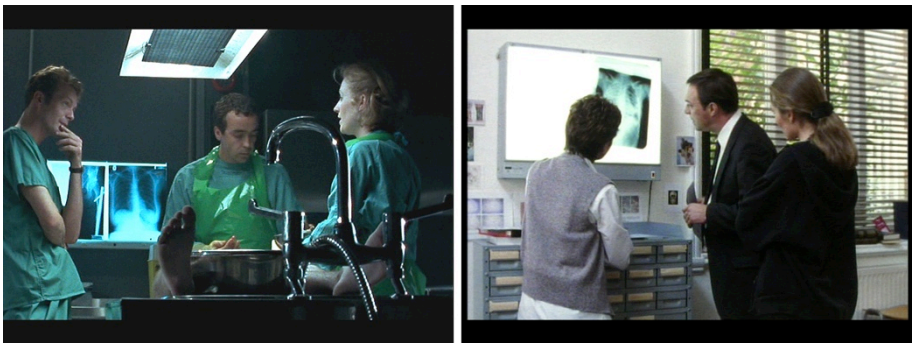
[15] As the narrative subsequently plays out in this episode, all the objects that Grissom's gaze has rested upon in this initial sequence will be confirmed as significant pieces of evidence. This visual device is thus also used to give physical evidence increased importance. The lighting in this scene limits the field of vision in a way that gives certain objects extra significance. As has been pointed out by Corinna Kruse, the forensic imaginary is in general highly invested in items of physical evidence as trustworthy truth-tellers, and the earlier forensic crime dramas were also generally invested in this idea. However, *CSI* significantly enhances the visual and narrative emphasis on physical evidence. See: Kruse (2010a), 364.

[16] For a detailed analysis of the representation of forensic technologies in early crime novels, see: Ronald R. Thomas, *Detective Fiction and The Rise of Forensic Science* (Cambridge University Press: Cambridge, 1999).

sequence of *CSI*'s first season.[17] Furthermore, Dr Hardy (of *The Expert*) is repeatedly depicted as using a microscope with an attached display screen, as well as x-rays. *Thorndyke* features an assistant that is "very keen on photography, and […] regarded as one of the leaders in the field", and Dr Quincy (of *Quincy M.E.*) has special photographic equipment installed in his autopsy room, allowing him to watch magnified parts of the corpse on a screen in an adjacent room.[18] This tradition has also been continued by the nineties programmes, which repeatedly depict criminalists using photography, microscopes and x-rays to access visible evidence.



Generic images of a criminalist looking into a microscope in (1) the Craig Kennedy: Criminologist *episode "Indian Giver" (S01E10) and (2)* CSI*'s season 1 title sequence.*



X-ray imagery on display in (1) the McCallum *episode "Sacrifice" (S01E01) and (2) the* Silent Witness *episode "Buried Lies" (S01E01).*

[17] A blurb for *Silent Evidence* in *Radio Times*, specifies: "Westlake's work in the laboratory explains the phenomenon as he uncovers microscopic clues" and a BBC document describes Westlake's work as "the pathological laboratory sleuthing process [of finding] clues by means of the microscope." See: "Silent Evidence: Shadow of the Past", *Radio Times*, August 2, 1962, 24; "Silent Evidence: This Desirable Property", *Radio Times*, August 30, 1962, 31; and "An Audience Research Report: Silent Evidence: This Desirable Property", BBC document, Wednesday, 5th September 1962.

[18] See: "Promotion Material for Thorndyke", undated BBC document.

The meanings that these earlier series evoke when depicting scientific imaging technologies largely reproduce the association already tied to the technologies themselves and their iconography.[19] The most central is probably the notion which José van Dijck has called the ideal of transparency: the understanding of scientific imaging technologies as able to access the truth that is hidden inside the human body, underneath the skin.[20] This notion indicates that scientific imaging technologies as such are governed by the sensibility of the Foucauldian medical gaze; they have been developed to precisely extend the gaze further.[21] Following Marita Sturken and Lisa Cartwright, who have pointed out that the idea that "the truth lies beneath the surface and needs to be seen to be fully understood" has permeated Western culture even longer, I would also point out that all types of scientific imaging technologies could be understood as conveying a wider ideal of transparency.[22]

The earlier forensic crime dramas evoke these connotations in order to portray the criminalists as even able to access evidence that is hidden from sight. *CSI* not only continues, but also intensifies this generic tradition.[23] Scientific imaging technologies are more frequently featured, have a more important narrative role and are more spectacularly displayed. Furthermore, *CSI* depicts a wider range of different types of technologies, from fairly mundane equipment like flashlights, magnifying glasses, photography and film, light microscopes and x-rays, to the latest technological aids available, like electron microscopes, endoscopic cameras, MRI (magnetic resonance imaging) scans, PET (positron emission tomography) scans, CT (computed tomography) scans, black light (UV light) and a wide range of computer programs and digital gear.[24] Although *CSI*'s discourse on science thus can be

[19] One being the notion that scientific technology will provide a more reliable representation because of its perceived objectivity. Kruse has argued that *CSI*'s treatment of scientific imaging technologies functions to legitimise forensic science precisely by evoking the idea of "mechanical objectivity". See: Kruse (2010b), 85.

[20] van Dijck (2005), 5–7.

[21] Foucault (2008 [1963]), 152–182.

[22] Sturken and Cartwright (2001), 298.

[23] As other scholars have already pointed out, *CSI*'s discourse on science can be understood as a dramatization of a medical gaze that locates the truth of the crime as hidden either inside the dead body (or in physical evidence hidden out-of-view) and that results in a politics that sustains the conservative power structures traditionally saturating the institution of science, instilling science with an aura of authority that conceals the necessary partiality and subjectivity of scientific practices. See, for example: Tait (2006), 47; Gever (2005), 456–458; Pense (2007), 163–166; and Deborah Jermyn, "Body Matters: Realism, Spectacle and the Corpse in *CSI*" in *Reading CSI: Crime TV Under the Microscope*, Michael Allen, ed. (London: I.B. Tauris, 2007a), 86–89.

[24] *CSI* also surpasses its predecessors by depicting other types of scientific technologies in ways that makes them visualise evidence, even though they are not imaging technologies per se. For example, in "Identity Crisis" (S02E13) audio analysis software is used that allows the criminalists to visually observe the locations of different sound sources in and "I Like to

understood as generically governed by the ideal of transparency, a more detailed examination of its specific use of scientific imagery suggests a gradual move away from traditional depictions of scientific imaging technologies – one that has the potential of reconfiguring the meanings associated with this iconography.

Forensic science reconfigured by *CSI*'s televisual drive for innovation

CSI's intensified use of devices that have traditionally constructed science as a visual practice is partly facilitated by the series' adherence to the sensibilities of televisuality. *CSI*'s highly stylized look, usually discussed in terms such as spectacular, glossy, excessive or fantastic, is generally understood to be the series' main distinguishing feature.[25] In general, *CSI* attracts attention by utilising a cinematic form of televisuality, described by Caldwell as the exhibitionistic flaunting of high production values and feature film-style cinematography.[26] In *CSI*'s case, it is an extensive and innovative use of different types of spectacular special effects, created though a mix of models, cinematographic devices, and computer generated imagery (CGI) that are continuously being put on display. Significantly, the televisual spectacle of special effects is primarily used to depict scientific labour in highly spectacular and inventive ways. *CSI* often refrains from featuring imagery produced by 'real life' scientific imaging technologies and instead uses images generated by digital television technologies that are far more spectacular. By calling on the iconography of traditional scientific imaging technologies, such special effects-generated images are still able to retain their status as scientific.

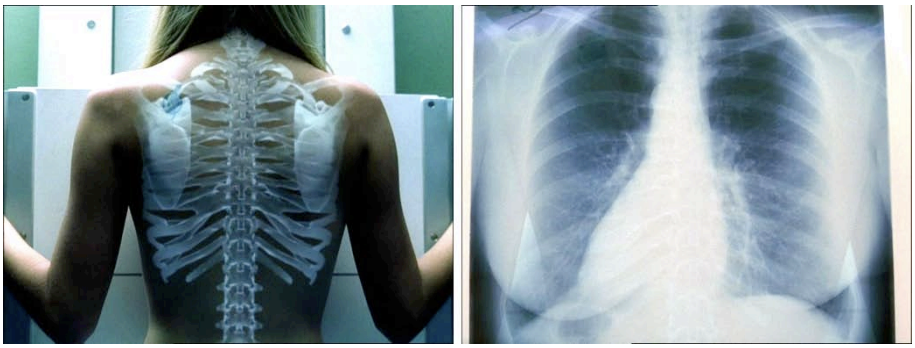
For example, rather than simply featuring actual x-ray imagery in scenes where the criminalists use x-ray technology, *CSI* often utilises different types of special effects that emulate the iconography of x-ray plates. This is done in ways that re-imagine the imagery and depict this technology as innovative even though it has existed since the late nineteenth century. The episode "Ellie" (S02E10) is a telling example, as it features both realistic x-ray plates and CGI-generated x-ray iconography. The criminalists investigate a case where a woman is arrested under suspicion of being a drug mule. She is x-rayed in search of swallowed latex balloons and the process is depicted with a lengthy zoom, whereby the camera slowly closes in on her naked back as she stands facing an x-ray generator. Mid-shot, CGI effects render her upper

Watch" (S06E17) uses computer generated imagery (CGI) to allow the camera to penetrate the hull of a laser ablation machine and visually display how it releases particles for analysis.

[25] See, for example: Lury (2005), 46; Turnbull (2007) 25; and Jermyn, (2007a), 81.

[26] In other words, values usually associated with cinema. See: Caldwell (1995), 12.

torso see-through, displaying the spine, rib cage, and shoulder blades in sharp focus and evocative colours. The stark difference between this digitally constructed image and a 'real' x-ray plate is further emphasised as the zoom-shot eventually fades onto another shot, showing a close-up of an actual x-ray plate of a matching torso that is subsequently studied by the criminalists. The television apparatus is thus used to create a curiously spectacular image that is marked as scientific (rooted in scientific imaging technology) even though it has an uncertain diegetic status and displays the evidence in a more detailed, colourful and spatially dynamic way than a traditional x-ray plate would.[27]



(1) CGI-generated x-ray imagery (2) followed by a 'real' x-ray plate in "Ellie" (S02E10).

In accordance with the principles of televisuality, *CSI* goes to great lengths to constantly re-invent its scientific imagery.[28] On a basic level, this results in a pleasurable viewing experience; the series offers continuously updated, always innovative and aesthetically pleasing special effects. However, as a number of scholarly studies have already suggested, *CSI*'s spec-

[27] A comparable scene to this is an autopsy scene in "Identity Crisis" (S02E13) which shows Grissom and Dr Robbins dressed in x-ray protective apparel studying a screen that displays a an CGI-generated image of a dead body that in all likelihood is meant to emulate x-ray computer tomography (a CT-scan) imagery. A majority of the viewers are probably not familiar with this technology and it is not actually mentioned by the characters. A CT-scan can in short be described as a three-dimensional image of the inside of an object that is created digitally from a large series of two-dimensional x-ray images that have been taken around a singe axis of rotation. The actual technological equipment shown is this scene is, however, not consistent with actual CT technology, as a single x-ray generator tube is displayed over the corpse. The image that the criminalists study is also fantastically enhanced in a number of ways: it is a moving image that is constructed as being 'live', instantly displaying the interior of the body as the generator is travelling along the full length of the body, and it shows the bones, muscular mass and blood vessels in vivid colours. In other words, not only does *CSI* choose to emulate a technology that is perceived as more innovative than regular x-ray scans, but it does so in a way that significantly enhances the imagery, rendering it more visually dynamic and spectacular.

[28] Caldwell (1995), 6.

tacular style also impacts its discourse on science.[29] For example, Lury has argued that *CSI*'s use of special effects is similar to that of science documentaries, in that "the cleverness of the effects supports and celebrates the 'cleverness' of the criminalists and their infallible optical instruments."[30] *CSI* indeed establishes an analogy between the television technology (its style) and the forensic technology (its science) that it portrays. This results in certain connotations getting transfers from the first to the second; in other words, the innovative status of the special effects makes the scientific practices appear equally cutting-edge. I would also add that this exchange functions on mutual terms. The types of scientific knowledge, practices and technologies that *CSI* depicts are generally those that are understood as new and innovative. More precisely, these are often identified as rooted in the fields of molecular biology, genetics and biotechnology, which are currently culturally coded as innovative. The cutting-edge quality of the scientific discoveries that *CSI* evokes is equally transferred onto the series' style. Hence, both the series' style and science participate in a mutual exchange of connotations that marks both the show and the forensic science it depicts as pioneering.[31]

It could, of course, be argued that the scientific imagery of earlier forensic crime dramas functioned in much the same way. Series such as *The Expert* or *Quincy M.E* certainly seem to have featured scientific imaging technologies in a way that made them function as televisual spectacles, assuring the viewers of the innovative nature of both the forensic science and the television texts.[32] However, the particular types of science that *CSI* calls upon to mark itself as innovative results in a set of meanings that are fundamentally different. The fact that *CSI*'s draws heavily on the fields of molecular biology, genetics and biotechnology and thus engages with a scientific discourse seemingly on the brink of a major cultural shift means that *CSI* does not simply instil the same old forensic science with a renewed sense of actuality

[29] Some scholars, such as Cohan and Jermyn, have discussed *CSI*'s use of spectacular special effects as resulting in a lack of realism that they argue is fundamentally oppositional to the series' wider politics of authorising and legitimising science as a visual practice. The special effects are thought to undermine the truth claims invested in the scientific image by revealing that the television image is essentially fake. This problem is, however, not unique to CSI, but echoes the ontological problem that has regularly been raised in relation to actual scientific imaging technologies that visualise what is invisible to the human eye: namely the problem of how to judge the accuracy of images when they never can be compared against a perceived 'real'. Other scholars such as Lury, Steenberg, and Kompare have however instead proposed that the series' highly stylised depiction of science rather produces a heightened sense of verisimilitude. See: Cohan, 59–69; Jermyn (2007a), 86; Lury (2005), 54; Steenberg (2008), 297–298; Kompare (2010), 18; and Cartwright (1995), 84–98.

[30] Lury (2005), 54.

[31] Caldwell (1995), 6.

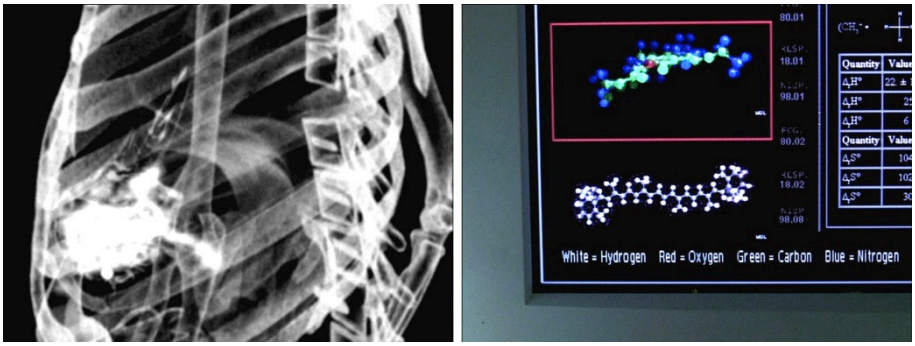
[32] This would be in line with Helen Wheatley's claim that there has long been a drive for spectacular imagery on television. See: Wheatley (2011), 238–239.

and innovation. Rather, this results in a reconfiguration of forensic science that provides it with a largely new framework of explanation and an articulation of the post-genomic structure of feeling not present in the earlier forensic crime dramas. In other words, even though *CSI*'s spectacular imagery continues the traditions set up by earlier forensic crime dramas, the televisual drive towards innovation also results in a noteworthy shift specific to this series' discourse on science.

Going small: molecularizing physical evidence

A further examination of the use of x-ray iconography in the episode "Ellie" (S02E10) provides a concrete example of the way in which *CSI* draws on contemporary molecular science when creating spectacular imagery. Apart from featuring the female suspect whose x-ray test I discussed above, the plotline also follows an investigation into a man who got shot while carrying drug-filled balloons in his stomach. The criminalists collect a number of black pills found beside the dead body to be analysed by lab technician Greg Sanders. The sequence depicting the analysis includes a range of scientific imagery. One pill is placed inside a laser ablation machine and a CGI-generated shot visualises the process whereby the molecular structure of the pills are analysed. The molecular framework of explanation is made more prominent as the pills are identified. Greg reads the results off a computer screen, on which the components of the pills are written out (coal, wood and coconut shell) alongside digital models of each substance's molecular structure. As he then explains that this is anti-acid medication, used by drug mules to keep their stomach acid from ruining the balloons, there is a cut to an extradiegetic filmic x-ray shot. This shot emulates traditional x-ray films, but it is clearly CGI-generated, and shows an animated skeleton swallowing a drug-filled balloon that travels down the oesophagus and down to the stomach, where it sets off a finely-grained cloud of gastric acid.[33] Significantly, traditional x-ray imagery is thus reconfigured in a way that allows for a visualization of something that 'in real life' would be undetectable by this particular type of scientific imaging technology; namely, the way in which the cells of the stomach secrete gastric acid (which the pills would be able to neutralise on a molecular level). *CSI* thus modifies a fairly old-fashioned type of scientific imagery in a way that evokes a decidedly contemporary molecular framework of explanation.

[33] While x-ray films are used in some scientific contexts, they have primarily had a cultural function as entertainment or public information. See: Cartwright (1995), 107–142 and Solveig Jülich, "Media as Modern Magic: Early X-ray Imaging and Cinematography in Sweden", *Early Popular Visual Culture*, Vol. 6, Issue 1, 2008, 19–33.



(1) An animated, CGI-generated x-ray sequence showing a cloud of gastric acid and (2) the molecular structure of anti-acid medication illustrated on a computer, in "Ellie" (S02E10).

One of the significant differences between *CSI* and earlier forensic crime dramas is the way in which it habitually features imagery that emulates the iconography of various scientific imaging technologies without being diegetically grounded in any actual scientific practice. In earlier forensic crime dramas, scientific imagery is always motivated by the diegetic use of a microscope or an x-ray machine and is often presented as a point-of-view shot. Conversely, *CSI* frequently features non-diegetic scientific imagery that is neither rooted in the diegetic use of a particular technology nor in the gaze of the criminalists. Such non-diegetic imagery is frequently used to specifically display physical evidence in extreme magnification and to visualise objects too small to be detected by human sight alone.[34] *CSI* executive producer Carol Mendelsohn has tellingly stated that the series' creators used magnification as one of their central strategies for making it appear innovative: "One of the things we did from the start that was unique was that we didn't go big, we went small. We took a fibre and made it look like a redwood forest."[35]

The visual language that *CSI* uses when depicting scientific practices and physical evidence is often characterised by a process of simultaneously moving closer and magnifying small objects. The most familiar example of this is probably the snap zoom effect that has widely become known as the "CSI shot".[36] Previous scholarly writings on the 'CSI shot' have tended to describe

[34] In pointing this out I draw on Silke Pense, who has previously pointed out *CSI*'s use of microscopic imagery and small pieces of information as one of the characteristic elements of the series. See: Pense (2007) 153–166.

[35] Mendelsohn quoted in: Ray Richmond, "The Minds Behind the Bodies", *Hollywood Reporter Special issue: CSI 100th*, November 18, 200, http://www.hollywoodreporter.com/ (accessed March 1, 2010).

[36] An *American Cinematographer* article on *CSI* uses this term when explaining the production companies and technologies behind its spectacular style: "Though some highly detailed insert and CGI work was handled by the effects house Stargate, the *C.S.I.* camera crew shot much of the microphotography on their own with the help of Schneider's Achromat and close-focus diopters." Like many of *CSI*'s special effects, 'CSI shots' are created though a mix of

it as typically depicting the interior of the dead body, which is not surprising considering that the very first example of this type of shot shows the camera travelling into a corpse via a bullet wound in "Pilot" (S01E01) and the series creator, Anthony Zuiker, has described his initial idea for this type of effect as specifically wanting the camera to zoom into, or travel through, the body.[37] Shots where the camera penetrates or dissolves the skin of a body is, however, only one variety of this snap zoom effect featured within the series, but the body-centred 'CSI shots' are perhaps the most memorable, partly due to their gruesome quality, and partly because they are more clearly reminiscent of effects seen before in other popular texts.[38] Still, far from all 'CSI shots' travel *into* the body, which becomes clear from studying the first few examples of this effect, featured in "Pilot" (S01E01). Although the very first 'CSI shot' travels into a body, the following two snap zooms are used to magnify a hair follicle and a broken-off nail.[39] While all the 'CSI shots' from "Pilot" happen to visualise evidence originating from the human body, there are also innumerable examples of snap zoom shots that magnify a wide range of organic and non-organic objects (and often those that are too small for the human eye to study in detail without aid).[40]

The central role that magnification plays in *CSI*'s visual language has, I would argue, an important impact on its discourse on science. Namely, it stages a considerable extension of the scale of evidence size towards the lower end of the scale. A historic overview of close-ups and microscopic

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CGI, prosthetics and slow-motion capture. See: Douglas Bankston, "Searching for Clues", *American Cinematographer*, Issue 5, 2001, 59.

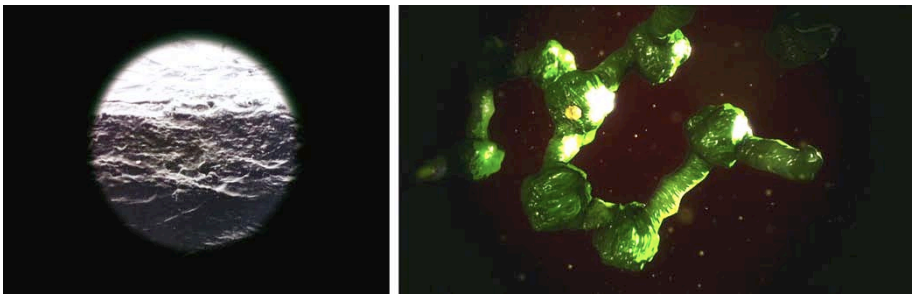
[37] See: Jermyn (2007a), 80; Weissmann and Boyle (2007), 94; Tait (2006), 54; Lury (2005), 53; Weissmann (2010), 137; and Mike Flaherty, *CSI: Crime Scene Investigation Companion* (New York: Pocket Books, 2004), 15.

[38] Karen Lury has compared it with the "the scientific roller-coaster [rides]" inside human bodies featured in the cult classic science fiction film *The Fantastic Voyage* (Richard Fleischer, 1966) or the BBC documentary *The Human Body* (BBC, 1998) and Elke Weissmann has pointed out that this type of footage appeared only a year earlier in the block-buster movie *Three Kings* (David O. Russell, 1999). I would add that there are numerous other examples of thus type of effect that pre-date *CSI*, including the animated television adaptation of *The Fantastic Voyage*: *Fantastic Voyage* (ABC, 1968–1970) and the title sequence of *Fight Club* (David Fincher, 1999) where the camera travels through a brain. The body centred 'CSI shots' also stand out because they so clearly evoke the scientific imaging technology of endoscopy. See: Lury (2005), 53 and Weissmann (2010), 137.

[39] The microscopic quality of most 'CSI shots' is also emphasised by the fact that many of them share stylistic similarities with imagery that is diegetically grounded in the use of microscopes. There are examples where the snap zoom of the 'CSI shot' is diegetically motivated by the use of microscopes. For example, in "Bang-Bang" (S06E23) the camera zooms into a drop of blood, displaying red molecules by means of CGI, which is then followed by a shot of Grissom looking inside a microscope; diegetically anchoring the 'CSI shot' as a microscopic point-of-view shot.

[40] Weissmann has classified the 'CSI shot' as either focusing on the body or on technology. See: Weissmann (2010), 137.

imagery within forensic crime dramas, used to depict small pieces of evidence, makes this shift in scale more apparent. The unaided human eye can under the right circumstances see objects as small as 0.1 mm long (roughly the equivalent of one-fifth the size of a grain of salt). Even the earliest of the forensic crime dramas used close-ups (sometimes diegetically motivated by the use of a magnifying glass) to depict evidence that is small, but still detected by the human eye, such as fragments of fabric, grains of sand, or wads of hair. Programs from the 1960s and 1970s occasionally featured microscopic imagery, usually diegetically anchored in the use of light microscopes, to allow further scrutiny of objects on this scale in size (like strands, grains or hairs). The forensic crime dramas of the 1990s staged a first jump in scale and started featuring microscopic imagery (still mainly anchored in light microscopes) that depicted evidence completely undetectable to the human eye, like human eggs and sperms, or biological units like cells and bacteria.[41] In turn, *CSI* uses close-ups, extreme close-ups and microscopic imagery frequently and spectacularly when depicting evidence at the above-mentioned two levels in size. But it also goes further, habitually depicting imagery of strings of DNA, viruses, molecules and even atoms, which in 'real life' would have to originate from electron microscopes. For example, when a victim is found to have green blood in "The Theory of Everything" (S08E15), this phenomenon is explained by a microscopic CGI-generated shot showing how a sulphur atom attaches itself to a vividly red haemoglobin molecule, turning it neon green.



(1) Microscopic image of a bone fragment in the Quincy M.E. *episode "The Thigh Bone's Connected to the Knee Bone…" (S02E03) and (2) microscopic imagery of atoms and molecules in the* CSI *episode "The Theory of Everything" (S08E15).*

While all earlier forensic crime dramas adhered strictly to the aesthetic conventions of imagery produced by light microscopes, *CSI* differentiates itself by largely freeing the televisual apparatus from the constraint of 'real life' scientific imaging technologies. No matter the actual size of a piece of evidence, *CSI* magnifies it in similarly spectacular ways that emphasise col-

[41] A light microscope uses a system of lenses and the magnification is limited by the wavelength of visible light (about 5000nm).

our, shape and movement. One result of this is a curious reduction of difference between different sizes. Whether an object is in actuality detectable by the human eye, a magnifying glass, a light microscope or an electron microscope, the visual magnification makes the object appear on the television screen in a similar size and manner. This process of magnification changes the perceived materiality of tiny evidence of all sizes in a way that conversely emphasises their physical smallness, pushing them all towards the lower end of the scale. The long-running narrative arc focused on the investigation into the so-called Miniature Killer provides ample examples of this process, as the killer provides the criminalists with a detailed miniature version of the crime scene after each murder.[42] The clues about the killer's identity and motives are hidden in the miniatures, rather than at the actual crime scenes, and as a result these episodes are full of extreme microscopic close-ups of miniature versions of corpses and physical evidence. This tendency is visible more generally throughout *CSI*. Most types of evidence (a toenail, a grain of sand, a strand of fabric or hair, a sperm, a skin cell, a blood cell, a gene, a virus, a molecule or an atom) are dramatized as existing within the same explanatory framework of molecular biology, that locates scientific knowledge as existing on levels further removed from human sight than ever before.

CSI's extension of the evidence scale engages with the wider cultural shift towards molecularization that the discourses around medicine and science have gone through.[43] Nikolas Rose has pointed out that the Foucauldian medical gaze imagined the body as a systematic whole and searched for hidden answers on the "molar level" of organs, tissues and flows of blood.[44] Since the mid-twentieth century, this framework of explanation has increasingly been supplemented by a new "molecular gaze" that specifically visualises the secrets of life as hidden at a different level, namely that which is called the molecular (as an umbrella term).[45] *CSI*'s use of microscopic imagery portrays forensic science as belonging to the more recent, molecular framework of explanation. The series' visual language can thus be identified as working in tandem with its narrative construction of DNA as a central and highly reliable form of evidence.

CSI's discourse on science can more generally be described as dramatizing a process of geneticization, whereby DNA evidence becomes depicted as

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[42] This narrative arc encompasses the following episodes: "Built to Kill, Part 1" (S07E01), "Built to Kill, Part 2" (S07E02), "Post Mortem" (S07E07), "Loco Motives" (S07E10), "Leaving Las Vegas" (S07E11), "Monsters in the Box" (S07E16), "Lab Rats" (S07E20), "Living Doll" (S07E24), "Dead Doll" (S08E01) and "Woulda, Coulda, Shoulda" (S09E07).

[43] Rose (2007), 11–15.

[44] The term molar relates to a body of matter as a whole: i.e. as apart from molecular or atomic properties. See: Rose (2007), 11–12.

[45] Rose suggests that the medical gaze might in the end be completely supplanted by the molecular gaze as a new framework of scientific knowledge. See: Rose (2007), 11–12.

one of the most important forensic tools. As trace technician Hodges points out in "Still Life" (S06E10): "DNA gets all of the glory these days."[46] A quantitative analysis of *CSI*'s depiction of DNA, performed by media studies scholars Barbara Ley, Nathalie Jankowski and Paul R. Brewer shows that 39% of all episodes feature cases where DNA evidence is used to help solve the crime.[47] My own qualitative analysis further suggests that *CSI* evokes ideas about DNA that casts it as a type of super-molecule: able to survive long after it has been isolated from an living organism; as harbouring the true identity of individuals; as able to determine future potential; as providing the bases of social relationships; and as a basis for locating and tracing individuals in time and space.

It is, however, important to acknowledge that most of the forensic crime dramas produced in the nineties had already begun contributing to this discourse, which Franklin has called the genetic imaginary.[48] *Silent Witness* and *McCallum* regularly depicted DNA evidence as tools for solving murder cases and *Diagnosis Murder* even featured an episode called "Blood Ties" (S06E21) in which several corrupt female police officers use the American 'VICAP' (Violent Criminal Apprehension Program) DNA database in order to find suitable criminals to murder, in order to harvest their organs for the benefit of sick people. This was part of a wider movement whereby "gene talk" entered the vernacular in the nineties, a cultural process that has been analysed by Dorothy Nelkin and M. Susan Lindee in some detail.[49] At this point in time, a variety of popular texts worked in tandem with scientific ventures (like the Human Genome Project) to render the gene into something of a cultural icon. The gene became a symbol and metaphor used in relation to a range of different notions and concepts, from biology and bodies, to emotions, identities and social relationships.[50]

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[46] See: Franklin (2000), 189.

[47] The analysis included 51 randomly picked episodes from seasons 1–6. See: Ley, Jankowski and Brewer (2010), 10.

[48] Franklin (2000), 188.

[49] See: Nelkin and Lindee (1995), 1–2.

[50] Genes were discussed as blueprints that would determine the future of the individual due to its hereditary traits, whether 'good' or 'bad', in such diverse texts as the blockbuster movie *Alien 3* (David Fincher, 1992), public service documentary *The Mind/The Brain* (PBS, 1992), the television movie *Tainted Blood* (Matthew Patrick, 1993) and chat shows such as *The Arsenio Hall Show* (Syndication, 1989–1994) and *The Today Show* (NBS, 1952–). Similarly, the significance of genetic family ties were expressed in comedy series like *The Simpsons* (Fox, 1989–) (which in 1991 featured an episode in which Homer Simpson finds out he has a older half brother who is deeply unhappy due to his lack of contact with his biological family), soap operas like *All my Children* (ABC, 1990–2002) (which included a long-running plot line about a character who was unknowingly raised by her uncle and then achieves happiness and fortune when reunited with her biological father), or in day-time talk shows like *Maury* (NBC, 1991–), *Ricki Lake* (Syndication, 1993–2004) or *Trisha Goddard Show* (ITV, 1998–2010) that offer their guests paternity tests to solve custody battles. Furthermore, different

CSI's adoption of a molecular/genetic framework of explanation also draws prominently on deterministic and essentialist notions about DNA that already circulated widely at the time of its premiere.[51] Like many other popular texts of the time, *CSI* is saturated by an understanding of the gene "as a deterministic agent, a blueprint, a basis for social relations, and a source of good and evil" and the series imbues it with a reassuring promise of "certainty, order, predictability and control."[52] The series' use of microscopic imagery that dramatizes practically invisible evidence as harbouring a certain truth can thus be understood as a mere continuation and intensification of the traditional ideal of transparency. It results in a portrayal of forensic science as more innovative and reliable than ever before, precisely because the criminalists are able to access truths at levels that largely remained inaccessible in previous forensic crime dramas. However, Ley, Jankowski and Brewer's study of *CSI*'s representation of DNA tellingly suggests that "*CSI* both [echoes and questions] broader cultural discourses about genetics and identity".[53] Following in their footsteps, I propose that *CSI*'s use of microscopic imagery also results in a more significant reconfiguration, one which stages the emergence of a new set of meanings and engages with even more recent developments within the wider discourses around science.

The complexity of *CSI*'s microscopic imagery

CSI's spectacular use of microscopic imagery plays a crucial role in the series' articulation of a new structure of feeling. To understand how this is done, further comparisons between the visual styles of *CSI* and earlier forensic crime dramas can be indicative. The microscopic imagery featured in the series from the sixties and through to the late nineties always adhered closely to an aesthetic traditionally associated with 'actual' microscopic imagery produced in a scientific context. They were static still images featuring a distinct flatness (i.e. reduced depth of field) and displayed with the edges of the screen masked to resemble the round lens of a light microscope.[54]

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types of new reproductive technologies, enabled by discoveries in molecular biomedicine, were depicted in *Jurassic Park* (Steven Spielberg, 1993), *Gattaca* (Andrew Niccol, 1997) and *Alien Resurrection* (Jean-Pierre Jeunet, 1997), hybrid television series *X-Files* (Fox, 1993–2002) and comedy sketch show *In Living Color* (Fox, 1990–1994). For more detailed analysis of some of these texts, see: Nelkin and Lindee (1995); 14–16, 84–98; Stacey (2010), 36–65, 113–136; and Franklin (2000), 198–224.

[51] Nelkin and Lindee (1995), 149–168.

[52] Nelkin and Lindee (1995), 194.

[53] Ley, Jankowski and Brewer (2010), 11.

[54] The microscopic images in *The Expert*, *McCallum* and *Silent Witness* were, however, often quite colourful.

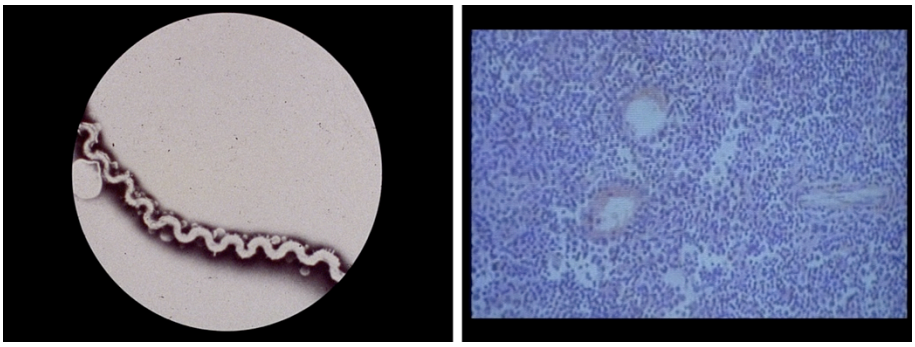
By adopting these stylistic characteristics, the earlier forensic crime dramas largely inherited a set of cultural ideas that Lisa Cartwright has described as belonging to the microscopic apparatus more generally.[55] Cartwright points out that the microscope, unlike other photographic technologies, inherently represents a relatively shallow space. However, she also argues that the "aesthetic of flatness" commonly associated with the microscopic image cannot be fully explained by technological limitations alone. Her analysis of early uses of microscopic photography and film reveals that space in depth continually kept reasserting itself in microscopic images, but the producers of the imagery worked hard to manage and reduce this dynamic quality. In other words, the sense of depth kept "returning to the image field only to be elided from the image", as this was deemed necessary in order to achieve scientific clarity and avoid confusion.[56] According to Cartwright, the aesthetic of microscopic imagery is thus "symptomatic of a more pervasive cultural disavowal of the physical body as phantasm, as nightmarishly visceral and disorderly – a denial rationalized by a modernist demand for order, simplicity, particularity and clarity."[57]

On a basic level, earlier forensic crime dramas probably adhered to this aesthetic because it is closely associated with microscopic technology and therefore functions as a marker of 'realism', which presents these images as scientifically sound. However, by rehearsing the traditional aesthetic of flatness they also inadvertently continue the cultural construction of scientific simplicity and clarity, and deny the more complex aspects of the objects depicted by the microscopic lens. Whether it was bodies, biological units or other material objects that were portrayed in the microscopic images, the earlier forensic crime dramas staged a disavowal of the nightmarishly disorderly qualities of the world. As a result, forensic science was depicted as always able to explain the events surrounding the crime (and in extension life itself) in a simple and clear manner.

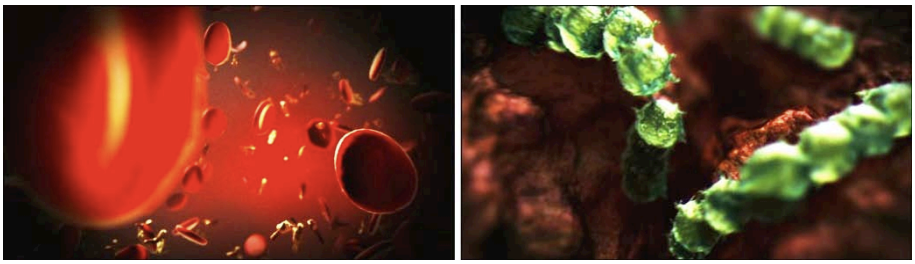
Conversely, *CSI*'s televisual style reconfigures the microscopic imagery in ways that exchange this traditional aesthetic of flatness for a heightened experience of depth and movement. As I have already suggested, the CGI-generated imagery that *CSI* uses when magnifying physical evidence tends to be freed from many of the traditional conventions of the microscopic apparatus. By the means of various elements of lighting, colour, focus depth and movement, *CSI* actually emphasises the dynamic qualities of the objects depicted. For example, a microscopic shot in "Bang-Bang" (S06E23) creates a 3D-like effect by showing red blood cells floating around in what looks like a vast space. The way in which many 'CSI shots' use snap zoom effects

[55] Cartwright (1995), 84.
[56] Cartwright (1995), 90.
[57] Cartwright (1995), 91.

creates a particularly acute sense of spatiality and temporality, which never existed in the microscopic imagery of earlier forensic crime dramas.[58]



'Realistic' and traditionally flat microscopic imagery in (1) the Quincy M.E. *episode "Go Fight City Hall" (S01E01) and (2) the* McCallum *episode "The Key to My Heart" (S01E01).*



CGI-generated microscopic imagery emphasising depth and movement in CSI *episodes (1) "Bang-Bang" (S06E23) and (2)"The Pirates of the Third Reich" (S06E15).*

Hence, rather than attempting to manage and reduce the complexity of the image, *CSI*'s microscopic imagery offers multi-sensory roller-coaster rides that – if anything – enhance the messy nature of the bodies, physical objects and events that the investigation scrutinises.[59] In other words, the microscopic imagery reveals molecular life as being more complex than a world explained on the molar level. This results in a reconfiguration of the materiality of physical evidence: not only are they portrayed as harbouring significant information existing on a molecular level, but their existence is also revealed as being more physically, spatially and temporally dynamic than before. This heightened sense of complexity engages with a wide-ranging number of ideas about dynamic systems, non-linearity and unpredictability that are

[58] Even diegetically-grounded microscopic images, like those in "I Like to Watch" (S06E17) and "Identity Crisis" (S02E13), enhance the sense of depth and movement by digitally simulating the look of the microscope lens being pulled into focus or the sample being moved around underneath the lens.

[59] This is most lucidly discussed by: Lury (2005), 53–54; Weissmann (2010), 137–140; and Smit (2010), 101–125.

currently becoming increasingly important within contemporary discourses around bioscience.[60]

Importantly, the post-genomic issue of complexity grows from the genetic imaginary.[61] George Canguilhem's writings on how the discovery of DNA redefined the concept of life indicate that the generic imaginary is a crucial stepping stone for the recent emergence of the post-genomic structure of feeling. Canguilhem described the discovery of DNA as a change in language, whereby science "[…] dropped the vocabulary and concepts of classical mechanics, physics and chemistry, all more or less directly based on geometrical models, in favour of the vocabulary of linguistics and communications theory."[62] In other words, the cultural processes of molecularization and geneticization meant that the physical world increasingly became explained through the use of terminology traditionally associated with "information, programs, code [and] instruction".[63] This new genetic framework initially brought with it a promise of readability: if the message hidden inside the gene could be decoded, science would finally be able to fully understand and explain life itself.[64] Molecular science was thus understood as being on the verge of cracking the code and laying bare all the secrets of our existence. However, the discourses around molecular science began to change in significant ways in the mid-nineties. This change was engendered by a number of attempts to decipher the hidden information in DNA during the eighties and early nineties, but that rather than producing straightforward answers seemingly raised even more questions: the exact functions of most genes have remained largely unexplained. Furthermore, as Rose and Franklin have respectively pointed out, the attempts to decipher genes is also tied

[60] For example, Nigel Thrift has shown that notions of complexity currently circulate and interlink the "networks" of science, business and New Age practices, and John Urry has argued that there has been a "turn" to using the term complexity for doing "metaphorical, theoretical and empirical work" within a wide range of social and academic discourses. These include "alternative healing, architecture, consultancy, consumer design, economics, defence studies, fiction, garden design, geography, history, literary theory, management, New Age, organizational studies, philosophy, politics, post-structuralism, small world analysis, sociology, stock car racing, town planning" and natural science. For more in-depth descriptions of the turn to complexity, see the following summarising texts: Thrift, (1999); Urry (2005a); John Urry, "The Complexities of the Global", *Theory, Culture and Society*, Vol. 22(5), 2005b, 235–254; Steven M. Manson, "Simplifying Complexity: A Review of Complexity Theory", *Geoforum*, 32, 2001, 405–414; and John Law and Annemarie Mol, *Complexities: Social Studies of Knowledge Practices* (Durham: Duke University Press, 2002).

[61] This further indicates that *CSI*'s discourse on science stages a gradual reconfiguration of meanings, rather than an abrupt shift.

[62] Canguilhem (2000 [1966]), 316.

[63] Canguilhem (2000 [1966]), 316.

[64] Canguilhem (2000 [1966]), 316–317.

to an increased interest in finding ways to instrumentalise new genetic knowledge, allowing us to intervene in biological processes.[65]

These recent changes within the discourses around science have, in tandem, resulted in a gradual change in perspective: the reductionism of molecular science – as it was imagined since the sixties – has started to become understood as old-fashioned.[66] Rose argues that DNA is now increasingly becoming discussed as harbouring messages that are far more complicated and ambiguous than initially thought:

> In the contemporary molecular biology...the search is not for simplifying underlying laws but precisely the reverse: for simulations of dynamic, complex, open systems, combining heterogeneous elements, to predict future vital states and hence to enable into those vital systems to reshape those futures.[67]

Sociologist Brian Wynne has similarly suggested, when studying how "genetics, genomics and post-genomic complexity" are understood and discussed by the general public, that there has been a recent shift whereby science results in a higher sense of uncertainty.[68] Wynne argues that the "the very idea of intervening in nature at the utterly novel genetic level" often seems to augment an increased sense of "unpredictability and potential *lack* of control", even though it is often championed by the scientific community "as a way of *increasing* knowledge".[69]

To summarise, the wider cultural discourse around molecular biology has grown more contradictory since the nineties. As a cultural icon, the gene no longer simply connotes notions of essentialism and determinism and is increasingly used to raise questions about complexity, uncertainty and fragmentation.[70] While science is still trying to decipher the secrets of life itself, molecular science is not necessarily thought to straightforwardly provide certainty, order, predictability and control.[71] *CSI*'s microscopic imagery evokes this wider nagging feeling that developments in molecular science might have produced new knowledge about the world that have in fact revealed it as far more complex and unpredictable than we initially thought. Cultural geographer Nigel Thrift has discussed this as precisely an emergent "structure of feeling in Euro-American societies which frames the world as complex, irreducible, anti-closural".[72]

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[65] See: Franklin (2000), 215–222 and Rose (2007), 15–27.
[66] Rose (2001), 14 and Rabinow and Caduff (2006), 329–330.
[67] Rose (2007), 16.
[68] Wynne (2005), 68.
[69] Wynne (2005), 67.
[70] Rose (2001), 14.
[71] See: Franklin (2000), 188–190; Rose (2007), 15–16; Rose (2001), 14; and Rabinow and Caduff (2006), 330.
[72] Thrift (1999), 34.

Uncertain flashbacks and non-linear crimes

CSI's engagement with ideas about complexity is not solely engendered by the series' use of scientific imagery. This aspect of the post-genomic structure of feeling is articulated more generally through *CSI*'s specific depiction of physical evidence, expressed both by certain visual elements, narrative devices and plotlines. Physical evidence is given an important narrative role in most crime narratives, due to its status as indexical trace through which investigators can establish information about past events (and the individuals, objects and places involved in these events). In *CSI*, this generic function of physical evidence is often more explicitly pronounced than in other crime dramas; both the series' visual language and narrative structure visualise and materialise the otherwise implicit assumption that physical evidence is an imprint of information about events, objects and individuals removed in time and space.

One example of this is the scene from "Friends and Lovers" (S01E05), which I analysed at the opening of this chapter. Nick and Catherine's use of strings to make blood spatter trajectories visible results in a literalisation of the temporal and spatial events of which the blood drops are traces. The past events materialise as a complex network of strings that display the intersecting relationships between the individuals once present and their acts over time. As I already mentioned, the scene ends in a verbal explanation that reduces these events to a fairly simple linear story of cause and effect, but only following a moment where the visual language is allowed to convey a sense of confusion and uncertainty about what happened. This example is representative of how *CSI* often emphasises – if only momentarily – the complexity of the linkages in time and space that the criminalists can access by analysing physical evidence. Pieces of evidence are thus constructed as nodes in a complex web of past events and once-present individuals.

CSI's portrayal of physical evidence is diegetically anchored in a scientific theory called Locard's Exchange Principle. The programme presents this hypothesis as a law of nature dictating that any contact between two surfaces will result in an material exchange between the two: the objects are either altered by the meeting or something is transferred between the two. Within the wider forensic imaginary, this principle is understood as a basic premise for forensic analysis, as indicated by the following quote from a forensic textbook published in 2001:

> Locard's Exchange Principle lays the foundation for why trace evidence examinations are performed, and also why they are so important. On some microscopic level, trace evidence is almost always left behind, or removed from the scene of a crime. This exchange of minute material even occurs when measures are taken by the suspect to limit the amount of material transferred. A suspect can wear gloves to conceal his or her fingerprints; wear a condom to try to avoid leaving DNA evidence; or throw away their shoes to eliminate

> the possibility of footwear evidence. The power of trace evidence lies in the fact that, even when taking great care, it is virtually impossible to keep extremely small or microscopic items such as hairs and fibres from being transferred.[73]

This quote also indicates that Locard's Exchange Principle implicitly holds a promise that criminalists are able to access the information hidden in the most miniscule (microscopic and molecular) traces.

This promise is, for example, evoked in the *CSI* episode "Strip Strangler" (S01E23), when the investigators are struggling to catch a serial killer, Syd Goggle, who goes to great lengths to leave to forensic evidence behind: he shaves his entire body and meticulously cleans each crime scene before leaving. The only trace evidence found are tiny cotton fibres and Grissom is finally able to trace these back to the towels used at a gym where Goggle works. In a final showdown, Goggle taunts Grissom:

> **Goggle:** Everybody knows white cotton fibres aren't like fingerprints. They can't be traced. You don't get a 'match' on a towel.
> **Grissom:** The truth is, all objects are changed by its owner. By his habits. By his washing machine, for instance. His detergent.
> **Goggle:** The totality of microscopic elements?! Locard's theory.
> **Grissom:** Your towel is caught in the agitator. Now see, that's going to leave distinctive marks on the fabric. And that is only the beginning.

Through Locard's Exchange Principle, the miniscule cotton fibres are thus given the same reliable status of proof as fingerprints, or perhaps even DNA. Together with *CSI*'s continuous use of microscopic imagery that depicts the criminalists as always able to access the most miniscule of evidence, the dramatization of this theory results in a general portrayal of physical evidence as existing in abundance. The lack of physical evidence in "Strip Strangler" (S01E23) is significantly depicted as the exception that proves the rule, namely that there are always traces to be found that harbour information about the crime.

Curiously, most episodes of *CSI* even convey a sense of there being too much information. The criminalists often spend a considerable amount of time trying to figure out which pieces of evidence actually contains information that is relevant for solving the crime. This general abundance of evidence has a significant impact on *CSI*'s narrative structure, because physical evidence is made to function as a prominent narrative catalyst in the series.[74]

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[73] Amy Michaud, "Trace Evidence as Investigative Lead Value" in *Mute Witnesses: Trace Evidence Analysis*, Max M. Houck, ed. (London and San Diego: Academic Press, 2001), 49.

[74] In making this argument, I partly draw on Silke Pense, who has described *CSI* as "the first crime series to reject a plot driven by psychological motivation in favour of one that moves forward solely by the accumulation of empirical evidence." While Pense is not completely right in her claim that *CSI* is the first series that makes empirical evidence the main narrative

The discovery of new evidence does not simply drive the investigation forward in a straightforward, linear fashion. Rather, physical evidence is often used to motivate temporal jumps to fragmentary flashback sequences (seemingly) portraying past events. The series' depiction of evidence as existing in abundance means that this happens with some regularity in each episode. As Martha Gever has pointed out, this repeated use of flashbacks means that the generic cause-effect logic of the crime narrative is continuously disrupted in *CSI*.[75]

The narrative disruption at times caused by the discovery of new evidence is also made more drastic by the inherently unreliable nature of *CSI*'s use of flashbacks. Quite a lot of crime dramas feature flashbacks as a narrative device, but they are typically motivated by verbal evidence given by witnesses, victims or suspects when recollecting past events; i.e. they visualise verbal testimonies. In most cases, such flashbacks tend to corroborate the stories told, even though they occasionally highlight that memories can be subjective and partial. Hence, even though flashbacks create temporal jumps in other crime dramas, they are usually presented as fairly reliable accounts of past events. Considering *CSI*'s overall distrust of witness testimonies it is perhaps not surprising that when it features flashbacks that are motivated by character testimonies, it sometimes constructs these as unreliable. A flashback depicting a murderer's accounts of past events might later be opposed by physical evidence that reveals this as a lie told to mislead the criminalists. However, the fact is that flashbacks instigated by physical evidence are habitually exposed as being similarly deceitful.

The regular viewer of *CSI* will quickly learn that all types of flashbacks have an uncertain truth claim. They are frequently revealed to be illustrating events that are completely insignificant to the crime, subjective experiences of events, or events that never happened at all. Furthermore, as viewers we are never given any clear tools for deciphering which flashbacks are reliable, as a similarly expressionistic style is used whether they are 'true' or not. The unreliable nature of the flashbacks not only impacts the linearity of the narrative about the investigation (which is broken up by recurring time warps), but it also results in a fragmentary and uncertain story being told about the events around the crime. This does not result in a narrative structure that resembles that of serials like *The Sopranos* (HBO, 1999–2007), *Six Feet Under* (HBO, 2001–2005) or *Lost* (ABC, 2004–2010), which features complicated, long-running narrative arcs.[76] What I argue is rather that *CSI*'s use

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catalyst (this is true for most of the earlier forensic crime dramas that I have discussed in this chapter), she is one of few scholars who acknowledge the close tie between *CSI*'s portrayal of physical evidence and its narrative structure. See: Pense (2007), 153.

[75] Gever (2005), 449.

[76] In other words, I am not arguing that *CSI* should be counted as adhering to the alternative model of television storytelling that Jason Mittell has written about using the term "narrative complexity". While *CSI*'s narrative structure is fragmented further by the fact that most *CSI*

of uncertain flashbacks articulates an emergent experience of science as revealing the world to be complexly constructed.

Much like the series' use of microscopic imagery, this narrative device reconfigures physical evidence. Pieces of evidence become understood as nodes through which dynamic and non-linear webs of temporal and spatial relationships are accessed.[77] The inherent uncertainty of the flashbacks means that science is not simply depicted as providing information that is complicated, but as creating an understanding of the past events that undermines the straightforward causal relationships that we expect the investigation to reveal. *CSI* thus engages with the current discourse around science, within which the idea of non-linearity has increasingly been discussed as a characteristic of technological, social, biological and physiological systems alike. As summarised by John Urry, the concept of non-linearity refers to the lack of a consistent relationship between causes and effects: "The same 'cause' can in specific circumstances produce quite different kinds of effect. Minor changes in the past can produce potentially large effects in the present since small events are not 'forgotten'."[78] The uncertain temporal jumps that *CSI*'s flashbacks facilitate could be said to create an understanding of the events around the crime that at least initially dramatize these as non-linear: they appear unpredictable and potentially inexplicable. Up until the very end of each episode, *CSI*'s narrative structure usually emphasises the difficulties in establishing the causal relationships between different events, objects and individuals.

Random deaths: plotlines about the messiness of the world

The post-genomic issue of complexity also surfaces in a number of plotlines that depict forensic investigations into deaths that are not the result of premeditated murders, but where the victims died of natural causes, in random accidents, or happened to get murdered by chance. These types of plotlines often have an even more fragmentary narrative structure than usual, resulting in fairly explicit portrayals of the world as a curiously contingent and unpredictable place.

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episodes depict two or more parallel investigations (which are interwoven throughout each episode) it still adheres to a flexi-narrative format that for the most part has a very strict structure of stand-alone episodes. See: Jason Mittell, "Narrative Complexity in Contemporary American Television", *The Velvet Light Trap*, Number 58, Fall 2006, 29–40.

[77] For more on how ideas on non-linearity and dynamic space time relationships figure within current scientific discourse, see: Thrift (1999), 32–33; Manson (2001), 406–407; and Urry (2005a), 4–5.

[78] Urry (2005b), 238.

One telling example of this is the episode “Ending Happy” (S07E21), which focuses on the investigation into the death of a retired boxer called Lorenzo “Happy” Morales. Throughout the episode, different pieces of evidence are recovered at the desert brothel where Lorenzo had been living, which provide fragmentary information about the events leading up to the fatal moment. The evidence prompts a series of expressionistic flashbacks, but the actual cause of death and the organisation of the causal chain of events remain unclear until the very end of the episode. The causes and effects behind Happy’s death are rendered particularly uncertain by the fact that each new piece of evidence seems to suggest a different cause of death. The criminalists slowly realise that a large number of people had been trying to kill him. Accordingly, each flashback depicts what appears to be a different murder of the same man: a recovered crossbow arrow initiates a flashback of Happy getting shot through the throat; a half-eaten shrimp introduces a flashback explaining how Happy got a severe allergic reaction; and a syringe with snake venom initiates a flashback of Happy getting injected with poison.

(1) Nick recovers a crossbow arrow and (2) a subsequent flashback shows the arrow penetrating Happy’s throat, in “Ending Happy” (S07E21).

(1) Greg finds a syringe hidden in a tampon applicator, which triggers (2) a flashback depicting Happy getting injected with snake venom, in “Ending Happy” (S07E21).

However, shortly after each flashback, Dr Robbins recovers a new piece of evidence from the dead body that debunks the previous explanation. In the end, none of the flashbacks turns out to be completely false as they were all murder attempts. At the end of “Ending Happy” (S07E21), it finally becomes clear that Happy accidently drowned after falling off a broken deck

chair into a pool.[79] Hence, both the narrative structure (resulting from the multiple flashbacks) and the plotline call upon the "sense of contingent openness and multiple futures, of the unpredictability of outcomes in time-space" that, according to Urry, have recently begun to circulate within the discourses around contemporary science.[80]

"Ending Happy" (S07E21) is just is only one of many plotlines in *CSI* where suspicious deaths turn out to be freakish accidents. Death is fairly often depicted as a random occurrence that can happen to anyone, at any time, and without any warning. In Happy's case, the mundane, accidental and unpredictable nature of his death is highlighted by the fact that it follows a series of spectacular murder attempts that all failed to kill him. A similar example is the plotline in "Toe Tags" (S07E03), where the criminalists investigate the lethal stabbing of a soldier who has just retuned home from his second tour in Iraq. The evidence shows that the assailant randomly attacked the soldier (who he had never met before), while being in an irrational state after inhaling a toxic substance. The arbitrary nature of the crime is implied further by the fact that the soldier has just survived a war, which would have been a more likely way of getting killed. When the criminalists explain the circumstances to his grieving widow, she exclaims: "It was just random?! That's the reason I don't have a husband? That's why?!" By thus portraying both accidents and acts of violence as often being of a haphazard nature, *CSI* participates in a wider process of redefinition that questions the traditional dichotomies between determinism and chance, equilibrium and chaos, and at least momentarily asserting the impossibility of complete certainty and order.[81]

A feeling of unpredictability is also conveyed by recurring depictions of death as the effect of multiple interlinking circumstances, a type of plotline that constructs future events as practically impossible to foresee and avoid. Again, "Ending Happy" (S07E21) is one example of this: the investigation

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[79] The events are summarised in a conversation at the end of "Ending Happy" (S07E21): (1) Happy has an affair with Doris: the wife of brothel owner Binky who know Happy is allergic to seafood and feeds his wife shrimps, hoping to give Happy an allergic reaction if the two have intimate relations afterwards. (2) Happy has also forced the prostitute Dreama to have sex with him, so she and her boyfriend Connor injects Happy with snake venom. (3) Happy manages to survive the snake venom, but then has a severe allergic reaction when Doris who gives him a blowjob. (4) Happy struggles to get back to his house while being slowly suffocated by his swollen throat, but he is spotted by Connor, who now shoots him with a crossbow. The arrow happens to puncture Happy's neck, giving him an involuntary tracheotomy, saving his life. (5) Happy then returns to Dreama's room and she hits him in the head with a crowbar, but again, he survives and stumbles down to the pool. There he sits down to have a calming smoke in a deck chair, but the chair happens to be broken and Happy accidently falls into the pool where he drowns.

[80] Urry (2005a), 3.

[81] See: Urry (2005b), 238. See also: Ilya Prigogine, *The End of Certainty* (New York: Free Press, 1997), 189.

implies that Happy's many near-death experiences actually conspired to cause his eventual death-by-accident. Taken together, they caused him to go down to the pool late at night and sit down in the broken deck chair from which he fell into the water. Another example is "Feeling the Heat" (S04E04), where a man has accidently electrocuted himself on an extremely hot day. The investigation establishes that he was sitting in an electric massage chair and had created a home made swamp-cooler by having an electric fan blow over a block of ice. The heat and the fan made the ice melt and the water ran across the floor until it happened to reach the electric socket that the chair was plugged into, causing an electric surge to kill the man. Plotlines such as these portray death as being the result of many small and seemingly insignificant events, which happen to cause an unexpectedly severe outcome through a complex interplay that would have been difficult to predict.

The episode "Revenge is Best Served Cold" (S03E01) even dramatizes the notion of complex circumstances as existing on a global level, thus creating an even more powerful sense of unpredictability and lack of control. The case focuses on the death of a legendary poker player nicknamed Candyman, called so because of his constant intake of chocolate while at the card table. An initial autopsy establishes that the body shows classic signs of lead poisoning and the following forensic investigation reveals multiple possible causes of death and suspects, but the criminalists struggle to find an explanation that correspond with all the evidence. However, at the very end of the episode Grissom has a brainwave. He explains to his colleagues that the man's death was an accident resulting from complexly interlinked global events. The chocolate that Candyman had been eating such massive amounts of came from West Africa and there, we are told, they still use leaded gas for fuel. This supposedly results in acid rain, which soaks into the soil and is transferred to the cocoa plants. Eventually, a tiny amount of lead ends up in the sweets, which has slowly been gathering in Candyman's body. Grissom concludes that, if anything, this was a case of "death by chocolate".[82]

Crime dramas are otherwise commonly understood as depicting crime investigations in ways that ultimately suggest that law enforcement representatives are able to make the world a better place by providing a sense of control. It is assumed that by solving crimes and catching criminals, the investigators are preventing future crimes. However, plotlines such as "Ending Happy" (S07E21), "Feeling the Heat" (S04E04) and "Revenge is Best Served Cold" (S03E01) provide very little sense of crime investigations enabling any type of preventive measures. The criminalists are indeed able to explain the events, but this knowledge does not seem to result in an in-

[82] Some other episodes where the deaths turn out to be accidents or manslaughter include: "Fur and Loathing" (S04E05), "Take My Life, Please!" (S10E20), "Toe Tags" (S07E03), "Eleven Angry Jurors" (S04E11) and "Coming of Rage" (S04E10), to just mention a few.

creased sense of control and certainty. In these cases, forensic science is rather depicted as exposing the world as an inherently incontrollable and uncertain place; randomness and chance are depicted as central aspects of natural deaths, accidents and murders alike.

CSI's portrayal of the world as haphazard in plotlines such as these is tied to its general ambiguity when it comes to taking moral standpoints. In her study of the first four seasons of *CSI*, Elke Weissmann presents statistical data showing that a majority of the series' episodes depict crimes as:

> […] borne out of difficult relationships: at work, in friendship networks, within families and sexual relationships. All of these suggest that rather than offering a clear indication of who the 'bad guy' or the good person is, *CSI* can offer a portrait of social life as difficult and complicated. *CSI* therefore provides a portrayal of the circumstances of crime as messy which also makes the use of a legal discourse difficult: in a world in which people are driven to crime how can guilt be defined as absolute?[83]

Weissmann argues that *CSI* diverges from the norm by often failing to place the blame on one individual. The representation of crime in popular media otherwise tends to highlight murders that are premeditated and that therefore makes it easy to establish who is the innocent victim and the guilty perpetrator. *CSI*'s comparable unwillingness to express moral judgements becomes particularly apparent through a comparison with *CSI: Miami* and *CSI: NY*. Both spin-offs devote much more screen time to untangling the morals of each case they depict and do so in ways that clearly establish responsibility, blame and guilt. As implied by a voiceover at the end of *CSI: Miami's* pilot episode "Golden Parachute" (S01E01) forensic science is in this show depicted as a tool for establishing the truth about the crime that will bring justice to "those innocent victims who are powerless", "because without the truth, we ourselves become powerless."

By comparison, *CSI* does not explicitly portray science as a means for gaining the power to place blame and punishment. Whereas *CSI: Miami*'s discourse on science suggests that a chaotic world should be understood as a failure of the criminalists to expose the truth, *CSI* depicts chaos and uncertainty as a result of the scientific gaze becoming more perceptive than ever before. In other words, *CSI* does not depict the messiness of the world as a failure of science to control it, but rather presents it as an inherent quality of molecular life that we are only beginning to understand. The series thus express an idea that is currently circulating more widely in the discourse around science, namely – as economist Brian Arthur has expressed it – that

[83] Weissmann (2010), 160.

the messiness of all complex system are not "created by the dirt that's on the microscope glass. It's that this mess is inherent in the systems themselves."[84]

Narrative closure at the edge of chaos?

In arguing that *CSI* depicts the molecular world as an inherently dynamic, unpredictable and messy place, I am not proposing that it celebrates or promotes these ideas in any straightforward way. While engaging with contemporary ideas of complexity, *CSI*'s discourse on science also displays strong reductionist tendencies. In comparison with other voices within the current discourse around science, the series expresses far less conviction about the progressive nature of the adoption of an explanatory framework that understands the world as dynamic, non-linear and unpredictable. For example, Urry has pointed out that an anti-reductionist impulse is shared by a majority of the academics participating in the current redefinition of life itself.[85] Likewise, Thrift's belief that an new understanding of world as irreducible and anti-closural produces "a much greater sense of openness and possibility about the future", is largely representative of the perspective that views complexity theories as holding the potential of breaking free from a wide range of conservative power structures.[86]

Such anti-reductionist ideals are partly worked over within *CSI*'s discourse on science. Forensic science is certainly portrayed as a more progressive form of scientific practice that mainly wishes to understand the world, rather than to control it. However, in line with Brian Wynne's analysis of other popular accounts of ideas about complexity, *CSI*'s treatment of different complexity theories is also characterised by strong reductive tendencies.[87] One telling example of this is the episode "Chaos Theory" (S02E02), which features diegetic discussions between the characters about the academic field of complexity theory, but ultimately dramatizes these notions in a way that is exceedingly reductive. The investigation in question focuses on college dropout Paige and similarly to the plotlines discussed above, her death turns out to be the result of a series of small random events. The criminalists have collected an abundance of evidence about Paige's last hours alive, but most of the events they are able to establish seem to have had little to do with Paige's actual cause of death. Towards the end of the episode the criminal-

[84] Cited in M.M. Waldrop, *Complexity: The Emerging Science at the Edge of Order and Chaos* (New York: Viking, 1993), 329.
[85] See: Urry (2005a), 1–3.
[86] Thrift (1999), 34.
[87] See: Brian Wynne, "Creating Public Alienation: Expert Cultures of Risk and Ethics on GMOs", *Science as Culture*, 10, 2001, 445–481 and Wynne (2005), 70–71.

ists are all losing hope of explaining what happened, but – as usual – Grissom has an epiphany:

> **Grissom:** H.L. Menken said 'There is an easy solution to every human problem; neat, plausible and wrong.' So if the solution to our problem isn't neat, plausible and wrong, then it could be messy, unlikely and right. […] A butterfly flaps its wings of the coast of Brazil and we get a hurricane in Florida. Chaos theory. Random events, the wholesale rejection of linear thought.
> **Warrick:** Physics meets Philosophy.
> **Grissom:** …life is unpredictable.

A re-examination of the evidence thus presents the following causal chain of events explaining Paige's death: an illicit affair with a teacher made Paige make the decision to drop out of college and when she was cleaning out her room a faulty garbage chute made her drop her trashcan, which ended up in a dumpster outside the building. Wanting to get her deposit back, she went down to retrieve the trashcan and began climbing into the dumpster. At the same time, a traffic jam made a family man (without any connection to Paige) take a short-cut by her dorm, and bad weather caused him to accidently hit the dumpster, which crushed Paige to death.

As indicated by the dialogue quoted above, this plotline specifically attempts to dramatize the so-called butterfly effect as a central principle of the umbrella term chaos theory. The butterfly effect is a metaphor made popular by a mathematician and meteorologist called Edward Lorentz, describing the idea that a very small change at one place in a complex system can have large effects elsewhere.[88] In other words, as with many theories about nonlinearity, the core of chaos theory is the insight that predictions are impossible even in deterministic systems, pointing to an inherent uncertainty of complex systems in both the natural and social worlds.[89] The plotline in "Chaos Theory" (S02E02) does acknowledge that unpredictability is a crucial component of these notions, but the explanation that is offered at the end of the episode cannot be said to offer a particularly messy account of events. Ideas about complexity are thus rather called upon to do precisely the opposite: namely, to supply a neat explanation to what only initially seemed to be a messy series of events. In this case, chaos theory is depicted as a new, exciting scientific framework of explanation that can be used to quickly elucidate a series of previously inexplicable events in a way that allows them to be easily placed into a linear chain of causes and effects. Any more radical anti-reductionist implications of the notion of complexity are thus essentially

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[88] See: Edward N. Lorenz, "Deterministic Nonperiodic Flow", *Journal of the Atmospheric Sciences*, 20(2), March 1963, 130–141.

[89] See, for example, how chaos theory is discussed in: Stephen H. Kellert, *In the Wake of Chaos: Unpredictable Order in Dynamic Systems* (University of Chicago Press: Chicago and London, 1993).

lost. By name-dropping a famous thinker and referencing words with strong scientific connotations (like physics and linear thought), *CSI* attaches a sense of structure and trustworthiness to the concept of chaos theory, which in extension reduces its connotations of uncertainty and complexity.[90]

The tendency to confine complex systems into a neat box of logic at the end of each episode at least partially represses the understanding of complexity as a liberating force and instead presents it as something of a problem. Alongside the more dynamic microscopic imagery and flashbacks I have discussed above, *CSI*'s overall visual language and narrative structure still retains an investment in the controlling tendencies that Cartwright ascribed to traditional science as a power structure; to some extent forensic science is still promising "order, simplicity, particularity, and clarity".[91] As suggested at the beginning of this chapter, the generic linkages articulated though *CSI*'s depiction of scientific practices, technologies and images means that the medical gaze still asserts a reductive and controlling presence. Furthermore, several other scholars have shown that the generic aspects of *CSI*'s episodic narrative structure provide assurance the criminalists will always – in the end – be able to provide a straightforward linear explanation no matter the complexity of the case.

Weissmann and Kompare have both suggested that this is the result of the episodes' adherence to the basic narrative structure of classic crime films, which is roughly based on the ideal narrative famously described by literary theorist Tzvetan Todorov.[92] In short, this structure follows the movement from an equilibrium that is disturbed, to the reinstatement of a new equilibrium. Crime narratives have become known for using this structure with the intent of propagating law and order over crime and chaos. By depicting the disruptive force of crime, and then having the investigative process reinstate

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[90] The same happens when *CSI* dramatizes the concept of "string theory" in the episode "Theory of Everything" (S08E15). String theory is here presented as a theory that allows the criminalists to place a series of strangely interconnected cases into a frame of explanation that reduces the feeling of randomness and chance that they initially bring about. When Grissom presents string theory as an all-encompassing explanation for why all the different cases are interlinked he uses plenty of scientific terms and name-dropping as a way of assuring the viewers that the criminalists are well-versed in the latest scientific theories. This is just one of many episodes in *CSI* where multiple plotlines turns out to be related; an interconnectedness that results in both an acknowledgement of the random links that supposedly exist throughout a complex system and an opportunity to reductively link multiple events together in a causal chain of events. Other examples of this are: "Kill Me If You Can" (S09E15), "Happenstance" (S07E08), "And Then There Were None" (S02E09), "Spark of Life" (S05E18), "Death and The Maiden" (S10E06), "The Grave Shift" (S09E11) and "Better of Dead" (S10E10).

[91] Cartwright (1995), 91.

[92] See: Elke Weissman, "The Victim's Suffering Translated: *CSI: Crime Scene Investigation* and the Crime Genre", *Intensities: The Journal of Cult Media*, Issue 4, December 2007, http://intensities.org/Essaus/Weissmann.pdf (accessed October 13, 2009) and Kompare (2010), 14.

the equilibrium, crime dramas are said to assure its viewers that law and order are necessary powers of good. While *CSI*'s habitual use of flashbacks (that disrupt the usual cause-effect logic) introduces moments where the ordering function of this classic narrative structure is questioned, each episode usually ends with a traditional reinstatement of equilibrium. If more focus is placed on the end of each episode, it is thus easy to understand *CSI*'s overall episodic format as having a strong ordering function. The plotlines almost always end with a verbal explanation that is reminiscent of the way in which Agatha Christie's well-known crime novels have the central detective lay out the events in a coherent linear chain at the end. As Ellen Burton Harrington has argued, this type of "conservative conclusion […] reaffirms the efficacy of the detective procedure and the stability of society" by providing a satisfying sense of knowing the causes and effects behind the crime.[93] It is particularly these formulaic endings that in *CSI* result in an assertion that simplicity, closure and certainty can still be provided by science, and create an understanding of forensic science as able to provide simple explanations of the most complex events.

It is possible that this reductive tendency is motivated by an implicit assumption that television viewers would feel alienated if *CSI* embraced ideas about complexity more comprehensively. Wynne proposes that the general reductionist tendency that is characteristic of popular accounts of complexity theory is governed by a prevalent myth about the general public being "incapable of living with the provisionality of scientific knowledge".[94] A reductionist approach is assumed necessary to avoid an increased public distrust of science that would damage its reputation and power. Wynne points out that this is largely a faulty assumption, but one that still impacts the public imaginary about complexity.[95]

However, *CSI*'s treatment of complexity could also be understood as implicitly governed by contemporary bioethical concerns about biopower. That *CSI* at all acknowledges the possibility that science cannot completely control the dynamic and unpredictable nature of the world could be understood as deflecting cultural anxieties that molecular science might be utilised for controlling the population in an unethical manner.[96] The fact that *CSI* depicts forensic science as an institution of policing, heavily invested in molecular science, might in the contemporary cultural context necessitate a discussion on the issue of complexity that voices the idea that science is also exposing the world as more complex and unpredictable than initially thought, and thus as more difficult to control and interfere with. Conversely, this might function to instil trust in forensic science and legitimise its scientific practices as

[93] Harrington (2007), 367.
[94] Wynne (2005), 68.
[95] Wynne (2005), 68, 71.
[96] Rose (2007), 3–4.

exercising an acceptable form of power. It seems, however, that this can only be achieved through a balancing act, whereby *CSI* articulates just the right mix of complexity and certainty. In the end, *CSI*'s discourse of science is thus characterised by an ambiguous treatment of the post-genomic issue of complexity, which casts the series as a cultural forum engaging with the current discursive shift around science in multiple ways.[97]

[97] Newcomb and Hirsch (1983).

2. Extreme Makeover *CSI* Edition: Plastic Bodies and Criminal Doctors

CSI's 100th episode, "Ch-Ch-Changes" (S05E08), worries at scientific knowledge and practices at the present moment by dramatizing sex reassignment operations as one possible way to utilise recent medico-scientific developments. The plot follows a forensic investigation into the murder of male-to-female transsexual Wendy (formerly Walter) Gardner, and the main suspect is the elusive Dr Karl Benway, a mysterious rogue surgeon performing unlicensed sex changes on transsexuals that have failed the official screening process.[1] Dr Benway is a representative example of a recurring character type in *CSI* that I would call the 'criminal doctor'. Although Benway is initially addressed with title of 'Doctor', the investigation swiftly strips him of these credentials after proving that he is both unskilled and lacking a medical degree. Benway's medical practices outside of the system have disastrous outcomes. He has killed one patient and severely injured many others when operating in an unhygienic self-storage unit. As I will outline in more detail in this chapter, the figure of the criminal doctor has an important legitimising function. In addition to the portrayal of forensic science as cutting-edge and revealing the world as increasingly complex by adopting a molecular framework, *CSI* stages bioethical debates through the portrayal of the criminal doctors that suggest that medico-scientific practices demand an ever-increasing degree of skill and knowledge. Through juxtaposition, the critique of criminal doctors instil trust in the criminalists, in turn depicted as well-educated and humble government employees whose utilization of science is characterised as being heavily regulated and of a non-invasive type.

However, more than expressing general bioethical worries about the consequences of unskilled and unlicensed medical practitioners, "Ch-Ch-Changes" (S05E08) raises an issue that I call *the plasticity of bodily identity*.

[1] Through both the naming and portrayal of this character, the episode evokes the recurring character Dr Benway from William S. Burroughs' novels, perhaps most famously featured in *Naked Lunch*. Burrough's Dr Benway is a character based on the mad scientist stereotype, with little interest in ethical practices and patient care. In the 1991 film adaptation of *Naked Lunch*, directed by David Cronenberg, Dr Benway is also depicted as having a somewhat non-normative gender identity. See: William S. Burroughs, *Naked Lunch* (New York: Grove Press, 2009 [1959]).

Benway is not only portrayed as dangerous because he inexpertly interferes in the biological processes of others; he is also problematised because he himself possesses an indeterminate bodily identity that makes it more difficult for the criminalists to identify and locate him. The investigation establishes that Benway is a Vietnam veteran and political activist who seems to magically appear during the illegal surgeries, but is then nowhere to be found. Towards the end of the episode, the criminalists realise that the reason they cannot seem to locate this seemingly hyper-masculine man is because he spends the majority of his time being Dr Mona Lavelle: a female psychologist running support groups for transsexuals and enjoying a happy heterosexual family life with a husband and a daughter. In the context of *CSI*'s discourse on science, Benway/Lavelle's double life has a wider significance than simply inciting suspicion by portraying him/her as deceitful.

(1) Flashback of Benway performing a sex change operation and (2) Dr Lavelle leading a support group, in "Ch-Ch-Changes" (S05E08).

Ellen Burton Harrington and Lucia Rahilly have respectively argued that *CSI* problematises sex change operations as a practice representative of the wider possibilities for plasticity that medico-scientific developments offer.[2] Building on their insights, I argue that the series' portrayal of Benway/Lavelle engages with ideas about the malleability of bodies and identities within the wider discourses around bioscience. However, I would add that the series' treatment of this issue is intriguingly ambiguous. Benway/Lavelle is, on the one hand, portrayed as a criminal who – by disguising himself as a woman – not only avoids detection, but also deceives his/her clients and poses a danger to society. On the other hand, his/her family life is portrayed as extremely loving and fulfilling: the husband and daughter both know and support his/her choice of identity. Dr Lavelle's work as a psychologist is also depicted in ways that support the notion that gender identity is a cultural performance that anyone can freely chose to implement. In this chapter I will show that "Ch-Ch-Changes" (S05E08) only is one of many episodes in *CSI* that works over and worries at bodily identity, as a central issue of the emergent post-genomic structure of feeling. I will examine *CSI*'s depiction of different types of self-transformation narratives and plotlines

[2] Harrington (2007), 374–376 and Rahilly (2007), 123–124.

featuring criminal doctors as sites where questions about plasticity and identifiability are articulated. However, I begin by tracing the history of the motif of disguise within the crime genre, as a way of identifying the specificity of programme's treatment of the concept of (bodily) identity.

The motif of disguise in the forensic crime genre

In an article on the crime novels of Patricia Cornwell, literature scholar Joy Palmer identifies the question "whose body?" as a pivotal force propelling the forensic crime narrative forward.[3] This claim is indicative of the narrative role that the identification of the dead body has in forensic crime fiction that depicts a pathologist as the main investigator (like Cornwell's novels about Dr Kay Scarpetta or television series such as *Silent Witness* and *Crossing Jordan*), but the question is also widely applied on the absent body of the perpetrator or unknown witnesses. The act of identifying bodies has long been a prominent feature in many types of crime narratives.[4]

In the case of *CSI*, the importance placed on the practice of identification is hard to miss, particularly as each episode begins with a blatant reminder in the form of the repetitive chorus of the song "Who are you?" by The Who, which accompanies the series' title sequence. *CSI* not only portrays physical evidence as useful for establishing the events surrounding a crime: many miniscule pieces of evidence are also given an important status as indexical traces of bodies that can also be used to identify the individuals that left them behind. The series rarely depicts suspect line-ups where a witness identifies the perpetrator. Be it victims, perpetrators or witnesses, all bodies are ideally identified through a material match of biological traces (like DNA or hairs) or corporeal imprints (like fingerprints or footprints).

Another recurring element that points to the centrality of identification practices in *CSI* is the frequency with which the motif of disguise is featured. As has been pointed out by literature scholar Markus M. Müller, the basic idea of disguises and masks is that they enable the wearer to perform as somebody else, which means that the concept of disguise inherently poses a threat to the act of identification.[5] The presence of the motif of disguise thus indicates that identity is a central issue to the text in question. The disguised criminal has long been a staple figure of the crime genre. However, as I will outline in this section, the uses and associations tied to this motif have

[3] Joy Palmer, "Tracing Bodies: Gender, Genre, and Forensic Detective Fiction", *South Central Review*, 18:3–4, Winter–Fall 2001, 54.
[4] See: Palmer (2001), 54.
[5] For a discussion on the historical, cultural and etymological development on the concept of disguise, see: Markus M. Müller, *Disguise and Masqurade in Canadian Literature: The Works of Fredrick Philip Grove and Robert Kroetsch* (PhD thesis, Universität Trier, 2002), 9–53.

changed with the shifting cultural anxieties that have been connected to the concept of identity.

While the motif of disguise goes far back in Western society, cultural historians have argued that the notion of masquerading became increasingly problematised during the nineteenth century.[6] This problematisation is usually explained as rooted in the emergence of the concept of identity crimes in both American and Europe; acts such as impersonation, swindling and bigamy were increasingly discussed as antisocial behaviour and became labelled as criminal acts. The popular media of the time played an important role in the construction of this new cultural anxiety, with the swindler (or the American "confidence man") becoming a familiar figure in news media and popular fiction, particularly in crime fiction.[7] The appearance of this phenomenon suggestively coincides with the emergence of the crime genre category, which has therefore often been described as a cultural expression of the same set of social and cultural changes causing the growing cultural anxiety around the concept of hidden identity.[8]

American literature scholar Peter Brooks has outlined the close historical ties between new anxieties about identity and the modern concept of crime solving as a practice of identification.[9] Brooks argues that the immense urban growth and social dislocation experienced during the nineteenth century must be understood as important contributing factors to the inauguration of a "identity paradigm" in western culture, which meant that a number of social and cultural institutions became concerned with establishing ways of defining, testing and knowing identity. In other words, the perceived need to police and classify the population increased with the social and geographical mobility of modernity.[10] Legal historian Lawrence M. Friedman has similarly argued that crimes of identity actually should be labelled as "crimes of mobility" to stress the inherent link between social changes that destabilized the old fixities of place and of station in life and the cultural worries about identity at this particular historical moment.[11]

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[6] The motif of disguise is, for example, central to Greek mythology. See: Müller (2002), 34–35 and Sheila Murnaghan, *Disguise and Recognition in the Odyssey* (Princeton, NJ: Princeton University Press, 1987).

[7] See: Lawrence M. Friedman, "Crimes of Mobility", *Stanford Law Review*, Vol. 43, February 1991, 637–658; Gary H. Lindberg, *The Confidence Man in American Literature*, (New York: Oxford University Press, 1981); and D. W. Maurer, *The American Confidence Man*, (Ann Arbor: University of Michigan Press, 1974).

[8] See: Peter Brooks, "The Identity Paradigm" in *Stories and Portraits of the Self*, Helena Carvalhão Buescu and João Ferreira Duarte, eds. (Radopi: Amsterdam, New York, 2007), 157–158; Linden Peach, *Masquerade, Crime and Fiction: Criminal Deceptions* (Houndmills: Palgrave MacMillan, 2006) and Thomas (1999).

[9] Brooks (2007).

[10] Brooks (2007), 152, 157–158.

[11] Friedman (1991), 638.

This social shift not only stimulated the emergence of crime fiction, but also the invention of many forensic technologies for identification.[12] Victorian literature scholar Ronald R. Thomas has fleshed out this argument in more detail in his book *Detective Fiction and The Rise of Forensic Science*, arguing that literary detective fiction of the nineteenth century must be understood as intrinsically interlinked with the development of forensic science as new scientific discipline that offered a number of devices promising to reveal "the secret truth of the past in the bodies of the victims and perpetrators of crime."[13] Thomas convincingly argues that the fictional figure of the detective embodied early forensic technologies (such as fingerprinting, mug shots, and the lie detector) aimed at reading the human body as a sign of identity.[14] Thomas also points out that already very early examples of crime fiction novels used the motif of disguise to dramatize scientific crime solving technologies as useful for deciphering physical marks of identity and able to neutralise the perceived threat of crimes of mobility.[15]

Thomas's study thus suggests that the motif of disguise became established in the early crime dramas as a trope that allowed a display of the scientifically inclined investigator's ability to identify the criminal through certain bodily markers. *CSI*'s use of the motif of disguise follows in this generic tradition. Episodes that depict disguised criminals usually use these characters to dramatize the ability of the criminalists to access corporeal markers of identity, which allows them to see beyond the mask. One representative example of this is the episode "Living Legend" (S07E09), in which the criminalists investigate a series of murders committed by Mickey Dunn, a legendary Vegas gangster and a master of disguise. With the help of "state of the art prosthetics", Dunn poses as a Mexican fisherman, an overweight karaoke singer, an elderly Afro-American woman and his old friend Johnny, a retired gangster, in order to trick the investigators. It is only when the criminalists study CCTV footage of the different perpetrators that they realise that the facial bone structure of the different individuals is exactly the same, indicating that there is one single body hiding behind fake exteriors. The measurements of the distance between the eyes, nose and mouth are treated as having the same unique quality as a fingerprint or a DNA sequence, revealing the individual hiding underneath the masks.[16]

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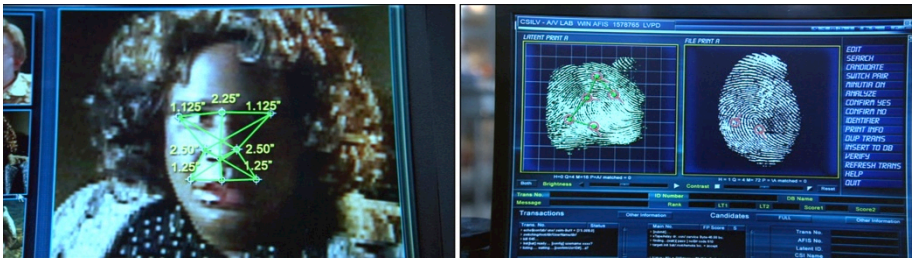
[12] See for example: Brooks (2007), 149, 152.
[13] Thomas (1999), 3–4.
[14] Thomas (1999), 21–39, 92, 111–130, 201–219.
[15] Thomas (1999), 24 and Friedman (1991), 638.
[16] From DNA, fingerprints and dental records, to bone structure and hair quality, *CSI* portrays a wide number of corporeal features, marks and traces as stable and reliable signs of identity. Earlier forensic crime dramas from the sixties and seventies also frequently depict corporeal features, marks and traces as reliable means through which criminals can be identified. The title sequence of the *Detective* (BBC, 1964) episode "Dr Thorndyke: The Case of Oscar Brodski" (06/06/1964), for example feature graphics of mug shots and composite sketches.



(1) A comparison of face measurements in "Living Legend" (S07E09) and (2) a fingerprint search in the AIFS database in "Sweet Jane" (S07E12).

A closer consideration of how the motif of identity features in forensic crime dramas of different ages suggests, however, that the cultural anxieties associated with identity crimes have changed. One of Thomas's main points is that detective fiction from the nineteenth century and up until the 1930s tended to conflate personal identity with national identity. In other words, swiftly increasing social and geographical mobility meant that traditional national boundaries were placed under threat, with the result that the problem of identity was mainly posed as a problem of identifying "the Other".[17] At this historical moment forensic science was thus called upon to sort out "the familiar from the foreign" and focused on racial and ethnic identity rather than evoking the concept of a completely unique and individual identity that is now central to *CSI*'s use of the motif of disguise.[18] Identity was thus understood as the equivalent of belonging to a social group or character type, as for example proposed by the nineteenth century pseudo-sciences of phrenology and physiognomy.[19] Furthermore, Friedman's discussion about the increased social mobility of this period also makes clear that not only ideas about race, but those about class were central for the construction of certain bodies as a criminal Other.[20] In early detective fiction the uses of the motif of disguise were thus governed by a fear of certain people being able to hide their otherness, which 'should' be made visible through corporeal signs.

Jumping forward to consider the British and American forensic crime dramas of the 1960s and 1970s, it is noticeable that the motif of disguise is

[17] Thomas (1999), 10.
[18] Thomas (1999), 11. See also: Harrington (2007), 370–372, 377–379 and Erik Grayson, "Weird Science, Weirder Unity: Phrenology and Physiognomy in Edgar Allan Poe", *Mode* 1 (2005), 56–77.
[19] For more on the history of phrenology and physiognomy, see: Grayson (2005); Richard Twine, "Physiognomy, Phrenology and the Temporality of the Body", *Body Society*, 8:67, 2002, 67–88; David G. Horn, *The Criminal Body: Lomboroso and the Anatomy of Deviance* (New York and London: Routledge, 2003) and Simon A. Cole, *Suspect Identities: A History of Fingerprinting and Criminal Identification* (Cambridge and London: Harvard University Press, 2001).
[20] Friedman (1991), 650–654.

now largely absent. Identity crimes are fairly rarely depicted in shows like *Silent Evidence*, *Thorndyke*, *The Expert* and *Quincy M.E*. They all continue the tradition of depicting forensic science as able to identify criminals through corporeal features, marks and traces, but do so without calling on the motif of the disguised criminal or the imposter. I would suggest that this generic change might, at least in part, be explained by a wider generic shift. The cultural anxieties of otherness, as tied to the motif of disguise, were at this point in time becoming understood as problematically conservative. The producers of the forensic crime dramas presumably felt that the motif of disguise would be clashing with their aim to portray science as a modernising force.

This is particularly apparent in the British context. Contemporary viewing figures suggest that *Silent Evidence* and *Thorndyke* were never particularly popular programmes.[21] While both depicted science as a useful and reliable method of policing, they did so by drawing significantly on older crime genre traditions when portraying its main characters. *Thorndyke*, in particular, blatantly emulated the Sherlock Holmes stories; it places the action in a period setting and the main character is portrayed as a traditional gentleman detective with a Dr Watson-like sidekick.[22] By comparison, the somewhat later series *The Expert* achieved more success by consciously constructing forensic science as a progressive type of policing that departed from old conventions and offered a new approach to policing that was characterised by equality and objectivity. Science was thus portrayed as an innovative movement through which traditional racial, class and gender boundaries can be transgressed.[23]

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[21] This suggestion is reinforced by the fact that neither was renewed for a second 'series'.

[22] This reference was not lost on the audience who "noted a strong resemblance between the doctor and his predecessor, Sherlock Holmes," as pointed out in a BBC audience research report from the series first stand-alone episode "Dr Thorndyke: The Case of Oscar Brodski" (06/06/1964). See: "An Audience Research Report: Detective: The Case of Oscar Brodski", BBC document, Monday 6th July, 1964.

[23] A comparison of audience research reports from the three shows show that episodes of *The Expert* generally were rated somewhat higher, even through *Silent Evidence* and *Thorndyke* were both aired on BBC1. However, due to the low number of reports on *Silent Evidence* and *Thorndyke*, and other wider historical changes in the number of viewers, it is hard to draw any reliable conclusions from this fact. See: "An Audience Research Report: Silent Evidence: Shadow of the Past", BBC document, Tuesday 7th August, 1962; "An Audience Research Report: Silent Evidence: Driven to the Brink", BBC document, Tuesday 14th August, 1962; "An Audience Research Report: Silent Evidence: This Desirable Property", BBC document, Wednesday, 5th September 1962; "An Audience Research Report: Detective: The Case of Oscar Brodski", BBC document, Monday 6th July, 1964; "An Audience Research Report: The Expert", BBC document, Friday 5th July, 1968; "An Audience Research Report: The Expert: Nice Day", BBC document, Friday 2nd August 1968; "An Audience Research Report: The Expert: The Long Hate", BBC document, Friday 9th August 1968; "An Audience Research Report: The Expert: And So Say All of Us", BBC document, Friday September 27th 1968; "An Audience Research Report: The Expert: The Visitor, Part 1", BBC document,

The Expert returned for 63 episodes in total. The first two series (in 1968 and 1969) were aired on Friday nights, at 8:15 pm, on BBC2. The initial estimated viewing figures were thus quite low, which is not surprising considering that BBC2 typically had lower viewing figures in this period as far fewer people could receive this channel without upgrading their television sets. The viewing figures did, however, rise steadily and for the third season (in 1971) the programme was moved to BBC1.[24] The programme's relative success can, at least in part, be explained by its timely presentation of forensics as a force of modernisation and development. *The Expert* premiered in 1968, four years into the government of Harold Wilson, a Prime Minister who forcefully promoted a technocratic aim of taking advantage of scientific development in order to lower unemployment and achieve economic prosperity. Wilson's belief that the "white heat of technology" could be used to create a better society was at this point in time being popularised throughout British culture. Specifically portrayed as a forensic expert, Dr John Hardy is as a typical hero of the wider technocratic revolution of this moment.

That *The Expert* managed to strike a chord with audiences due to its depiction of forensic science as progressive is, for example, indicated by Raymond Williams' comments on the programme in his weekly column in *The Listener* in 1969.[25] Williams argued that *The Expert* was a worthwhile watch because it was continuing the movement started by the police shows of the sixties, which managed to pull "crime fiction back to naturalism" by depicting the everyday work of the ordinary policeman and dispelling some of the British fondness for the "eccentric gentleman-detective, giving the lower-class police a few tips."[26] In other words, *The Expert* was precisely appreciated because it rejected many of the generic tropes of the traditional gentleman-detective crime drama, including the motif of disguise. Williams argued that while Dr Hardy was a scientific expert in the Holmesian tradition, it was not only his clothes that were of "sixties tailoring."[27] Rather than being an upper-class amateur detective, Hardy is depicted as a professional scientist who collaborates with a police officer that is treated as an equal, thus dispelling some of the problematic class politics of earlier crime dramas. Hardy

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Friday 4th April 1969; "An Audience Research Report: The Expert: A Question of Guilt", BBC document, Thursday 18th June 1970; "An Audience Research Report: The Expert: The Sardonic Smile", BBC document, Thursday 10th September 1970.

[24] *The Expert* was then taken of the air for 5 years, for reasons unknown to me. When returning for a final series in 1976 it was back on BBC2 and "tucked away in a late slot". See: Hazel Holt, "The Scandal, the Expert and the Garden Patch", *Television Today: Published Weekly with The Stage*, October 7, 1976, 15.

[25] Raymond Williams, "Crimes and Crimes (21 August 1969)", in *Raymond Williams on Television: Selected Writings*, Alan O'Connor, ed. (London and New York, Routledge: 1989 [1969]), 69–72.

[26] Williams (1989 [1969]), 70–71.

[27] Williams (1989 [1969]), 71.

also works closely together with his "doctor wife" Jo Hardy and his "West Indian assistant" Sandra Hughes, which indicates that he is a decidedly modern man. Considered in this context, it is not surprising that the motif of disguise – with its historic association with anxieties about otherness – was largely rejected by the forensic crime dramas of the sixties and seventies. The motif of disguise continued to remain largely absent in forensic crime dramas of the nineties.

The subsequent reappearance of this generic motif in *CSI* does, however, not mean that the series deals with the same cultural anxieties about otherness evoked by crime fiction over a century ago. The series reconfigures this generic motif and uses it to raise a different set of questions, which is indicated by the fact that there are fundamental differences between the way that disguised figures are featured in *CSI* and, for example, the Sherlock Holmes novels.[28] Significantly, disguises also have a long history of being depicted as a tool used by detectives and policemen to catch criminals, but this trope is largely absent in the programme. Narratives about undercover policing and entrapment operations, where members of the law enforcement infiltrate the criminal world, have otherwise been a common way to stage questions about identity. For example, both in Doyle's stories and their subsequent adaptations, the figure of Sherlock Holmes has often been depicted as himself being a master of disguise. Literature scholar Rosemary Jann has analysed Holmes' own "success at assuming new personalities through disguise" as yet another sign of the power structures of class that govern the belief in the inescapable typing of social bodies.[29] In other words, in the case of Holmes himself, the ability to pass as someone else became a sign of his social power: as a gentleman detective he was never in danger of connoting the feared otherness.[30] Similarly, the early American forensic crime drama *Craig Kennedy, Criminologist* frequently depicted its main investigator's talents at acting and disguise, without any suggestion that this might destabilise the reliability of Kennedy's own identity and authority. His ability to pass as anything from a single first mate in the episode "The Lonely Hearts Club" (S01E13), to a European psychiatrist in "The False Claimant" (S01E04), were rather presented as one of the main features of Kennedy's scientific approach. Kennedy even applies make-up at the same laboratory table he uses for performing chemical experiments.

By comparison, *CSI* is characterised by a significant absence when it comes to this generic trope. Undercover operations are very rarely depicted, and neither are other situations where the criminalists themselves pose as

[28] For a somewhat more detailed comparison between *CSI* and Sherlock Holmes, see: Harrington (2007), 268–379.
[29] Rosemary Jann, "Sherlock Holmes Codes the Social Body", *ELH*, Vol. 57, No. 3, Autumn, 1990, 687.
[30] Jann (1999), 687.

someone else, a non-existence that I read as conversely indicating the series' deep interest in the more recent notion that all individuals has a plastic bodily identity that can be changed by will. The few episodes that do depict undercover operations are highly critical of the practice of undercover policing, indicating that the possibility of plasticity is dealt with as a problem in *CSI*. For example, in "Strip Strangler" (S01E23) Sara volunteers to act as bait for a serial killer during an FBI undercover operation, against the expressed will of her superior, Grissom. The operation fails to produce any new information, and is even depicted as causing harm; while the investigators are busy shadowing Sara, another murder is committed which could perhaps have been prevented had they instead spent their time on analysing physical evidence.[31]

CSI's critical portrayal of undercover operations does, however, refrain from explicitly dramatizing this practice as problematic because it might destabilise the identity of the criminalist. This is perhaps somewhat surprising, considering that many other crime narratives from the last few decades that similarly deal with questions about the plasticity of all bodies and identities do so by depicting the practice of going undercover as being a dangerously destabilising experience. Numerous films, including *Cruising* (William Friedkin, 1980), *Donnie Brasco* (Mike Newell, 1997) and *The Departed* (Martin Scorsese, 2006), depict investigators as being seduced by the criminal world while being undercover as a way of dramatizing cultural anxieties about the plasticity of identity.[32] A telling example from television is the fairly recent British crime drama *Identity* (ITV, 2010), which features a narrative arc that follows a love affair between former undercover police DI John Bloom and the daughter of a Turkish drug mobster. It is continuously suggested that Bloom has lost his own identity while masquerading as an Irish gangster, and now is unable to return to a normal life on the right side of the law.

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[31] Other episodes depicting undercover operations as dangerous are "Hog Heaven" (S09E23) and "The Panty Sniffer" (S10E16). An episode that is humorously suggesting that any type of masquerade is an 'unsuitable' activity for criminalists, is "A Space Oddity" (S09E20) set during a convention on the *Star Trek*-like show Astro Quest. A romantic sub-plot about the lab technicians Hodges and Wendy suggests that playing dress-up is a problematic practice for forensic scientists. After having met Wendy in full Astro Quest costume at the convention, Hodges becomes distracted by a number of sexual fantasies and causes an accident at the lab, which threatens the outcome of the investigation. A number of fantasy sequences illustrate Hodges longing to transform from a nerdy scientist into a romantic hero, but the accident makes him realise that a work romance is not compatible with his job. In spite of the lighthearted tone, this episode displays *CSI*'s almost desperate problematisation of potentially unidentifiable bodies and unstable identities.

[32] For more detailed analysis on this trope, see for example: Guy Davidson, "Contagious Relations: Simulation, Paranoia, and the Postmodern Condition in William Friedkin's *Cruising* and Felice Picano's *The Lure*", *GLQ*, 11:1, 2005, 23–64.

Identity offers a particularly interesting point of comparison, as it is a forensic crime drama that focuses solely on investigations into different types of identity crimes and generally redefines the generic motif of disguise in much the same way as *CSI* does. Both shows present identity crimes as posing a greater threat than ever before, due to the increased malleability of the body and the widespread use of technology offering new possibilities for identity thefts. For example, *Identity* features an episode where an Indian businessman, in the midst of signing a big government deal, turns out to be an imposter who has gone through major plastic surgery in order to play the part.[33] In other words, both *Identity* and *CSI* use the motif of disguise specifically to raise questions about the impact that recent developments in medicine, science and technology have had on our bodies and identities, and also our understanding of these concepts. The motif of disguise is thus newly tied to the discourse around science, expressing the idea that medico-scientific and biotechnological discoveries provide increasingly ingenious means of disguise. The fact that *CSI*, unlike *Identity*, only problematises undercover policing by suggesting that it is an unreliable method actually points to the series' deeper investment in essentialist ideas about bodies and identities.

Self-transformations as a new problem of identity

How exactly does *CSI* reconfigure the associations and meanings attached to the motif of disguise? The programme still clearly follows in a generic tradition when featuring this trope. For example, it features a wide array of criminal characters that use some type of disguise or mask to avoid detection. Representative examples of this are the serial rapist in "I Like to Watch" (S06E17) dressing up as a fire fighter tricking unsuspecting women to let him into their apartments or the gangs of masked youths using mindless violence as entertainment in episode "Fannysmackin'" (S07E04), which clearly pays tribute to *A Clockwork Orange* (Stanley Kubrick, 1971). However, *CSI* not only uses the motif of disguise when portraying criminal characters; it also frequently depicts victims and witnesses as wearing disguises. While many of these cases use the motif of disguise to dramatize processes of identification, it also has a wider cultural function: it is used to portray characters as attempting to go through processes of self-transformation.

Self-transformation narratives, which potentially include a transformation of both the body and the mind of an individual, are central to *CSI*'s wider articulation of the plasticity of identity as a post-genomic issue. The episode "Who Shot Sherlock?" (S05E11) is particularly illustrative of this reconfiguration because it self-reflexively flirts with the generic linkages to nineteenth century detective fiction, while at the same time clearly using the motif of

[33] The *Identity* episode in question is called "Reparation" (S01E04).

disguise to deal with the possibility of self-transformation in contemporary society. The plot focuses on the murder of Dennis Kingsley, a divorced delivery guy found dead in the basement of his own house, which is a meticulous recreation of "residence of the worlds greatest detective, Sherlock Holmes".[34] Kingsley had been immersing himself in the Holmesian universe together with three friends, but just before his death he had announced his intention to give up on his hobby in order to reconcile with his ex-wife. The investigation reveals that his friend Kay killed him because she felt great anger about being forced to give up her own alternate persona when Kingsley disbanded their club.

The episode continuously juxtaposes the two identities of each individual in the club, depicting them alternatively at their work places as their everyday 'real' selves or as dressed up as their Holmesian personas. Kay is initially introduced when masquerading as Irene Adler, a character from the story *A Scandal in Bohemia*.[35] Appearing as an intelligent and refined woman, Kay is smartly dressed in a full-length Victorian gown, holds her head high and speaks with a posh British accent. An early flashback also shows her outsmarting her friends in a crime solving game, which portrays her as highly intelligent and educated. These initial assumptions are, however, later overthrown as Kay is interviewed at the nightclub where she works as a waitress. Wearing a skimpy dress, walking across the room back slumped and hips swinging, and flirting with customers in an American accent using plenty of slang expressions, she is depicted as a stereotypical working class woman using her sexuality to make a "extra buck". This juxtaposition dramatizes her Holmesian 'disguise' as an attempt at self-transformation; Kay wishes to become someone else.

(1) Kay masquerading as Irene Adler and (2) dressed in her everyday clothes when working as a waitress, in "Who Shot Sherlock?" (S05E11).

"Who Shot Sherlock?" (S05E11) portrays a range of different characters as wanting to change and the crime is dramatized as a result of their problematic wish to transform. The cultural anxieties tied to the motif of disguise

[34] Grissom points this out when he first enters the crime scene.
[35] See: Arthur Conan Doyle, *Six Great Sherlock Holmes Stories* (NY: Dover Publications, 1992).

are thus altered; it is no longer used to stage worries about some kind of otherness hiding behind the mask, but instead to work over and worry at the potential malleability and instability of all bodies and identities.

CSI's reconfiguration of the motif of disguise can thus be understood as part of what feminist philosopher Susan Bordo has called the "paradigm of plasticity": a wider cultural discourse in which many different types of popular culture texts of the late twentieth century imagine "human freedom from bodily determination".[36] This is further indicated by the fact that *CSI*'s dramatization of self-transformation narratives often calls upon the motif of disguise in ways that merge it with the somewhat more recent makeover trope.[37] The makeover narrative now has a fairly long-running history, but it has become closely associated with the paradigm of plasticity during the second half of the twentieth century. The makeover narrative is generally understood as dramatizing self-transformation as a positive practice through which individuals can achieve happiness and success. Cultural studies scholar Joanne Finkelstein has argued that a wide range of Hollywood films depicting narratives about makeovers and masquerades, from classics such as *Some Like it Hot* (Billy Wilder, 1959) and *My Fair Lady* (George Cukor, 1964) to recent action films such as *True Lies* (James Cameron, 1994) and *Mr and Mrs Smith* (Doug Liman, 2005), should be read as signs that Western culture is becoming increasingly accepting of what she sees as the inherent malleability of human identity.[38] Within the wider paradigm of plasticity, bodies and identities are generally understood as being of a nomadic and fragmented nature. From a feminist viewpoint, the rejection of traditional essentialist understandings of identities (both exterior and interior) as inherent and static certainly harbours the potential to free the individual from naturalised power structures. As part of this discourse, the makeover narrative expresses – at least on a basic level – the dynamic possibility of change and the potential emancipation associated with self-transformation.

Much like other recent makeover narratives, *CSI* does create a sense of an increased bodily indeterminacy by habitually depicting characters that attempt to change by wearing disguises and going through makeovers. *CSI* features a wide variety of bodies and identities that have been altered in a range of different ways and the criminalists habitually express words of wis-

[36] Bordo (1991), 106–107, 117.

[37] *CSI* uses iconography that is now associated with makeover reality shows (which will be discussed in more detail below) and also depicts characters that perform many of the practices tied to this trope, like wardrobe changes, beauty routines, exercise, dieting and plastic surgery.

[38] Finkelstein bases her argument on sociologist Erving Goffman's writings on social behaviour and performance in everyday-life, and her analysis of popular culture as finally acknowledging the "ambiguity and playfulness of appearances" essentially aims to show that self-fashioning practices are inherent to all human social behavior. See: Joanne Finkelstein, *The Art of Self Invention: Image and Identity in Popular Visual Culture* (London: I.B. Tauris: 2007), 1–36.

dom that evoke notions about self-transformation as a form of positive self-expression. For example, in "Who Shot Sherlock?" (S05E11) Grissom reproachfully reminds us that "we all have our costumes", in reply to Captain Brass's prejudiced assumption that someone "looking like a drug dealer" can be a mortgage broker. *CSI*'s depiction of self-transformation practices thus engages with the more widely circulated idea that both bodies and identities have become increasingly malleable. Within the current discourses around science there is a sense that, as expressed by Naomi Segal, Lib Taylor and Roger Cook, "the determinism provided by the materiality of the body [is replaced] with an indeterminacy, multiplicity and plurality made possible by, for example, virtual beings, cyborgs, surgical reconstruction, drug therapy, role-play and cultural performance."[39]

However, as a cultural forum that expresses many opposing perspectives, *CSI* also stages a habitual problematisation of self-transformation and bodily indeterminacy. Many characters are portrayed as attempting to transform their bodies, identities and lives, but these processes are usually dramatized as unsuccessful and ultimately resulting in either unhappiness or death.[40] For example, both "The Hunger Artist" (S02E23) and "Crow's Feet" (S05E04) depicts the victims' deaths as being the result of their extreme self-transformation practices. In "The Hunger Artist" (S02E23) the criminalists investigate the death of an ex-model who suffered from body dysmorphic disorder and died from self-inflicted injuries sustained when attempting to remove flaws from her face. Similarly, "Crow's Feet" (S05E04) offers detailed descriptions of all the extreme beauty routines that two middle-aged women have gone through before dying from injections of hydrogen peroxide, which was meant to "[boost] the immune system and [reverse] the signs of aging".

These episodes are also indicative of how *CSI* often depicts medico-scientific interventions into biological processes as especially problematic. "Crow's Feet" (S05E04), for example, features a particularly lengthy and explicit autopsy scene (showing everything from the scalpel cutting into the skin, to the rib cage being sawn open and the organs lifted out), which em-

[39] Naomi Segal, Lib Taylor and Roger Cook, eds. *Indeterminate Bodies* (Basingstoke: Palgrave Macmillan, 2003), 3.

[40] "Who Shot Sherlock?" for example emphasises that true transformation is impossible for Kay: Irene is simply a mask that Kay can put on once a week, but without achieving true change. The problematic nature of Kay's self-transformation is overtly displayed in her confession scene, which draws heavily on the famous final scene from *Psycho* (Alfred Hitchcock, 1960) where Norman Bates regresses to his alternative persona, Mother. Wearing her everyday clothes, Kay suddenly starts ranting angrily in the British accent of Irene. This only one example of many episodes in which *CSI* suggests that self-transformations result in a dangerous personality-split, leaving the individual with two or more conflicting identities (rather than one new). Other examples are "Mascara" (S09E18) and "Bloodlines" (S04E23).

phasises that a dead body is the ultimate result of attempts at self-transformation that interfere with the 'natural' body.[41]

Explicit depictions of autopsies performed on dead bodies of women practicing extreme beauty routines in "Crow's Feet" (S05E04).

This indicates that *CSI*'s depictions of self-transformations are also structured by an investment in essentialist notions about bodily identity, which no doubt has its roots in the long-running generic understanding of forensic science as trustworthy due to its ability to identify individuals though their inherent and essential corporeal features, marks and traces. *CSI* goes further than most other forensic crime dramas in asserting that there are, on the one hand, original bodies that are natural because they are stable and unchanging, and on the other hand, fake bodies that are unnatural because they have been somehow interfered with.

Insert showing Dr Hillridge's healthy appearance deteriorating to reveal her 'natural' body, in "Justice is Served" (S01E21).

In the most extreme cases, self-transformed bodies are thoroughly criminalised. One spectacular example of is the plotline in "Justice is Served" (S01E21) where the female nutritionist Dr Hillridge murders healthy athletic men because she suffers from porphyria (a genetic and potentially deadly

[41] While common practices such as the use of exercising equipment, self-help books and anti-ageing creams are treated fairly swiftly in "Crow's Feet" (S05E04), more controversial beauty routines – like 'urine therapy' (drinking ones own urine) – are emphasised through a more spectacular and lengthy treatment.

disease affecting the skin and nervous system) and feel she benefits from eating blood-filled human organs as an extreme from of self-medication. Echoing extreme anti-medication propaganda, *CSI* dramatizes her genetic disease as the normal state of her body, whereas her self-medication practices are constructed as unnatural interventions. This is partly done by depicting her self-transformation as biological disguise that is shed in a final scene where a close-up of her face shows it deteriorate in fast-forward to its naturally diseased look, as if she was removing a mask of health. The act of self-medication is also blatantly problematised by aligning these practices with that of murder and mutilation.[42]

Forensic investigations in search of an inherent bodily identity

Self-transformation narratives in *CSI* frequently evoke the idea that recent scientific developments have increased the possibilities for intervening in biological processes, allowing us to change our bodies. From plastic surgery in "Crow's Feet" (S05E04) and medication in "4x4" (S05E19), to organ transplants in "The Gone Dead Train" (S09E22) and gene therapy in "Harvest" (S05E03), *CSI*'s depiction of bodily plasticity suggests that medico-scientific developments have allowed for a newly increased malleability that is no longer skin deep. Thus worrying at changing perceptions about the materiality of the body, the series not only participates in the wider paradigm of plasticity, but also articulates a post-genomic structure of feeling. *CSI* specifically engages with the current shift within the wider discourse that has engendered a circulation of the idea that bodily plasticity is specifically made possible through medico-scientific practices and that this has the potential of fundamentally redefining the concept of identity.[43]

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[42] Another, similar example is "4x4" (S05E19), which includes a plotline where a dead body-builder's exterior appearance of fitness is revealed as fake when his right eye dissolves into black pus during the autopsy, exteriorising a grave state of interior decay. Dr Robbins identifies this as a sign of a deadly infection, caused by exposure to mould. The investigation goes on to reveal that the source of the mould is traces of blood and tissue that cover a bullet from a gun, lodged in a wall of the body-builder's apartment. As it turns out, this man's wish to transform his body through medication and extreme exercise not only resulted in his own death, but also caused him to commit a severe crime. The steroids he had been taking made him highly aggressive, and he once killed a prostitute in a fit of rage (whose bodily remains eventually infected him with mould).

[43] These two discourses must be understood as overlapping, as indicated by Bordo when she in her analysis of the paradigm of plasticity argues that a number of scientific developments now are constructed as technologies of "plastic pluralism", creating a society where seemingly anything goes in terms of individual self-transformation. See: Bordo (1991), 115–117; Franklin (2000), 189; and Rose (2001), 5, 11–15.

The fact that *CSI*'s discourse on science works over and worries at this particular issue becomes more apparent by comparing the programme to other recent crime dramas also depicting medical interventions. The medical practice of organ transplants have, for example, been discussed in a number of crime dramas since the mid-nineties, including *Diagnosis Murder*, *CSI*, *CSI: NY*, *Angel* (The WB, 1999–2004), *Law & Order: Criminal Intent*, and *Numb3rs* (CBS, 2005–2010).[44] In most of these cases, it is specifically the crime of organ theft that is the focus of the plotlines. The *Numb3rs* episode "Harvest" (S02E14) is a representative example of this. The series focuses on a group of mathematicians that help the FBI to solve crimes, and in this particular case they investigate the abduction of four Indian girls who have been lured to the US with a promise of money in exchange for their kidneys. After one operation goes wrong, the corrupt medical personnel in charge of the procedure decide to kill all the girls by harvesting all their organs. The issue dealt with is thus specifically organ theft, which is problematised and criminalised. Significantly, the programme is carefully constructed to not criticise the practice of organ transplants per se. In fact, the episode ends with a scene resembling a medical commercial for legal organ transplants. All the main characters gather merrily around a dinner table, showing each other their brand new organ donor IDs, expressing the importance of signing up and thus ending the illegal trade in organs.[45]

Conversely, *CSI* stands out in that it repeatedly depicts organ transplants as a problematic practice in itself, dramatized as biomedical interventions that could potentially result in a kind of biological disguise rendering the body unidentifiable. One example of this is the episode "Organ Grinder" (S02E11), which features a plotline that is best described as a biomedical take on *Strangers on a Train* (Alfred Hitchcock, 1951). Two women have conspired to poison each other's husband, but one of the bodies has already been cremated when suspicion about the crimes arises. The organs of this husband were, however, donated before his death and one of his kidneys remains inside another man. There is thus a slim chance that this kidney contains traces of the toxins that killed him, which would prove that a crime has been committed. The organ recipient is initially unwilling to take the necessary test as this would reduce his own chances of survival. The criminalists are about to give up, when the recipient suddenly changes his mind

[44] Organ transplants are not a completely new medical practice, but it is significant that it has become a more common practice largely in parallel with the development of genetics. The first successful cornea transplant was performed in 1905, and the first kidney transplant was completed in 1954. However, it was not until the fairly recent invention of immunosuppression methods that transplants have become more common.

[45] For more context on the cultural worry about human body parts becoming the "currency of the future", see Donna Dickenson, *Body Shopping: The Economy Fuelled by Flesh and Blood*, (Oxford: Oneworld Publications, 2008).

because his own body has started to reject the kidney.[46] Crucially, the phenomenon of rejection is not depicted as a result of the kidney being poisonous, but as a natural occurrence caused by the man's own antibodies. Through a symbolic use of the recipient's wristwatch, *CSI* depicts the rejection as a naturally destined event: the fact that his watch stopped during the transplant operation is explicitly pointed out as a sign that his "time was up" and that his body should simply be allowed to die naturally.

Organ transplants are thus constructed an essentially unnatural biomedical modification in *CSI*. This evokes what anthropologist Donald Joralemon has discussed as the wider "cultural rejection" of organ transplants, arguing that organ transplantation is a major battlefield in the current "ideological war over the meaning of the human body".[47] Joralemon's study shows that warfare metaphors often are used, both in the popular press and in medical texts about immunology, when discussing the idea of rejection, as a way of distinguishing between the naturally bounded body and the invading organ being transplanted. The biochemical process of rejection is thus described as a battle between the self and the nonself, which ultimately constructs the recipients' body as harbouring a distinct identity that is potentially being threatened and destabilised through the invasive medical treatment of transplantation.[48]

As pointed out by Donna Haraway, organ transplants are an evident example of how traditional boundaries between categories such as self and other, living and dead, natural and artificial are increasingly being questioned as such biomedical interventions are becoming more common.[49] However, many medico-scientific practices such as organ transplants, cosmetic surgery, assisted reproduction and gene therapy are also encircled by an intense bioethical debate and have been met with much suspicion in public discussions on contemporary science. Sociologist Simon Williams has argued that such biomedical practices result in a cultural anxiety about bodily uncertainty, precisely because they are understood as rendering bodies plastic, bionic and interchangeable.[50] While Williams never elaborates much on what this feared uncertainty actually entails, (apart from a general sense

[46] Rejection is the biochemical process whereby a recipient's immune system reacts to the transplanted organ as a foreign substance.
[47] Donald Joralemon, "Organ Wars: The Battle for Body Parts", *Medical Anthopology Quarterly*, 9(3), 1995, 339.
[48] Joralemon (1995), 337.
[49] Donna Haraway, *Simians, Cyborgs and Women: The Reinvention of Nature* (London: Free Association Books, 1991), 211. For more discussions on organ transplants and the notion of rejection as questioning traditional notions of the self, see also: Joralemon (1995); Lesley A. Sharp, "Organ Transplantation as Transformative Experience: Anthropological insights into the Restructuring of the Self", *Medical Anthropology Quarterly*, 9(3), 1995, 368–373; and Simon J. Williams, "Modern Medicine and the 'Uncertain Body': From Corporeality to Hyperreality?", *Social Science and Medicine*, Vol. 45, No. 7, 1997, 1044.
[50] Williams (1997), 1041.

of loss of certainty and control), his discussion shows that the cultural reception of biomedical development is often ambiguous.[51]

CSI's discourse on organ transplants, and other medico-scientific interventions in biological processes, are an example of how such practices are often understood as problematic due to the way they question traditional ideas about identity as inherently located in the body. *CSI*'s often critical depiction of such practices are no doubt rooted in the series overall investment in DNA as a reliable marker of identity.[52] This explains why a programme such as *Numb3rs*, which is less invested in the notion of identity as located in the body due to its focus on abstract maths as a reliable crime solving practice, expresses less anxiety about organ transplants. The depiction of forensic science, and of physical evidence, as core tools for solving crimes, seems to motivate a more essentialist understanding of bodies and identities as ideally stable. What is at stake in *CSI* is the fear that the increased plasticity of out bodies will make them lose their 'natural' singularity, an issue that Jackie Stacey has discussed as a "problem of misrecognition" circulating more widely within in the genetic imaginary.[53]

This problem emerges as even more articulated in the current discourses around science, because the reductionism of genetic essentialism and determinism is increasingly exchanged with a systems biology that emphasises complex interactions on the level of genes and molecules.[54] As Rose has pointed out, the body is not only malleable though medico-surgical interventions, but on the level of the gene, which results in a more fundamental questioning of the idea of an essential core identity hidden in our molecules:

> Life is not imagined as an unalterable fixed endowment. Biology is no longer destiny. Vitality is understood as inhering in precise, describable technical relations between molecules capable of 'reverse engineering' and in principle of 're-engineering'.[55]

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[51] Williams' discussion of the concept of the uncertain body draws on the work of Chris Shilling, who has argued that the swiftness of scientific developments not only have resulted in an unprecedented ability to control our bodies, but has also made us doubt our knowledge of what bodies are and how they should be controlled. In turn, Shilling bases this argument on Anthony Giddens' notion of the reflexivity of science in high modernity, namely that the constant revision of scientific truths have created a "circularity of reason" where scientific knowledge has lost its certainty. See: Williams (1997), 1042; Chris Shilling, *The Body and Social Theory* (London: Sage Publications, 1993), 3; Anthony Giddens, *The Consequences of Modernity* (Cambridge: Polity, 1990); and Anthony Giddens, *Modernity and Self-identity: Self and Society in the Late Modern Age* (Cambridge, Polity, 1991).

[52] *CSI*'s investment in DNA as a method of investigation should also be understood in a wider cultural landscape where biometric identification practices are increasingly used. See: Katja Franko, "'The Body Does Not Lie': Identity, Risk and Trust in Technoculture", *Crime, Media, Culture*, Vol 2(2), 2006, 143–158.

[53] Stacey, (2010), xiii, 148–152, 263–266.

[54] See: Keller, (2005), 3–6; Rose (2007), 17–21, 40–47; and Franklin (2000), 190.

[55] Rose (2007), 40.

Medico-scientific interventions on the level of genes and molecules currently pose as the most extreme example of bodily plasticity, and considering *CSI*'s general investment in the molecular framework, it is not surprising that it features several episodes that specifically deal with the cultural implications of different types of gene therapies.

One of the episodes that specifically worries at gene therapy as a practice that results in severe problems of misrecognition is "Harvest" (S05E03), in which the criminalists investigate a case where genetic engineering is presented as having instigated the events resulting in the murder of a young girl named Alicia: a so-called "designer baby" conceived in vitro to be a perfect genetic match to her older brother who is dying of leukaemia.[56] The episode dramatizes gene therapy as resulting in multiple types of identity loss. The investigation into Alicia's life reveals that she has been forced to give up having her own interests, activities and social life to instead exist solely as a donor for her sick brother. Her loss of a social identity is mirrored by the genetic identity loss that her brother achieves through the bone marrow transplants he has received. Alicia's blood is literally running in his veins. Circumstantial evidence indicates that the brother actually killed Alicia out of mercy, to end the suffering that all the medical procedures caused her. There is, however, no actual physical proof of this, as the DNA evidence he left behind only traces back to Alicia. In other words, the gene therapy has supplied him with the ultimate biological disguise: the lack of a unique DNA profile.

Due to their genetically identical blood, Alicia and her brother are given a status similar to that of the figure of the clone, which according to Jackie Stacey embodies cultural fears about "an uncanny synthesis of sameness and difference, defying the conventional demarcations around the singularity of the human body."[57] Stacey's analysis of cloning narratives from the late nineties suggests that the body becomes fundamentally redefined by biomedical interferences in genetic processes, resulting in a loss of authenticity, or "bio-aura", that has long been associated with its materiality.[58] As the term bio-aura suggests, Stacey suggests that the process of cloning is understood

[56] Much of the episode is spent mapping Alicia's miserable existence in ways that construct the practices of genetic engineering and assisted reproduction as selfish acts of parents with lacking concern of the babies themselves. X-rays of her body display the bone scarring from repeated painful bone marrow transplants and the autopsy reveals that she is missing a kidney (which was donated to the brother). The investigation also locates scribbling in Alicia's room, expressing her hate for her family and her sorrow at not being able to play football due to the constant medical interventions. Alicia is, as a designer baby, thus presented as a living medicine cabinet for her sick brother.

[57] Stacey (2010), 95.

[58] Stacey (2010), 179–194. Stacey's argument draws on: W.J.T. Mitchell, "The Work of Art in the Age of Biocybernetic Reproduction", *Modernism/Modernity*, Vol.10, No. 3, 2003, 481–500.

as being similar to that when art becomes mechanically reproduced through photography, referring to Walter Benjamin's famous argument that mass reproduction results in a loss of the aura that produces the unique experience of art.[59] Although *CSI* does not depict clones, which generally functions as a more literal symbol for the idea of an exact biological copy produced through genetic technologies, I would still propose that the series could be understood as dramatizing a felt loss of bioaura when depicting characters that lack a unique set of DNA.[60] Even though these bodies are not so much reproduced as manipulated through medico-scientific interventions, *CSI* still conveys a worry about something essential being lost in the process, be it the "body's singularity, nonrepeatability, uniqueness, integrity, […] authenticity" or, more specifically to *CSI*, its identifiability.[61]

Furthermore, I would suggest that the invisible nature of the genetic manipulation depicted in episodes such as "Harvest" (S05E03) is a crucial aspect of the series' dramatization of gene therapy as a new and highly problematic type of identity crime. Drawing on Sarah Franklin's discussion on the cultural debate around Dolly, the first cloned sheep, Stacey has pointed out that in most cases "the impact of genetic intervention is not visible on the surface of the body" and that this results in feelings of anxiety.[62] In the context of *CSI*, genetic manipulation becomes the most extreme of disguises, precisely because of its invisibility. An identity altered on the level of the gene has the potential of leaving no visible traces of the change, allowing the individual to effortlessly pass as someone else.

Revealing 'original bodies' though the iconography of inverted makeovers

The worry that new biomedical interventions might render bodies undetectable, as well as inauthentic, must be understood in the context of *CSI*'s generic dramatization of forensic science as a visual practice. In episodes depicting self-transformation narratives, the forensic investigation usually becomes

[59] Stacey (2010), 180. For Benjamin's original argument see: Walter Benjamin, *The Work of Art in the Age of Mechanical Reproduction*, (London: Penguin Books Limited, 2008 [1936])

[60] Another example of this is the episode "Bloodlines" (S04E23), which features a character who cannot be caught through DNA testing due to the fact that he has two sets of DNA.

[61] I also think that one of Stacey's more fleeting points is transferable to my own analysis, namely that "the sense of aura is largely defined though its loss". Namely, the sense of identifiability (of the body) potentially being threatened is, I would argue, continuously dramatized in *CSI* because it actually functions to define identity as essentially located in the body. In other words, the depiction of bodies that for a moment escape identification is actually essential to *CSI*'s overall construction of a fantasy about bodily identity as inherent and stable. See: Stacey (2010), 182, 187.

[62] See: Stacey (2010), 192 and Franklin (2007).

a process of visualising biological disguises. Apart from dramatizing forensic science as able to render the invisible visible, this visualisation process also becomes a practice of de-masking the plastic body. The attempt to establish an original body and identity, understood as hiding underneath the guises and modifications, ultimately problematises the notion of bodily plasticity. The transformed body's ability to pass is revoked and the body is, at least symbolically, returned to its 'original' shape or appearance. These forensic deconstructions must be understood as attempts to re-establish bodily identity as something inherent and stable, which evokes essentialist understandings of genetics and materiality.

Interestingly, this is often achieved through a use of iconography closely associated with another popular genre featuring makeover narratives, namely makeover reality television.[63] Unlike *CSI*, makeover reality television generally depicts the act of self-transformation as a suitable way to achieve social mobility and happiness in life, thus offering a celebratory perspective on bodily plasticity. *CSI* conversely adopts some of the genre's most recognisable visual tropes when problematising bodily plasticity.

CSI's usual autopsy scenes are, for example, subtly altered in many episodes depicting self-transformation narratives, in ways that evoke graphic surgical imagery familiar from shows such as *Extreme Makeover* (ABC, 2002–2007), *Plastic Surgery: Before and After* (Discovery Channel, 2002–2006), *Brand New You* (Channel 5/BBC America, 2005) and *Dr 90210* (E!: 2004–2008). One example is the extreme close-ups of the scalpel cutting through the outer layer of skin, as Dr Robbins lays the first incisions on the body of the second victim in "Crow's Feet" (S05E04): a type of shot that is very rare in *CSI*, but common in reality television shows depicting surgery. Taking into consideration gender studies scholar Brenda R. Weber's apt analysis of plastic surgery imagery in reality makeover television, I would conclude that *CSI*'s choice to evoke the more gruesome aspects of plastic surgery actually is consistent with its general problematisation of makeover practices.[64] Weber has suggested that the makeover shows' spectacular portrayal of plastic surgery as major medical operations might result in the gen-

[63] Media scholar Elizabeth Atwood Gailey has argued that makeover reality television shares a number of tropes with *CSI*. While she never mentions the staging of makeover narratives in *CSI*, Gailey's observation identifies generic linkages between the two types of texts. I would add that there is a potential correlation between the frequency of self-transformation narratives on *CSI* and the popularity of the makeover reality genre on American television. Season 5 of *CSI* stands out as featuring a very high amount of self-transformation narratives, which aired in the US between September 2004 and May 2005, following a veritable explosion of makeover reality formats, including shows like: *Queer Eye for the Straight Guy* (Bravo, 2003–2007), *The Swan* (Fox, 2004), and *The Biggest Loser* (NBC, 2004–). See: Elizabeth Atwood Gailey, "Self-Made Women: Cosmetic Surgery Shows and the Construction of Female Psychopathology" in *Makeover television: Realities Remodelled*, Dana Heller, ed. (London: I.B. Tauris: 2007), 108.

[64] Weber (2009).

re's celebratory tone being lost amongst all the "cutting, blotting, sucking and restructuring".[65] The surgical imagery already comes with a set of negative connotations, which are further played up when being imported into *CSI*'s wider problematisation of medico-scientific self-transformation practices.

Apart from its use of surgical footage, *CSI* also frequently draws on "before and after" imagery and the iconography of "reveals". Before and after imagery is usually comprised of two photos that are displayed side by side and constructed as depicting a temporal before and after, while the reveal is a generic scene where the newly transformed person is revealed to relative and friends (and the television audience) at the end of a makeover narrative.[66] Drawing on the respective analyses of sociologist Anne M. Cronin and media scholar Katariina Kyrölä, one can conclude that both tropes have a future-oriented temporality within the context of makeover narratives, underlining the possibility of change.[67] Kyrölä has also convincingly argued that both the after image and the reveal usually functions to obscure the "necessary instabilities and continuums in size and shape of any dieting body – and any body in general."[68] More specifically, they tend to freeze the future-oriented body project into a static moment signifying a happily-ever-after, failing to acknowledge that the body could – and probably will – continue to change with time.[69]

I would argue that the function of this type of imagery is essentially inverted in *CSI*, instead becoming oriented around the past as an original moment of stability and authenticity. One representative example is the use of before and after imagery in "The Hunger Artist" (S02E23), the episode focusing on the self-inflicted death of ex-model Ashley. The investigation establishes that both Ashley's immune system was weakened due to her being both an anorexic and bulimic, and she died from a blood infection caused by deep wounds caused by picking and poking her skin with beauty tools and botched botox injections. Throughout the episode, Ashley's 'original' body is celebrated as beautiful and unique, which implicitly suggests that it would have remained so had she not attempted to maintain it though excessive body work.[70] This notion is also made more explicit through the

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[65] Weber (2009), 23.

[66] Charlotte Brunsdon et al have discussed the reveal as one of the most characteristic tropes of the makeover format. See: Charlotte Brunsdon, Catherine Johnson; Rachel Moseley and Helen Wheatley "Factual Entertainment on British Television: the Midlands TV Research '8–9 Project'" *European Journal of Cultural Studies*, Vol. 4, No 1, 29–62.

[67] See: Katariina Kyrölä, *The Weight of Images: Affective Engagements with Fat Corporeality in the Media* (PhD thesis, University of Turku, 2010), 70–71 and Cronin (2000), 276.

[68] Kyrölä (2010), 70.

[69] Kyrölä (2010), 70.

[70] "The Hunger Artist" (S02E23) can be read as a critical comment on the idea of "body work": self-care routines continuously practiced to maintain and ensure a healthy and beauti-

use of before and after imagery in a scene where the forensic scientists attempt to identify her, beginning with a post-mortem photograph of her mutilated face being displayed in double on a computer screen. The image on the left, in the traditional place of the before image, is left untouched and continuously shows the deathly result of her attempts at self-transformation. The image on the right, replacing the traditional after image, is however digitally manipulated to create an image of Ashley's 'original' face. The dialogue between the criminalists also mimics the language of beauty experts in makeover shows, giving Ashley "a nice complexion" and a blond hairdo that looks "like Courtney Love." While the process thus superficially echoes the iconography, temporality and function for the makeover narrative (making a previously 'abnormal' body 'beautiful'), the transformation becomes reversed and a body marked as authentic, original and natural is symbolically restored.

(1) Inverted before and after imagery of Ashley in "The Hunger Artist" (S02E23) and (2) Sexy Kitty is de-masked during a reveal moment in "Fur and Loathing" (S04E05).

A number of episodes instead evoke the iconography of the reveal to achieve a similar effect. Examples of this include the scene in "Fannysmackin'" (E07E04), where the gang leader's animal mask is forcefully removed by a criminalist amidst a group of policemen, the multiple flashbacks in "Living Legend" (S07E09) showing the master criminal Jimmy Dunn tearing off his many wigs and prosthetic masks, and the sequence in "Fur and Loathing" (S04E05) where a suspect is brought in for questioning at the lab wearing a bright blue animal suit. In all these examples, the demasking of the character is depicted as a climactic moment in which the display of the 'authentic' identity of the character is emphasised through juxtaposition. The camerawork used in these scenes also mirrors the traditional reveal of the makeover show by continuously cutting to the faces of

ful body. Chris Shilling has argued that the contemporary cultural emphasis on body work reconstructs the body as a continuous developing project. However, in line with CSI's investment in the traditional notion of a stable and static body, this episode blatantly suggests that the processual and dynamic body under 'work' is highly dangerous and unhealthy. See: Debra Gimlin, "What is 'Body Work'? A Review of the Literature", *Sociology Compass*, 1/1, 2007, 353–370 and Shilling, (1993), 4–8, 37–48, 71–75.

the audience present at the moment of de-masking, displaying their astonished reactions. The excitement about the 'new' body in makeover reality television is thus transferred onto the 'original' body and the reveal becomes a process whereby the disguised or transformed body is stripped of its status as plastic and uncertain.

Weber has pointed out that makeover shows often construct the before-body as a "spectacle of abnormality" through a detailed visual mapping of the unsatisfactory parts of the body, something she exemplifies with the generic scene where the plastic surgeon draws with a magic marker on the patient's body in order to indicate the surgical procedures needed.[71] This trope is also mirrored in reverse by *CSI* through its depiction of investigation processes as mapping and displaying the 'fake' parts of the already transformed after-body, constructed as a spectacle of inauthenticity. This is perhaps most apparent in "Crow's Feet" (S05E04), where the autopsy scenes of the dead women are juxtaposed with a scene that evokes the generic trope that Weber describes, namely one where Catherine is recommended various beauty procedures by the victim's doctor. While Catherine interviews the doctor, he simultaneously manipulates a photo of Catherine's face, mapping the areas and features that would benefit from a makeover. This practice is reversed in the autopsy scenes, where Dr Robbins' investigation indicates the areas of the women's bodies that have already been modified and that are thus marked as problematically inauthentic.

In more ways than one, the forensic investigation thus becomes an inverted process of transformation that strips the body of its various disguises and restores a bodily identity constructed as authentic. It is, however, worth pointing out that makeover reality television often tends to evoke similar ideas about the authentic self when dramatizing the process of self-transformation. Many of the scholars writing on makeover reality television have argued that these shows present the makeover as process whereby the inner self is expressed and externalised. The after-body is thus authenticated through an assurance that the transformed body actually is a more true reflection of the individuals' inner identity.[72] Makeover reality television and *CSI* can thus be said to ultimately articulate ideas about identity as something inherent and stable, located inside the body. However, the fundamental difference is that the makeover shows construct the concept of the true self as immaterial (referring to concepts such as the soul or the mind), while *CSI*

[71] Weber (2009), 93.

[72] See for example: Kyrölä (2010), 69–73; Cressida J. Heyes, "Cosmetic Surgery and the Televisual Makeover: A Foucauldian Feminist Reading", *Feminist Media Studies*, Vol.7, No. 1, 2007, 21 and Melissa Crawley, "Making Over the New Adam" in *The Great American Makeover: Television, History, Nation*, Dana Heller, ed. (New York: Palgrave Macmillan, 2006), 59.

is heavily invested in DNA as the locus of the true self, hence understanding identity as essentially biological.[73]

Although *CSI*'s self-transformation narratives depict a range of plastic bodies and identities, they also do so in ways that express essentialist beliefs in the gene as a blueprint of both our bodies and identities. This ambiguity can, at least in part, be explained by identifying the plasticity of bodily identity as part of an emergent structure of feeling engendered by a recent shift in the wider scientific discourse. In accordance with Raymond William's theoretical framework, *CSI*'s discourse on science engages with this current discourse, while simultaneously being invested in more long-running notions about bodily identity.[74] Indeed, *CSI* generally acknowledges that there are (at least) two ways of understanding the concept of personal identity; namely, as either socially constructed or inherently biological. This issue is explicitly discussed in "Unbearable" (S05E14), during an autopsy scene where two criminalists search for traces that might identify the unknown victim:

> **Grissom:** A brown hair, with a follicular tag. A person's entire identity, balled up in a few nano grams of matter.
> **Curtis:** Assuming one's identity can be wholly quantified by our DNA.
> **Grissom:** Well, genetically, it can. We're completely programmed as soon as the sperm hits the egg.
> **Curtis:** So we're defined at a cellular level?
> **Grissom:** More or less.
> **Curtis:** No. Identity is the totality of our life experiences, and our brain neurons process our relationship to the world and each other.
> **Grissom:** I stand corrected. DNA is what we are, not who we are.
> **Curtis:** What we are never changes, who we are never stops changing.

This scene is representative of the way in which *CSI* more generally acknowledges that the social function of identity constructs it as more than our genes, while still asserting that in the context of the forensic investiga-

[73] There are, however, also a few examples where *CSI*'s depiction of self-transformations expresses the idea that self-transformation can establish a more coherent identity by aligning external appearance with the internal self. For example, while the episode "Fur and Loathing" (S04E05) generally problematises the practices of the 'plushies and furries' that dress up in animal suits, it depicts the character Mr Lee/Wolfie in a more favourable light as someone who expresses his true inner identity, rather than becoming "someone else". Just like real life wolves, Mr Lee is strictly monogamous and he tells Grissom that it was natural for him to assume a wolf persona when his ex-girlfriend introduced him to the community. Mirroring the typical explanatory monologue of the participants in makeover shows, Mr. Lee explains: "She helped me become who I am. I always knew that I was something else, and Linda made it real." The coherence of his inner and outer identity is further emphasised through the casting of an actor (Patrick Fischler) whose facial structure connotes wolf-like features, and the fact that he consistently acts wolf-like – speech intermittent with low growls – even when out of costume.

[74] In other words, *CSI*'s discourse on science express both dominant, residual and emergent notions about the concept of bodily identity. See: Williams (1977), 121–135.

tion, biological markers of identity still determine "what we are". Much like other texts participating in the genetic imaginary, *CSI* calls on the gene as a symbol that, in Nelkin and Lindee's words, solves "the problems of personal authenticity posed by a culture in which the 'fashioned self' is the body manipulated and adorned with the intent to mislead."[75]

CSI's treatment of the plasticity of bodily identity suggests that its discourse on science is still significantly saturated with what Haraway calls "gene fetishism", namely an understanding of genes as being "things-in-themselves, [existing] outside the lively economies of troping."[76] Haraway also points out that: "To be outside the economy of troping is to be outside finitude, morality, and difference, to be in the realm of pure being, to be One, where the word is itself", which indicates that *CSI*'s depiction of genes as "autotelic entities" has the wider function of constructing of forensic science as a kind of escape route beyond cultural power structures. Haraway has also argued that a wider politics of "corporeal fetishism" is a common feature of scientific practices and knowledge, a sensibility that more generally makes "science appear to be about accuracy [and] freedom from bias", rather than about "about material-semiotic troping".[77] *CSI*' treatment of the plasticity of bodily identity can be understood as being, at least in part, participating in this wider construction of science as existing outside of power. Namely, it constructs forensic science as a reliable scientific institution because it simply aims to reveal the true identities hidden inside the gene, without itself exercising any power over bodies.

Bioethical debates: deflecting anxieties about biopower onto criminal doctors

The medico-scientific practices that *CSI* depicts in self-transformation narratives can all be understood as examples of the "technologies of optimization" that Rose has discussed as playing a central role in the current redefinition of life itself, ushering in a new "age of biological control".[78] The fact that *CSI* problematises many of these practices could be said to reflect, and feed into, the wider cultural anxieties about biopower that, according to Rose and others, are currently circulating within the wider cultural discourse around biomedicine and biotechnology.[79] When depicting bodies that are being modified through medical interventions, *CSI* thus openly acknowledges that mo-

[75] Nelkin and Lindee (1995) 2.
[76] Haraway (1997), 134.
[77] Haraway (1997), 136.
[78] Rose (2007), 15–22.
[79] See: Rose (2007), 3–4 and Rabinow and Rose (2006).

lecular science and biotechnology are currently suffering something of a legitimation crisis.[80]

For example, the programme expresses bioethical concerns about the responsibilities that come with the ability to manipulate bodies. For example, it questions the reliability of the experts that currently possess what Rose calls molecular biopower over the bodies of others, by frequently depicting the figure of the criminal doctor as a warning about the misuses these practices can be put to.[81] One example of this is, as I have already mentioned in my opening discussion of this chapter, Dr Benway in "Ch-Ch-Changes" (S05E08).[82] Depicted as practicing experimental treatments outside of any licensed medical institution, and with insufficient experience to assure his patients' safety, this character points to multiple cultural anxieties about this power being unregulated and put in the hands of someone unreliable. While the transsexuals are depicted as voluntarily wanting to transform their bodies, the episode still suggest that this exchange is unequal; the Doctor has all the power. Benway's surviving patients express their despair about having had their bodies ruined by the procedure and then being unable to reach the doctor.

CSI raises similar bioethical issues in many of the plotlines that feature criminal doctors by emulating the stereotypical figure of the Frankensteinian scientist. In "Ch-Ch-Changes" (S05E08), the storage facility where Dr Benway performs his operations is depicted in a way that evokes the laboratory of a mad scientist, with the corpse of one of Benway's patients terrifyingly resembling Frankenstein's monster strapped down to a gurney. Another representative example of this is "The Gone Dead Train" (S09E22), which generally problematises medical interventions by equating organ transplants with body art. This symbolic exchange is largely produced through the portrayal of the character Dr Shaw, a former coroner who has been forced to start a new career as a body modification artist after causing a woman's death by approving an organ transplant from a dead body infected with rabies.[83] The criminalists come across Dr Shaw during an investigation into the

[80] See: Salter and Jones (2002) and Salter and Jones (2005).

[81] Since the medico-scientific practices allowing us to intervene in biological processes are understood as being highly innovative and sophisticated, this power over bodies seems to be primarily in the hands of medical doctors and scientists. Rose (2007), 31–39.

[82] Another example is the murdering nutritionist Dr Hillridge, from "Justice is Served" (S01E21), who is practicing experimental medicine on her own body. Other episodes that feature criminal doctors are: "Butterflied" (S04E12), "Suckers" (S04E13), "Dead Ringer" (S04E20), "Crow's Feet" (S05E04), "Ch-Ch-Changes" (S05E08), "Sweet Jane" (S09E06), "The Gone Dead Train" (S09E22), "Sin City Blue"(S10E11), "Say Uncle" (S09E06), "Pool Shark" (S11E02), "Turn on, Tune In, Drop Dead" (S11E16), "Family Affairs" (S10E01), "Irradiator" (S10E17), "Doctor Who" (S10E22), "Meat Jekyll" (S10E23).

[83] There is a continuous symbolic exchange between the two practices (coroner and body modification artist). As Dr Shaw puts it "[Going] from coroner to tattoo parlour owner is a natural transition actually. I used to spend all day cutting up dead bodies and sticking them

deaths of three men who all contracted rabies after having gone through different body modifications at his tattoo parlour. In the end, Dr Shaw is proven innocent of these deaths, but the investigation establishes his past medical misconduct as a crucial catalyst for the events. The mother and boyfriend of the woman who died due to Dr Shaw's previous misconduct have infiltrated his tattoo parlour and injected his customers with rabies in a convoluted form of revenge. Despite being innocent of these murders, Dr Shaw is still depicted as at least partly accountable due to his background. This is primarily done through the use of iconography associated with the popular mythology that has been built around the character of Dr Frankenstein, originally appearing in Mary Shelley's 1818 novel *Frankenstein; or, The Modern Prometheus*.[84]

The tattoo parlour that Dr Shaw presides over is depicted as a cabinet of curiosities, or a present-day freak show, with an array of pierced and tattooed bodies on display bathing in red neon lights. His back office resembles the laboratories of a stereotypical mad scientist, lit in sickly green, and Dr Shaw emulates this stereotype himself by sporting roundish thick glasses, a greying beard and floppy hair.

(1) A tongue splitting performed at Dr Shaw's tattoo parlour and (2) Dr Shaw in his 'laboratory' in "The Gone Dead Train" (S09E22).

By evoking the widely referenced Frankensteinian myth, *CSI* calls forth a number of long-running anxieties about amoral uses of science and human hubris and fallibility, suggesting that Dr Shaw is accountable as a dangerously unskilled coroner that is now performing body modifications depicted as potentially amoral and dangerous.[85]

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with needles. Today when I cut them they bleed." This not only dramatizes body modifications as a type of dangerous medico-scientific practice, but also suggests that organ transplants can be understood as a type of body modification: i.e. a self-transformation practice. This evokes the notion that, as discussed by Lesley A. Sharp, organ transplants can be experienced as a process of restructuring identity. See: Sharp (1995), 368–373.

[84] Mary Shelley, *Frankenstein; or, The Modern Prometheus* (London: Penguin Classics, 2007).

[85] Cecil Helman has pointed out that the Frankenstein story in its modern form "encapsulates a number of different, but familiar, mythological themes: Prometheus' challenge to the gods; the creation of man […], the ambiguity of innocence; and the more contemporary 'mad scien-

The use of this figure also places this episode within the context of the wider bioethical debates about biomedicine, as both Dr Frankenstein and Frankenstein's monster are frequently used in popular media to discuss new practices of intervening in biological processes, from embryo research and in vitro fertilization, to organ transplants and gene therapy.[86] According to science writer Jon Turney, Shelley's *Frankenstein* has become understood as "the governing myth of modern biology", which points to the general understanding of biomedical interventions as being a kind of science that is experimental and invasive, and risks being as unethical and transgressive as the science practiced by Dr Frankenstein.[87] *CSI* repeatedly use iconography tied to the Frankensteinian doctor to suggest that invasive medicine is practised for the simple reason that it is now possible. As the criminal doctors' attempts to intervene in biological processes are usually depicted as unsuccessful, they are made to embody the dangers and futility of human hubris.

The figure of the criminal doctor also evokes wider bioethical debates about the shifting goals of science, dramatizing the idea that the traditional observational agenda of science has now been exchanged with an experimental one. There has, as Evelyn Fox Keller puts it, been "a shift in aim from representation to intervention (or from description to control)."[88] *CSI*'s depiction of self-transformation narratives identifies the figure of the criminal doctor as a representative of this new experimental drive, and in doing so it also deflects the fact that forensic science should be understood as part of the same framework. As representatives of the new drive towards experimental and invasive medicine, the criminal doctors are continuously juxtaposed with the criminalists, which in turn construct forensic science as a scientific practice that is largely non-invasive and observational.[89] While the

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tist' theme, of a science indifferent to human values." The meanings associated with the Frankensteinian story largely overlaps with the perhaps somewhat wider cultural stereotype of the mad scientist. See: Cecil Helman, "Dr Frankenstein and the Industrial Body: Reflections on 'Spare Part' Surgery", *Anthropology Today*, Vol 4, No. 3, June 1988, 14 and Christopher P. Toumey, "The Moral Character of Mad Scientists: A Cultural Critique of Science", *Science, Technology, Human Values*, 17:411, 1992, 411, 415.

[86] See: Jon Turney, *Frankenstein's Footsteps: Science, Genetics and Popular Culture* (Yale Univestity Press, New Haven, 1998), 11; Helman (1988); and Michael Mulkay, "Frankenstein and the Debate over Embryo Research", *Science, Technology, and Human Values*, Vol. 21, No. 2, Spring 1996, 157–175.

[87] Turney, (1998), 3.

[88] Evelyn Fox Keller, "Physics and the Emergence of Molecular Biology: A History of Cognitive and Political Synergy", *Journal of the History of Biology*, vol. 23, no.3, Fall 1990, 392. Keller presents the same argument in a slightly different discussion in: Evelyn Fox Keller, "Fractured Images of Science, Language and Power: A Postmodern Optic or Just Bad Eyesight?", *Poetics Today*, Vol. 12, No.2, Summer, 1991, 230.

[89] The criminal doctors are generally depicted as unprofessional, unethical, lacking in skill and working outside the official healthcare system, while the criminalists are infused with reliability and authority through continuous references to the many training sessions, proficiency tests and evaluations that the criminalists must pass to become and remain certified.

criminalists are clearly depicted as utilising the latest discoveries in molecular science and biotechnology, their goals and aims are thus constructed as being of a more traditional kind. Forensic science is thus portrayed as having more in common with the "observing gaze" that Foucault has discussed as essential for the logic of the clinic:

> The observing gaze refrains from intervening: it is silent and gestureless. Observation leaves things as they are; there is nothing hidden to it in what is given. […] In the clinician's catalogue, the purity of the gaze is bound up with a certain silence that enables him to listen. The prolix discourses of systems must be interrupted: 'all theory is always silent or vanishes at the patient's bedside'.[90]

In other words, the criminalists are portrayed as simply being interested in understanding and explaining the world, not interfering in its biological processes and drastically changing it. One must assume that this is meant to result in an understanding of forensic science as being a "thing-in-itself": a scientific practice not influenced by, or producing, theories or beliefs, but simply registering pure facts about the surrounding world.[91] The figure of the criminal doctor is thus used to stage a bioethical debate that willingly acknowledges that science is a source of power that can be utilised for experimental practices and for troping the world. However, because it is exclusively the criminal doctors that embody these aspects, the cultural anxieties tied to the notion of biopower are essentially deflected from forensic science as an institution of policing and reduced to a specific bioethical question about individual misuses of scientific power.

CSI's discourse on science thus functions as a kind of escape route from the wider debate about the increased possibilities for surveillance and control that biomedicine and biotechnologies have afforded the state as a regulatory body.[92] While the programme problematises the concept of scientific power over individual citizens, it does not acknowledge that forensic science could itself be understood as a typical example of the new technologies of power that Foucault indicates when writing about the concept of biopower.[93] Although forensic science is not specifically concerned with assuring the vitality and health of a population, its main prerogative is to trace, identify and control state citizens, i.e. using demographics research for state-sanctioned surveillance.[94] As made clear through *CSI*'s depiction of forensic science, databases that store biometric data are understood as being a crucial tool for monitoring, locating and identifying individual citizens.

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[90] Foucault, (2008 [1963]), 107.
[91] See: Haraway (1997), 136.
[92] See, for example: Koch (2004); Salter and Jones (2002) and McWorther (2009).
[93] Foucault (2003), 241–243.
[94] Foucault (2003), 243–245, 252, 256–257, 259.

The forensic imaginary could thus be an obvious target for the wider anxieties about state practiced biopower that particularly saturate American neoliberal culture.[95] *CSI* deals with this by acknowledging the current bioethical issue tied to these cultural anxieties, while largely deflecting these concerns away from the institution of forensic science. The episode "The Pirates of the Third Reich" (S06E15) is a particularly telling example of this. The episode begins with a female corpse being discovered in the desert. She is emaciated, bald and has a concentration camp-style number on her arm, and the autopsy reveals that one of her eyeballs has been transplanted. One of her eyes turns out to belongs to a man who is found wandering the streets after having been lobotomized through the eye socket, a method common in the period around the second world war. The investigation establishes that both victims participated in medical studies on sleep patterns before they went missing; it seems the head physician of the sleep clinic, Dr Jacob Wolfowitz, has kidnapped them. In a final twist, the true perpetrator turns out to be Leon Sneller, Wolfowitz's identical twin, whose Nazi sympathies are abundantly displayed when the criminalists enters his home, finding it full of swastikas and war memorabilia.[96] Grissom explains that the woman became a victim because Sneller wanted to 'cure' her heterochromia (having one blue and one brown eye) in an attempt to render her "the perfect über-woman".

Though these overt references to the eugenic experiments of the Nazi state, *CSI* engages with the wider cultural anxieties about state-sanctioned biopower.[97] The episode interestingly suggests that there might be a fine line between historic misuses of science and new medico-scientific possibilities to optimise bodies. As already pointed out, these anxieties are, however, specifically transferred onto the figure of the criminal doctor, and thus deflected from the criminalists as representatives of forensic science. The series' general portrayal of criminal doctors as lone individuals acting outside any wider system of power further circumvents the notion of biopower as a state apparatus, implying that the problem of medico-scientific power in contemporary society is limited to individual offenders in contemporary society. In the case of "Pirates of the Third Reich" (S06E15) an iconography associated with the generic figure of the antisocial serial killer is used to depict Sneller as a lone nut; the camera lingers on the messiness of his cellar

[95] In *The Birth of Biopolitics*, Foucault briefly indicated that that the political reasoning of liberalism clashes with the notion of an active and powerful state controlling the biological processes of an entire population, which indeed suggests that the notion of a state-sanctioned biopolitics should be ill-fitted with the contemporary political climate in the US. In a political system mainly concerned with respect for legal subjects and individual free enterprise, the management of whole populations sits uneasily. See: Foucault (2009), 317–319.

[96] Sneller and Wolfowitz are thus also examples of characters that are problematised because they possess an uncertain genetic identity. As identical twins, they have the same DNA and the process of identifying the perpetrator is thus depicted as highly difficult.

[97] See: Foucault (2003), 259 and Rabinow and Rose (2006), 200–202, 210.

laboratory and the obsessive writings in his notebooks.[98] Because *CSI*'s discourse on science is ultimately constructed to infuse trust in forensic science as a medico-scientific method of policing, its bioethical debates thus assert that the real problem is individual misuses of science rather than biopower in the hands of the state.

(1) One of Sneller's victims and (2) his laboratory, in "Pirates of the Third Reich" (S06E15).

This becomes even clearer if one compares *CSI*'s use of the figure of the criminal doctor with the way unethical scientific practices are depicted in the 1990s cult classic series *X-Files* (Fox, 1993–2002). As has been pointed out by Yvonne Tasker and others, *X-Files'* depiction of science is highly ambiguous.[99] The program continuously juxtaposes the perspectives of its two main characters, Special Agent Dana Scully, a medical doctor and forensic pathologist and rogue Special Agent Fox Mulder, who firmly believes in all things supernatural. While Scully's scientific methods are, on the one hand, presented as useful, science and scientists are on the other hand also frequently depicted as highly dangerous, a dualism which is similarity present in *CSI*. However, unlike *CSI*, *X-Files* links the problematisation of new scientific practices and technologies to its general critique of law enforcement systems and the government.[100] *X-Files* frequently depicts invasive experi-

[98] As in almost all cases where *CSI* depicts criminal doctors, the investigation into Sneller's background also emphasises that this unethical medico-scientific practitioner lacks any official education and a licence to practice medicine.

[99] Yvonne Tasker has briefly, but insightfully, discussed the tension built up in *X-Files* between Scully's scientific approach and Mulder's belief in the supernatural. See: Yvonne Tasker, *Working Girls: Gender and Sexuality in Popular Cinema* (London and New York: Routledge, 1998), 98–100.

[100] Much like the British nineties crime dramas that Brunsdon discusses, *X-Files* can be understood as worrying at the responsibility and accountability of law enforcement. Brunsdon argued that these issues were nationally specific to the UK and that the British crime dramas spoke "very directly to the concerns of Great Britain in decline under a radical Conservative government with a strong rhetoric of law and order", but US crime dramas of this period did display similar generic tendencies. John Sumser has argued that the US crime dramas increasingly moved away from the tradition of representing the policeman as "the moral boundary of society" in the nineties and was injected with a new "uncertainty", which was called forth by a new American self-examination under the Clinton administration and wider efforts to make television programming more realistic and "adult". While X-Files is highly fantastical, it can

mental science and there is almost always an implication that sinister government schemes are behind it all. The depiction of authorities as misusing power and performing unthinkable experiments on unknowing citizens grows increasingly stronger from the second season. For example, in "Blood" (S02E03) a whole town is subjected to a controlled experiment for unknown reasons. It is sprayed with a pesticide that evokes a fear response in the habitants, who are then triggered to kill each other with subliminal messages sent out though electronic devices. Similarly, in "Red Museum" (S02E10) a village doctor is collaborating with the head of a mysterious cult, injecting teenagers with alien DNA that eventually kills them. The cult turns out to be a group of aliens in disguise, and a mysterious government assassin is sent to cover the whole thing up. Government-run medical experiments aiming to create a mutant race by mixing human and alien DNA is in later season a prominent part of *X-files*' long-running 'myth arc' story line.

Hence, where *CSI* almost exclusively problematises misuses of science by crazed individuals, *X-Files* specifically constructs institutional uses of science as the most dangerous threat. In true neoliberal fashion, *X-Files* is saturated by a fear of a faceless government, secretly controlling and manipulating its citizens. Fundamentally, the worst crime committed is the removal of free will from individual human beings by the authorities.[101] In fact, when *X-Files* does depict criminal doctors acting alone, the use of experimental science is usually depicted as far less problematic.[102] However, unlike *X-Files*, *CSI* utilises its bioethical debates as a legitimisation device for forensic sci-

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be understood as dealing with precisely such issues. See: Brunsdon (1998), 223–225, 228 and John Sumser, *Morality and Social Order in Television Crime Drama* (Jefferson and London: McFarland & Company, 1996), 154–161.

[101] A more contemporary series depicting the same thematic is *Fringe* (Fox, 2008–), which draws heavily on the legacy of *X-Files*. It depicts the adventures of Special Agent Olivia Durham, who sets up a Fringe Division of FBI together with mad scientist Dr Walter Bishop and his son Peter Bishop, with the specific aim to investigate cases related to unorthodox scientific practices. All episodes of *Fringe* are actually depicting cases with links to The System: a large network of events related to a war between the authorities of different universes, all using experimental science as a primary weapon.

[102] The most telling example is "A Post-modern Prometheus" (S05E06), a comic stand-alone episode where Mulder and Scully investigate a report from a woman claiming to have been impregnated twice by "a monster". The investigation reveals that a mad scientist has found a method to genetically cross-fertilise animals and humans, resulting in a "genetic mistake", a child with a deformed head. It has been raised by the scientist' kind-hearted father, who have also been impregnating the local women with animal genes for years, attempting to create a suitable mate for 'the monster'. The village is now populated with assorted hybrids, humans with features from horses, hens and pigs. When all this is revealed a mob of villagers attacks the laboratory, but Mulder and Scully interfere allowing the monster to tell his side of the story. The women of the villages forgive everything when realising that they have been impregnated for a good cause. The episode ends with one of them appearing with her brand new monster-baby at the Jerry Springer show proudly saying: "What's not to love?!"

ence as a state-sanctioned institution of policing.[103] Whereas *X-Files*' engagements with the cultural anxieties about biopower function to instil trust in Mulder and Scully as righteous rogue investigators, *CSI* argues for the need of a scientific system of policing that is sound, transparent and officially sanctioned.[104]

Policing the cultural boundaries of self-transformation?

The depiction of forensic science as an institution of science and policing seemingly existing beyond power over the individual is interconnected with *CSI*'s expression of a "corporeal fetishism" that constructs science as existing beyond power.[105] These two devices produce a disavowal of the series' own applications of power: namely, its continuous naturalisation of culturally constructed concepts, roles and bodies. *CSI*'s treatment of bodily plasticity often results in socially constructed markers of gender identity becoming constructed as biologically rooted. This process of normalization must be understood as an assertion of power, but one that is largely concealed by the series' discourse on science.

This process is particularly apparent in self-transformation narratives that depict modifications whereby masculine bodies assume markers of femininity. One example of this is the episode "Way to Go" (S06E24), which focuses on the death of Caleb Carson, a dedicated member of the civil war re-enactment community. A large part of the narrative is, however, not devoted to the investigation of Carson's death, but instead to the study of his lifestyle. In particular, the plotline lingers on the fact that he wears a corset from the civil war period, which has drastically altered his body shape. Carson's corset wearing habit is not directly related to his death, yet much screen time is dedicated to the display of his modified body, and to discussing the very notion of a man wearing a piece of clothing so closely associated with femininity. [106]

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[103] *CSI*'s use of bioethical debates as a legitimisation device can be understood as part of a wider cultural tendency to use bioethics as a superficial mark of approval that allows biomedical professionals, institutions and nation states to, as Rose puts it, "represent themselves as ethical and responsible actors" and thus deflect the negative associations of biopolitics. See: Rose (2007), 30.

[104] However, it is important to point out that *CSI* articulates generic linkages to its predecessors, by depicting forensic science as an independent system of policing that is more objective and reliable than the other law enforcement agencies like the police or the FBI.

[105] Haraway (1997), 134–136.

[106] It turns out that Carson was accidently killed by his own manservant in an attempt to stop Carson from using a loaded gun during a re-enactment of a duel with a fellow civil war buff. Carson challenges his fellow re-enactor because he finds it so offensive that the other man used a mobile phone during a recreation of the Battle of Gettysburg. It is thus implied that Carson's death is the direct result of his own excessive desire for authentic re-enactments.

Although we are told that this was a common practice amongst men during the civil war, the sense of authenticity this might lend to Carson's actions is undermined by the visual construction of his body as being problematically feminine. His tiny waist, as a bodily feature traditionally associated with femininity, is continuously juxtaposed with his otherwise male appearance. A flashback sequence, for example, show Carson having his corset tightened. It opens with a shot that evokes the iconography familiar from costume dramas: a medium shot shows a figure with the back turned to the camera; wearing a corset and a pair of wide briefs that looks rather like a petticoat, we might assume that this is a period heroine being groomed before a ball. However, as the figure turns to face the camera, he reveals himself as a man through his moustache, receding hairline and bare muscular chest. As in other self-transformation narratives, *CSI* constructs Carson's 'original' body as natural, while his modified physique is problematised as inauthentic. This also results in a naturalisation of the cultural attributes of masculinity. Although the grooming of Carson's facial hair, his well-defined muscles, and his military uniform are as much of a performance as his corset wearing habit, these elements are still presented as authentic and biologically rooted marks of a male gender identity.

(1) Carson's corseted body in "Way to Go" (S06E24) and (2) before and after imagery of Walter/Wendy in "Ch-Ch-Changes" (S05E08).

This is just one of many examples throughout *CSI* where the investigative process, as an inverted makeover, becomes a way of re-aligning the subject's gender performance with his (and sometimes her) biological gender. Another representative example is the depiction of the transsexual victim Wendy, in the episode "Ch-Ch-Changes" (S05E08). From the point that the autopsy reveals Wendy as being biologically male (Dr Robbins finds a prostate instead of the expected ovaries), the investigation into her death becomes a detailed deconstruction of her external markers of femininity as performed.[107]

This is dramatized as a foolish pursuit: the investigation exposes the re-enactments as a form of reproduction of a past event that can never be fully authentic. Furthermore, Carson's drive for authenticity has motivated him to manipulate his own body in extreme ways.

[107] From her silicone breast, cheek implants, collagen lips and stash of hormone pills, to her make-up, skin care products, hair-removal creams, and false-eye lashes, Wendy's tools for

By comparison, *CSI* forcefully naturalizes the markers of masculinity that are used to identify Wendy's pre-op body as male. This is particularly done in a scene where before and after imagery is used to construct Walter's body as more authentic than Wendy's. A DNA test has already proved that Wendy is genetically male, but the point is more forcefully driven home through a visual comparison between Walter's driving licence and an autopsy photograph of Wendy. Wendy's photo is manipulated so that the markers of femininity are replaced with their male counterparts. The full lips are thinned out, the high cheekbones are flattened, the round jaw is turned square, and the long hair cut short; the soft skin is covered with stubble, the plucked eyebrows turned bushier, and finally, any traces of make-up are removed. The scene ends with a pan between the two photographs, now showing identical male faces. As usual, the narrative focus is placed on the before photo of Walter, which is thus dramatized as the more authentic body and identity of the two.[108] Again, some cultural markers of a gendered identity are thus re-naturalised as biological, while others are displayed as socially constructed.

CSI's problematisation of self-transformation practices thus becomes a way to police the culturally constructed boundaries of identity categories, rather than just heralding identity as corporeal and individual. However, the fact that some markers of gender are depicted as culturally constructed, while some are constructed as biologically rooted, also indicates that the politics of the series' discourse on science is ambiguous. As a cultural forum, *CSI* simultaneously expresses different perspectives and it would be reductive to simply point out that its formal conclusions result in a naturalising politics.[109] The very fact that the programme raises the issue of plastic identities must be understood as providing a messier sense of the potential unpredictability and uncertainty of contemporary corporeality.[110]

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creating a female appearance are listed, collected, visualised and magnified. That Wendy has gone through a sex reassignment operation has already been established through the autopsy, so this detailed cataloguing of exactly how this once male body could pass as female is not strictly necessary for the crime to be solved. This has previously been discussed by Rahilly (2007), 123.

[108] In the narrative context of the episode, Wendy's markers of femininity are continuously discussed using terms such as artificial, fake and plastic. Much screen time is, for example, dedicated to the fact that Wendy was "faking her period": presented as proof of her having deceived to her future husband. As Lucia Rahilly has put it, in the context of the forensic lab the notion of passing comes "dangerously close to a swindle." See: Rahilly (2007), 123

[109] Newcomb and Hirsch (1983).

[110] I here follow in the footsteps of Kyrölä, who has fruitfully emphasised the importance to considering the more ambiguous moments of self-transformation narratives. To some extent, this is also implied by Heyes' analysis of *Extreme Makeover*, in which she highlights the moments in the show where the subject of a makeover is allowed an active subjectivity, even though this individualisation is essentially part homogenising normalisation. She questions the tendency of scholars to overemphasise the importance of the reveal when discussing makeover narratives, as this "may not help in unravelling the desperately attempted neatness

Certainly, in comparison with makeover reality television, for example, *CSI* dramatizes a much wider range of self-transformation narratives. Rather than simply depicting transformations that adhere to traditional norms about gender, sexuality, class and age, *CSI* presents a much wider range of transformations – even if these are formally problematised. From the transsexuals in "Ch-Ch-Changes" (S05E08) and "Identity Crisis" (S02E13), the civil war re-enactment buffs in "Way to Go" (S06E24) and the extreme body art practitioners in "The Gone Dead Train" (S09E22), to the "vampires" in "Suckers" (S04E13), the infantilists in "King Baby" (S05E15), the plushies and furries in "Fur and Loathing" (S04E05) and the animal role-players in "Unleashed" (S11E19), these are all characters who are portrayed as attempting to change their bodies and identities in ways that transgress the usual modes of transformation outlined on television.

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of makeover narratives". As a result, Kyrölä chooses to instead focus on the counterpoint of the final "joyful" reveal, namely the initial reveal of the pre-transformed body as shameful, arguing that this trope points to "the fragility and messiness of dieting narratives, to the traces of unpredictable corporeality that cannot be removed." See: Kyrölä (2010), 75 and Heyes (2007), 17, 20, 26.

3. Tracing Bloodlines: Kinship, Reproduction and Sexual Practices

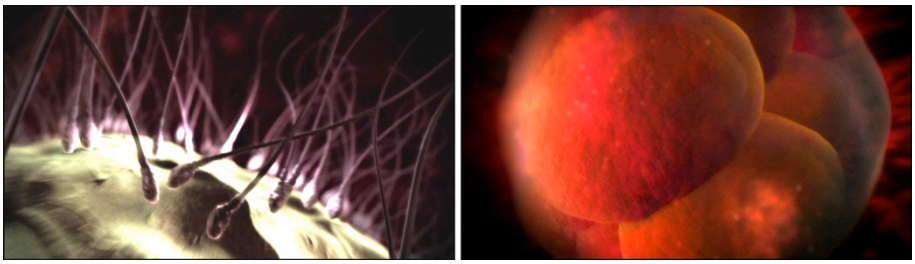
CSI has often been discussed as a programme obsessed with the corpse as an embodiment of death, but I would argue that as part of its articulation of the post-genomic structure of feeling, it also pays particular attention to the living body's ability to procreate.[1] The opening teaser of "Secrets and Flies" (S06E06) is an example of this. The sequence begins with six aerial shots of Las Vegas, each crosscut with CGI animations of the human reproduction process inside a womb. Abridging the chronology of conception and foetal development, these are snap-shots of the sperms' journey after ejaculation, the fertilisation of the egg, the cleavage and gestation. It ends with a travelling close-up shot, smoothly moving along the body of the almost fully developed foetus inside the amniotic sac, finally fading into a photographic close-up of the face of a toddler standing inside a playpen. The rest of the teaser uses more conventional narrative editing, depicting the discovery of the toddler's mother lying dead on the floor and the criminalists' arrival at the crime scene.

This sequence activates a number of specific meanings by evoking other representations of the human reproduction process, a type of imagery that has become a familiar feature of popular culture during the last few decades.[2] The photographs and films produced by Swedish science photojournalist Lennart Nilsson have, according to Mette Bryld and Nina Lykke, been im-

[1] Building on Foucault's writings on the role of anatomy in modern medicine, Alice Adams has argued that: "developments in mammalian embryology in the nineteenth century and the study of genetics in the twentieth describe a backward movement through the lifetime of the individual. Instead of focusing on the moment of death as the revelatory moment, now the clinical gaze focuses on the first moments of life." Nathan Stormer has also discussed how the medical gaze increasingly has turned towards the living body (as opposed to the dead) with the "advent of the stethoscope, probe, ultrasound, and the electron microscope." See: Alice Adams, *Reproducing the Womb: Images of Childbirth in Science, Feminist Theory, and Literature* (Ithaca: Cornell University Press, 1994), 136–137 and Nathan Stormer, "Embodying Normal Miracles", *Quarterly Journal of Speech*, 83, 1997, 175.

[2] Mette Bryld and Nina Lykke, "From Rambo Sperm to Egg Queens: Two Versions of Lennart Nilsson's Film on Human Reproduction" in *Bits of Life: Feminism at the Intersections of Media, Bioscience, and Technology*, Anneke Smelik and Nina Lykke, eds. (Seattle, WA: University of Washington Press, 2008), 79.

perative for a transformation of "gametes and embryos into pop-culture icons".[3]



Shots of (1) sperms attempting to penetrate the egg and (2) the cleavage process, from the opening teaser of "Secrets and Flies" (S06E06).

(1) One of several Las Vegas aerials and (2) a shot of an early moment in the foetus development, from the opening teaser of "Secrets and Flies" (S06E06).

Shots of (1) the fully developed foetus inside the womb and (2) the toddler watching his dead mother from the crib, from the opening teaser of "Secrets and Flies" (S06E06).

The opening teaser of "Secrets and Flies" (S06E06) emulates the widely recognised iconography of Nilsson's television documentaries *The Miracle of Life* (Nova/PBS, 1983), *The Miracle of Love* (SVT/PBS, 2000) and *Life's Greatest Miracle* (Nova/PBS, 2001), but as usual when *CSI* draws on scientific imagery, the visual language is revamped in accordance with the series' highly spectacular televisual look.[4] Nilsson's comparatively flat and sluggish

[3] Bryld and Lykke (2008), 79.

[4] Nilsson's images initially became famous through multiple publications in *American Life Magazine* (the first in 1953) and the bestselling book: Lennart Nilsson and A. Ingelman-

microscopic imagery is superseded by more dynamic cinematography and CGI effects are used to further amplify the sense of speed and space. In "Secrets and Flies" (S06E06), the sperm rapidly approach from a distance, a collision narrowly avoided by the camera as it veers to the left, following the swarm as it rushes by and disappears into the vibrantly red cavity. A subsequent shot shows the camera itself dashing towards the egg, as if a spaceship approaching a planet, and then flying along the surface, zigzagging in between the sperm frenetically struggling to penetrate it. Though this action-packed version of the reproductive process, *CSI* further enhances the sense of fascination and wonder at life itself already conveyed in Nilsson's films.

Scholars writing on Nilsson's work have pointed out that it has been widely circulated in anti-abortion contexts, used both as affectively evocative of the miracle of life itself and proof of the biological facts of foetal life.[5] Analysing *The Miracle of Life*, medical rhetoric scholar Nathan Stormer has suggested that Nilsson's imagery illuminates the wider biomedical backdrop for contemporary anti-abortion rhetoric.[6] As opposed to the abortion-as-murder argument backed by deterrent accounts of gory abortions, the language of biology and medicine in Nilsson's films "constructs the reproductive body as an anchor for society", thus providing an imperative to preserve and maximize life.[7] Stormer convincingly argues that *The Miracle of Life* is saturated by a broader "pro-life" perspective on sex and reproduction, one that "deems the creation of human life a value that supersedes cultural and individual consideration and that centralises life's worth in reproductive structures and practices."[8]

CSI's use of distinctly Nilssonesque iconography when featuring reproduction imagery in "Secrets and Flies" (S06E06) engages with this wider pro-life discourse.[9] The opening title could even be said to emphasise the

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Sundberg, *A Child is Born: The Drama of Life Before Birth* (New York: Seymour Lawrence/Delacorte Press, 1965).

[5] See for example: Stormer (1997), 172–191; Adams (1994), 141–142; Valerie Hartouni, "Fetal Exposures: Abortion Politics and the Optics of Allusion", *Camera Obscura (Special Issue: Imaging Technologies, Inscribing Science)*, Paula A. Treichler and Lisa Cartwright, eds. Vol. 10, No. 2, May 1992, 135 and Carol A. Stabile, "Shooting the Mother: Foetal Photography and the Politics of Disappearance", *Camera Obscura (Special Issue: Imaging Technologies, Inscribing Science)*, Paula A. Treichler and Lisa Cartwright, eds. Vol. 10, No. 1, 28 January, 1992), 183–184.

[6] Stormer (1997), 188.

[7] Stormer (1997), 174.

[8] Stormer (1997), 173.

[9] This claim is also supported by the fact that this sequence also can be read as an intertextual reference to the well-known Massive Attack music video *Teardrop* (Walter Stern, 1998), featuring Lennart Nilsson-inspired footage of a foetus inside a womb singing along to the lyrics. The video has often been read as an anti-abortion message. The song has also been used for the US opening titles of the television series *House M.D.* (Fox, 2004–), which evokes wider biomedical connotations.

idea of a foetal life-force further: firstly, by portraying the sperm as resourceful and energetic; secondly, by reverently depicting the moment of cell division as a moment where DNA – understood as the essence of life – is generated; and thirdly, by juxtaposing the living baby with the lifeless body of the deceased mother.[10] "Secrets and Flies" (S06E06) also mimics Nilsson's films by also suggesting that there is an enduring and inherent biological bond between mother and child because they share the same genetic matter.[11] This is not only indicated by the imagery of their corporeal coexistence during gestation, but also by the distinct heart beat-like bass drums of the soundtrack that allude to the idea of shared blood.

There is, however, one significant difference. While Nilsson's films frame the corporeal micro-level of the biological reproduction process with normative narratives of heterosexual parenthood, the imagery in "Secrets and Flies" (S06E06) is curiously disembodied.[12] Rather than depicting the parents of the growing foetus, it is the hyperbole of the city of Las Vegas that frames the reproduction process in *CSI*. With its reputation as a poster-city of postmodernity – the epitome of all things fake and plastic – the setting of Las Vegas results in a noteworthy denaturalisation.[13] The artifice and artefactual quality evoked by the inserts of Sin City function as a premonition of a central twist in the subsequent plotline. The investigation into the death of the mother, Christina, will reveal that she is not genetically related to the child: she has adopted a fertilized embryo through a pro-life organisation finding mothers for the "lives" left over from in vitro fertilization treatments. It turns out Christina was murdered by the child's biological grandmother, who wanted to reunite the child with its biological mother.[14]

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[10] For an analysis of how *Miracle of Life* calls upon similar ideas, see: Stromer (1997), 181–182.

[11] Bryld and Lykke have argued Nilsson's reproduction imagery is heavily invested in genetic essentialism. See: Bryld and Lykke (2008), 92.

[12] Bryld and Lykke points out that the parental narratives in Nilsson's films differ somewhat in style and ideology: the Swedish film *The Miracle of Love* features a "romantic-mythic" depiction of a Caucasian couple getting married and kissing on a beach, while the more American version *Life's Greatest Miracle* follows a multicultural couple expressing their hopes and worries, but in both cases they function to naturalise the heterosexual reproduction narrative. See: Bryld and Lykke (2008), 85–88.

[13] For more on this cultural construction of Las Vegas, see: Russel W. Belk, "On Aura, Illusion, Escape and Hope in Apocalyptic Consumption: The apotheosis of Las Vegas" in *Marketing Apocalypse: Eschatology, Escapology and the Illusion of the End*, Stephen Brown, Jim Bell and David Carson, eds. (London: Routledge, 1996), 89–111.

[14] We are told the biological parents never did manage to conceive through IVF, but they regularly visited Christina and the baby, and she named them the legal guardians of the baby in case something happened to her. The murder is thus constructed as an attempt to forcefully wipe out the socially constructed parental bond between the adoptive mother and the child, replacing it with the substantial bond of genetic kinship.

"Secrets and Flies" (S06E06) specifically worries at the medico-scientific developments that redefine the concepts of reproduction and kinship, but it is only one of numerous episodes in *CSI* that more generally examine *the artefactuality of kinship* as an issue of contemporary science. In this chapter I will examine how the post-genomic structure of feeling emerges through plots, narrative devices and visual elements in episodes that are thematically focused on kinship, reproduction and sexual practices. My discussion opens with a genre study on how familial relationships have featured in earlier forensic crime dramas, as a basis of comparison for establishing the specificity of *CSI*'s discourse on science.

The generic background of *CSI*'s treatment of kinship

In an article focused on the sexual politics of *CSI*, television studies scholar Carlen Lavigne proposes that the series "isn't just about the containment of crime; it's also about family values, patriarchal structures, and sexual stereotypes."[15] Lavigne's claim that *CSI* is invested in the ideal of the nuclear family could be said to find implicit support in Elke Weissmann's content analysis of the series, which demonstrates that it primarily depicts crimes as "borne out of difficult relationships: at work, in friendship networks, within families and sexual relationships."[16] It is in fact fairly common for crime narratives to depict crimes as breaking up or stemming from familial relationships, as a way to ultimately herald the importance of the nuclear family as a traditional social institution.

The wider crime genre category has a history of being associated with an investment in traditional family values, tied to the idea of the nuclear family. These ideals have been articulated in fairly diverse ways in different types of crime genre texts, but usually with a similar end result: crimes are problematised as posing a particular threat to the social institution of the family. On the one hand, familial relationships have historically featured as an idealised framework for the victim, providing an idealised safe haven away from the surrounding world, which in extension is depicted as threatening to break the family unit apart. Television scholar Deborah Jermyn has convincingly shown that the British reality crime television programme *Crimewatch* (BBC, 1984–) is a telling example of this perspective.[17] According to Jermyn, the portrayal of victims as family members, rather than individuals,

[15] Lavigne (2009), 384.
[16] Weissmann only analyses the first four seasons of *CSI*, but my own qualitative analysis indicates that this claim could be expanded to encompass seasons 1–10 of the programme. See: Weissmann (2010), 160.
[17] Deborah Jermyn, *Crime Watching: Investigating Real Crime TV*, (London and New York: I.B. Tauris, 2007b), 91–100.

not only entices the viewer's sympathies, but also constructs crimes as posing a wider threat to society by disrupting the domestic comfort of the idealised (nuclear) family unit.[18]

On the other hand, there are examples of a different approach, whereby crime dramas portray different types of "family violence" as a sociological problem.[19] As popular culture scholar Elayne Rapping summarises, "[families] and relationships on cop shows are hardly models of domestic or sexual bliss."[20] Many types of crime narratives from different periods have worried at the dysfunctional family as a cause of the criminal behaviour of future generations.[21] In cases where the family unit is depicted as a site or cause of crimes, an investment of traditional family values usually surfaces through a portrayal of law enforcement institutions as moral guardians attempting to restore the domestic equilibrium.[22]

Lavigne and Weissmann's respective claims fruitfully point to *CSI* as continuing this generic tradition. However, I would add that *CSI*'s interest in the topic of familial relationships also follows another set of generic linkages more closely related to the depiction of forensic science as a reliable method of policing. The series' investment in the ideal of the nuclear family is specifically linked to its depiction of science as able to establish proof of biological kinship bonds and kinship is thus an issue central to *CSI*'s discourse on science. The programme's specific treatment of kinship as an issue of concern tied to the portrayal of forensic science to some extent follows precedents in earlier forensic crime dramas. The notion that forensic science can be used to establish certain proof of biological kinship relationships existed

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[18] Jermyn (2007b), 91–100.

[19] A number of somewhat older studies on the representation of family violence on television suggest that this has been relatively uncommon. However, in her study of talk shows and courtroom television, Rapping argues that there was a wider tendency of an increase in the "criminalization of family relations" on American television in the 1990s. See: Elayne Rapping, *Law and Justice as Seen on TV* (New York and London: New York University Press, 2003) 169–201; J. Dominick, "Crime and Law Enforcement on Prime-Time Television", *The Public Opinion Quarterly*, Vol. 37(2), 1973, 241–250; T. Skill, S. Wallace and M. Cassata, "Families on Prime-Time Television: Patterns of Conflict Escalation and Resolution Across Intact, Nonintact and Mixed Family Settings" in *Television and the American Family*, J. Bryant, ed. (Hillsdale, NJ: Lawrence Erlbaum Associates, 1990), 129–163; and M. Tulloch and J. Tulloch, "Attitudes to Domestic Violence: School Students' responses to a Television Drama", *Australian Journal of Marriage and Family*, Vol. 13(2), 1992, 62–69.

[20] Rapping (2003), 173.

[21] Criminologist Alison Young has shown how the figure of the single mother has been problematised as a cause of future criminal acts of her children in the wider cultural imaginary about crimes. See: Alison Young, *Imaging Crime: Textual Outlaws and Criminal Conversations* (London: SAGE Publications, 1996), 146–174.

[22] This is in line with the quite common understanding of crime narratives as drawing and redrawing the moral boundaries" of the society, as for example put forward in: Sumser (1996).

as a fantasy within the forensic imaginary even before this was made possible through developments in genetics.

The episode "Flesh and Blood" (19/09/1969) of *The Expert* is one example of this.[23] In 1969 (when this episode was produced and aired) it was the fairly new medical technology of blood group testing that was understood as harbouring a promise of producing scientifically viable proof of kinship. This episode shows that cultural anxieties about not knowing if social familial bonds actually have any biological substance have a long-running history and so too has the idea that medico-scientific advancements might be able to solve this problem. In line with BBC's public service aims to educate its viewers, the episode is a veritable lesson in the science of blood groups and the way they can be utilised forensically. Initially, it is the possibility of establishing biological paternity that takes centre stage. The plot centres on Albert, a jealous husband who suspects that his wife Jeanette has lied about the parentage of their son Jackie, who was born while Albert was away at war. Albert visits Dr Hardy and MD Jo Hardy in the hope that a blood test will establish who is Jackie's father, but the Hardys explain that currently the tests only can exclude paternity.

As the plotline develops, the viewer is led to believe that this is indeed a case of female infidelity and it thus plays into culturally-constructed assumptions that biological paternity is an issue crucial for a man's sense of identity and his power as the 'head of the family'. However, in an unexpected twist, the blood tests reveal that Jackie has in fact no biological tie to his mother. Jeanette is freed from the accusation of adultery, but is instead identified as a crazed criminal: their biological child died shortly after birth and she secretly kidnapped a child from an orphanage to replace him. The episode ends with Jackie being returned to the orphanage. This event is fairly straightforwardly depicted as a happy occasion that restores some sense of equilibrium. In the final shot of the episode, the camera lingers on Jackie as he cheerfully plays with the other orphaned children in a lush garden. Biological kinship is thus portrayed as outweighing the socially constructed kinship bond between Jackie, Janette and Albert; 'nature' is thus asserted to be more important than 'nurture'.

This plotline has many similarities with the ways in which *CSI* deals with issues of kinship. There is, however, a crucial difference; biological kinship is more specifically defined as genetic in *CSI*, which provides forensic science with even more potential for establishing the exact kind of kinship relationships between people. In comparison to earlier forensic crime dramas

[23] There are at least two more episodes of *The Expert* dealing with similar issues: "Whose Child? Part 1: The Wife" (31/01/1971) and "Whose Child? Part 2: The Husband" (07/02/1971), following a plotline where a woman who has been childless during her 15-year marriage suddenly finds herself pregnant, but having a lover she is unsure who is actually the father of the child.

such as *The Expert*, *CSI* conveys an increased sense of urgency attached to the issue of kinship that could at least in part be ascribed to the series' strong investment in genetic evidence. While kinship was only treated occasionally in earlier series, including those from the nineties, it is a frequently recurring topic in *CSI*'s first 10 seasons.[24] I would argue that this intensification results from the series' engagement with a wider cultural process, engendered by recent medico-scientific developments, whereby the concept of kinship is becoming redefined. On the one hand, genetics seems to have made it possible to provide certain proof of the exact biological kinship links between two or more individuals, be it siblings, children, parents, grandparents or even cousins. On the other hand, recent inventions in biomedicine have also meant that humans are able to interfere in reproduction practices in ways that alter the meanings associated with biological kinship bonds.[25]

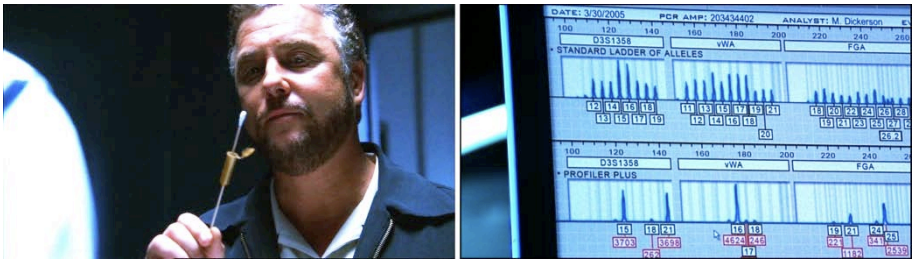
CSI's visualisation of genetic kinship as substantial

The narrative importance placed on genetic proof of kinship in *CSI* evokes aspects of the notion of "biogenetic kinship" as, for example, outlined by the veteran anthropologist David Schneider.[26] Schneider argued that American culture generally defines kinship as whatever the biogenetic relationship between two people is, observing that: "[if] science discovers new facts about biogenetic relationship, then that is what kinship is and was all along."[27] *CSI*'s dramatization of DNA as proof of kinship precisely echoes such a definition, continually conflating biology with the cultural process whereby a familial relationship is socially categorised. In other words, codes of conduct culturally associated with different categories of kinship are often presented as biologically determined in *CSI*. This is fundamentally the result of the series' dramatization of genetic kinship as substantial, which further evokes the biogenetic notion of kinship as concretely material and corpore-

[24] According to my non-systematic estimate, seasons 1–4 have an average of five episodes per season prominently featuring issues concerning familial relationships, biological kinship, or reproduction. The number is even higher in seasons 5–6, which has an average closer to 10 episodes each. Season 7 has about five, while there is then a decrease in seasons 8–10, which only has an average of about three episodes. There could be several reasons for this. Considering the frequency with which the theme is dealt with in seasons 1–7, there was perhaps a sense of overuse and a need to come up with different themes to keep the series feeling fresh. It could also be understood as a gradual decrease in interest in these issues in culture in large. However, this estimate does not include all episodes where DNA evidence is used for proving biological kinship, this would probably increase the numbers considerably throughout.
[25] See: Franklin (2000), 217–222.
[26] Schneider (1980).
[27] Schneider (1980), 116, 23.

al.[28] When explaining the concept of biogenetic kinship, Schneider argues that it is generally understood as "a relationship of substance, of shared biogenetic material" given from each parent to the child and then being transferred along to future generations.[29] The notion of substance not only functions to naturalise kinship relationships, but also to endow it with endurance.[30] This idea is central to *CSI*'s depiction of forensic science as able to establish proof of kinship, as it casts kinship as a reliable material link leading back in time: a material, indexical trace that can be used as reliable evidence.

As I outlined in Chapter 1, *CSI* generally portrays DNA evidence in ways that highlight its smallness, constructing it as containing reliable and extensive knowledge existing on a molecular level, far removed from human sight. DNA evidence is often visualised through a depiction of the collection process whereby a biological sample is taken from a human being or a corporeal trace. Such scenes render the cotton swab into a symbol for DNA. At times, the series also portrays the subsequent scientific analysis of DNA, usually following a similar pattern of representation: a piece of a cotton swab (or a tooth brush, or hair follicle) is placed in a small plastic vial, drenched in a clear liquid and then placed into a machine. Both the iconography of the cotton swab itself and the processing of the test highlight the scientific context intended to assure the viewers of the reliability of the DNA test.



(1) Grissom collecting a DNA sample from a suspect in "Bloodlines" (S04E23) and (2) a DNA profile visualised in "Spark of Life" (S05E18).

However, this imagery also emphasises the fact that genes are invisible to the human eye, and that scientific technologies are needed to make sense of

[28] Schneider (1980), 23–25. For a insightful critique of Schneider's theory, as an example of how "substantivism" has figured in studies of kinship, and a discussion on how notions of substance differs in different parts of the world, see: Janet Carsten, "Substantivism, Antisubstantivism, and Anti-antisubstantivism" in *Relative Values: Reconfiguring Kinship Studies*, Sarah Franklin and Susan McKinnon, eds. (Durham and London: Duke University Press, 2001), 29–53.
[29] Schneider (1980), 25.
[30] Schneider (1980), 23–24.

them.[31] There is a risk that the weight put on DNA as existing on an invisible molecular level might render it intangible and portray it as being of little substance. This threat is largely avoided through a number of additional visualisation practices that precisely construct DNA as having biological substance. These often draw on long-running cultural symbols for biological kinship. In this section I will briefly discuss three such visual tropes, namely (1) corporeal markers of likeness, (2) blood and (3) the family tree.

Firstly, CSI often exaggerates corporeal markers of likeness in plotlines thematically focused on issues of kinship. This casts physical appearance as a materialisation of genetic kinship bonds and evokes substantivist notions that cast kinship as enduring and natural. In extension, it dramatizes genetic kinship as an inherently significant fact.[32] One of the episodes that uses physical appearance to underline that genetic kinship is significant even when the related individuals in question are actually unaware of their biological ties is "Happenstance" (S07E08). The episode features two plotlines, each following a team of criminalists investigating, on the one hand, the suspected suicide of a successful career woman and, on the other hand, a housewife shot to death when picking up her husband's dry cleaning. The two cases become linked when the bodies of the two victims are brought to the morgue and the criminalists realise that they are physically identical. The subsequent investigation reveals that these are twin sisters who have remained unaware of each other's existence after having been adopted by two different families after birth. The housewife was shot because of her physical resemblance with her sister (a colleague of the career woman wanted her dead), but also due to a strange coincidence: they just happened to use the same dry cleaner making her paths cross with the murderer.

After the revelation that the victims are twins, the investigation becomes a process of mapping the strange similarities between the estranged twins. They look alike, have similar handwriting, share the same taste in watches and nail polish, and have intersecting schedules. These similarities are explicitly ascribed to their shared genetic origin, as Grissom explains to his colleagues:

> People's first explanation with twins are always parapsychology, but the truth is there is a lot of biological encoding at work. I mean, if you have the same musculature and bone structure in your hand, the chance of writing the same is not out of the question. If beauty is in the eye of the beholder and you see with the same eyes, or taste with the same tongue…

[31] DNA is also often visualized through fairly mundane close-ups of an unspectacular printout of DNA text results, for example showing two parallel diagrams of selected alleles that allows for an easy visual comparison between the samples. This imagery casts DNA evidence as a dry scientific fact.
[32] Schneider (1980), 23–25.

The substantial quality of genetic kinship is already evocatively established in the episode's opening teaser, which abridges the final hour of the two women's lives by crosscutting between the two. Although leading drastically different lives (one is doing the dishes and interacting with her child and the other is preparing for a hot date), they are shown as visually mirroring each other's movements, which suggests that their bodies are essentially one and the same due to their shared DNA. That their likeness is taken as an apparent and stable visual sign of their genetic bond is fundamentally conveyed through an unusually brief depiction of the otherwise so important DNA test. During the autopsy scene, Dr Robbins mentions that: "DNA has been sent out, but this is one case where I don't need to wait for the results." [33]

The movements of the twins mirrored in "Happenstance" (S07E08).

Likeness displayed through visual mirroring of (1) the twins in "Happenstance" (S07E08) and (2) a daughter and father in "Swap Meet" (S05E05).

[33] Two other examples of episodes in which physical likeness functions as important symbolic markers of the substance and significance of genetic kinship are "Swap Meet" (S05E05) and "Bite Me" (S06E03). Both episodes feature plotlines where a teenage daughter has killed her stepmother. The lack of biological bond between stepmothers and daughters are central to both plots, and their relationships are continuously juxtaposed with the girls' protective feelings for their biological fathers. The biological kinship – or lack thereof – is stressed visually through choices of casting, and hair and makeup: the daughters and stepmothers have distinctly different physical appearances, while the daughters and fathers are alike. For example, in "Bite Me" (S06E03), the daughter and father have similarly pale skin and straight blond hair, while the stepmother's hair is dark and curly. The fierce loyalty with which Susan and her father protect one another is thus linked to their substantial biological connection, rendering their feelings for each other essential and determinate.

Secondly, CSI also renders genetic kinship visual, substantial and significant through a recurring symbolic use of blood, which evokes the long-running cultural understanding of blood as a symbol of kinship relationships.[34] I am not proposing that blood always functions as a symbol of biological kinship relationships in *CSI*, but it is often given this particular function in plotlines that thematically focus on issues of kinship. The visual display of blood is, for example, used to indicate that genetic kinship relationships have a significant role in a crime, as in the case of the episode "Blood Drops" (S01E07). The copious amount of blood spatter, covering the walls and floor in a house where a father has been found knifed to death outside the door of his young daughter's bedroom, is here given two functions. On the one hand, it has a narrative function as forensic proof propelling the investigation forward; the blood shows that the father was exiting the daughter's room just before he was killed. On the other hand, it is treated as a symbolic sign that the concept of kinship is central to this plotline: the investigation reveals that not only was the father sexually abusing his daughter, but her parents are actually her father and older sister and thus the result of 'unnatural' incestuous mixing of genetic substance.[35]

Generally, the expressionistic colour scheme of *CSI* means that blood is usually given an evocative bright red colour, thus rendering it a clearly visible source of DNA and a powerful symbol of kinship as significant.[36] The depiction of blood traces tends to enhance the appearance of density and stickiness, emphasising its materiality and substance. In "Spark of Life" (S05E18), where a woman's strong wish for a biological child is depicted as the motive behind the murders investigated, the camera lingers uncommonly long at blood dripping from a victim's body at the crime scene. The imagery is anticipated by an eerie, unnaturally loud dripping sound, which creates a heightened sense of the materiality of the blood, its liquid quality and

[34] The symbolic function of blood has been discussed by Schneider, but scholars such as Janet Carsten and Kath Weston has respectively provided more recent and nuanced discussions on this topic. See: Schneider (1980), 23–24; Carsten, 31–32; and Kath Weston, "Kinship, Controversy, and the Sharing of Substance: The Race/Class Politics of Blood Transfusion" in *Relative Values: Reconfiguring Kinship Studies*, Sarah Franklin and Susan McKinnon, eds. (Durham and London: Duke University Press, 2001), 147–174.

[35] Similarly, the repeated extreme close-ups of the syringe and vial used by Grissom to collect a blood sample from a serial killer in "Bloodlines" (S04E23) heralds the realisation that the perpetrator has been avoiding detection due to his double sets of DNA, having absorbed the DNA from his underdeveloped twin in the womb. Regular DNA tests taken from hair or saliva have produced conflicting results, as the perpetrator is a chimera. It is only when a blood test is taken that his identity is established, something that further dramatizes blood as the most reliable and substantial source of genetic information.

[36] Even when a perpetrator has attempted to clean up the blood, the faintest traces can usually be rendered visible by means of luminol or other chemicals, its presence signalled by bright neon pink or blue colours.

movement.[37] A medium close-up first shows blood seeping down a lifeless arm and falling off the fingertips of a corpse. This is followed by an extreme close-up, filmed in slow motion, displaying how one blood-drop falls into a bowl of water placed underneath the body. As the drop impacts the surface it is propelled back upwards, the round red shape still clearly distinguishable against the water; effectively connoting the saying: blood is thicker than water.

(1) Blood dripping from a dead body and (2) a blood drop separating from water in "Spark of Life" (S05E18).

(1) Blood drops as proof of father's incestuous acts in "Blood Drops" (S01E07) and (2) blood trailing from the body of a victim in "Let it Bleed" (S09E04.

Blood becomes a particularly pregnant symbol of the significance of kinship as it easily calls forth the concepts of bloodlines, blood ties, or in Schneider's words, "the blood relationship" and thus evokes the notion that genetic kinship never can be terminated or severed.[38] In the episode "Let it Bleed" (S09E04), the notion of blood ties as enduring is conveyed both through the plot and the symbolic use of blood. The plot revolves around the death of a much-loved daughter of a South American drug lord from an accidental overdose. The investigation places much emphasis on the fact that two drug dealers gave her a homemade blood transfusion in an attempt to revive her. In the context of the plot, the blood transfusion is not only drama-

[37] Karen Lury's analysis of *CSI*'s soundscape shows that the series use sound more generally to convey materiality. She convincingly argues that the *CSI*-shots have an affective impact due to the "squelches, rips and gulps" that accompany them. See: Lury (2007), 112.
[38] Schneider (1980), 23–24.

tized as one of the many experimental medical treatments problematised in *CSI* (as discussed in Chapter 2), but also as an symbolic image of how the father's relationship to his daughter has been severed. The endurance of the genetic tie between father and daughter is further emphasised at the end of the episode, where the police discovers five new victims, all killed by the father because these were people who failed to protect his daughter. The camera lingers on the blood trailing from the dead bodies, in a symbolic suggestion that the genetic bond between father and daughter remains after his death, as an emotional tie that warrants his revenge.

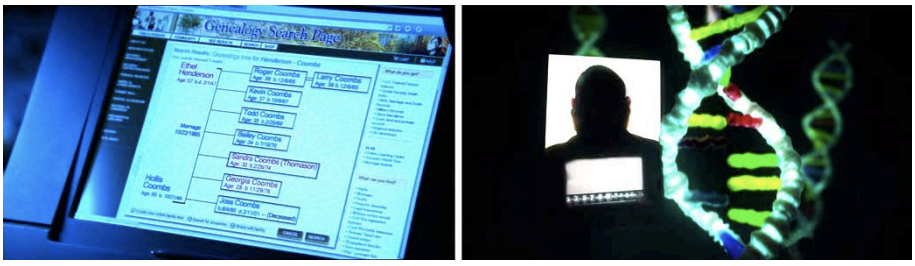
Thirdly, *CSI* visualises and substantialises DNA by emulating the iconography of the family tree, an iconography commonly used in both science and popular culture to imagine kinship as consisting of spatially dispersed but enduring linkages, connecting different generations. The family tree has a shared history with the concept of bloodlines, both functioning as important symbols for the Darwinian model of life itself, which understands kinship as a genealogical trace back to previous generations. The family tree is perhaps the most literal illustration of *CSI*'s general investment in the concept of kinship understood as precisely a genealogical trace, through which the criminalists can establish significant familial connections across generations. Implicitly, many of *CSI*'s forensic investigations trace biological kinship relationships and family histories in ways that are comparable to the popular contemporary practice of creating ones own family tree through genealogical research.[39] In some cases, the similarities between these practices are fairly blatant, like for example the scene in "Bloodlines" (S04E23) where Sara "work[s] out the family tree" of a serial killer because the criminalists suspect that he might be aided by a sibling. After having located the names of the suspect's parents, Sara simply types these into an online website called "Genealogy Search Page", which results in a complete family tree organising the names of the offspring as branches stemming from the parents. Genealogical tracing is thus depicted as a type of forensic work that anyone could now do through the Internet.

A fairly recent episode, aptly titled "Genetic Disorder" (S12E10), explicitly compares forensic utilisation of genealogical traces with amateur genealogical research.[40] The plot revolves around an investigation into the death of

[39] Catherine Nash has analysed the popularity of genealogy in relation to the current redefinition of life itself. See: Nash (2004); Catherine Nash, "Genealogical Identities", *Environment and Planning D: Society and Space*, Vol. 20, 2002, 27–52; and Catherine Nash, "Geographies of Relatedness", *Trans Inst Br Geogr*, 30(4), 2005, 449–462.

[40] *CSI*'s increasingly more prominent depiction of how DNA technology and digital technology can be used for personal genealogical research can be understood as parallel to a more general visibility of such practices on popular television. During the latter half of the 2000s, a growing number of documentary/reality formats have utilised and showcased these technologies, these include: *Who Do You Think You Are?* (BBC, 2004–), *African American Lives* (PBS, 2006–2008), *100% English* (Channel 4, 2006), *Ancestors in the Attic* (History Televi-

Dan Traxler, a professional genealogist secretly hired by Judy, the wife of the pathologist Dr Robbins, to research her husband's family tree as a gift. The references to the growing practice of tracing ancestral connections by searching document archives, press clippings, and churchyards suggest that forensic science and genealogy share a fundamental belief in the substance of biological kinship and identity. The depiction of amateur genealogy allows for comparisons that ultimately stage forensic science as a more technologically advanced alternative, thanks to its use of biotechnological tools not available outside the scientific community.[41] This point is driven home through a plot twist where DNA evidence recovered from the murder weapon fails to produce a match in the DNA database of convicted criminals (CODIS). Henry, the DNA lab technician, suggests that they should expand their search from an individual to a family: "If it gets a hit in CODIS that family could lead us to the killer. Like a DNA family tree." This process is illustrated by a CGI-animated 'CSI shot', showing a swirling double helix, which the camera tracks with an upwards-travelling pan. Evoking the notion of genetic lineage being traced back along through past generations, anonymous mug shots are attached here and there along the geneticized family tree. This spectacular imagery depicts forensic science as using innovative biotechnological tools able to identify significant kinship relationships that would otherwise have remained unknown, while at the same time making literal the series' overall investment in the notion of genealogical descent as a "vertical spine" typical to the Darwinian model of life itself.[42]



(1) A genealogy search produces a family tree in "Bloodlines" (S04E23) and (2) a CGI created 'DNA family tree' in "Genetic Disorder" (S12E10).

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sion, 2006–2008), *Faces of America* (PBS, 2010), *The Generations Project* (BYU Television, 2010), *Who Do You Think You Are?* (NBC, 2010–2012), *Searching For…* (OWN, 2011) and *Finding Your Roots with Henry Louis Gates, Jr.* (PBS, 2012).

[41] A side plot follows criminalist Greg Sanders' genealogical research into his Norwegian ancestry, which ultimately dramatizes amateur genealogy as a self-fashioning practice that allows one to modify the individual identity through the discovery of ancestral linage. Nash has argued that genealogy is not only called upon to establish 'true' identities, but more creatively for "imaginative self making". See: Nash (2002), 28.

[42] Franklin (2000), 218. For more analysis of Darwinian genealogy, see: Marilyn Strathern, *Reproducing the Future: Anthropology, Kinship and the New Reproductive Technologies* (Manchester: Manchester University Press, 1992).

Both the symbolic use of blood and the iconography of the family tree reveal how *CSI*'s discourse on science calls on the idea of biogenetic substance as specifically rooted in the traditional Darwinian framework of genealogy for understanding kinship as a substantial and significant trace between generations. Sarah Franklin has explained that the notion of genealogy is based on life being understood as a continuous and unified vertical passage of generations that is distinctly linear and structured by natural selection.[43] She specifies that:

> Importantly, for Darwin, life itself is vertically propriocentric: its progressive orientation is always in forward gear, and its ontological constitution as a force or principle of animate vitality is always composed through descent lines criss-crossed at the point of reproduction, but pointing downwards. Like the early Ford motor car, Darwin's genealogy didn't go into reverse.[44]

That this traditional genealogical framework still informs the notion of biogenetic kinship, and in extension *CSI*'s discourse on science, perhaps becomes more clear by considering Catherine Nash's writings on how ideas of "genetic kinship" currently circulate in both scientific and popular discourses.[45] The term genetic kinship is largely synonymous with Schneider's biogenetic kinship, but it is used by Nash to specifically describe a more firmly geneticized understanding of kinship that is firmly rooted in essentialist and determinist genetics. Specifically, genetic kinship is shorthand for describing the genome as harbouring a blueprint of "immediate, historic and prehistoric relatedness".[46] This contemporary understanding of kinship is still firmly rooted in the Darwinist idea of genealogical linkages spanning over past generations in a vast vertical line, which can be traced back in time through DNA analysis.[47] The development of DNA technology enables us to trace the genealogical linkages 'hidden' in our genes and can even be said to further reinforce this older framework for understanding kinship. As family trees and bloodlines have turned genetic, they can seemingly be traced further back in time and with more certainty of their passage, which presumably results in a clearer understanding for the vertical nature of descent.

The Darwinian legacy has thus also informed *CSI*'s discourse on science: the idea that descent is naturally vertical and forward striving forms the basis

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[43] Franklin (2000), 217–218.

[44] Franklin (2000), 218.

[45] Nash's analysis shows how the notion of genetic kinship is circulated more widely, for example in "the popular press, newspapers and genealogical magazines [heralding] a new 'double helix genealogy', or 'genealogical genetics'; family history, they announce, can now be teased from a 'few drops of blood'." See: Nash (2004), 2.

[46] Nash (2004), 2.

[47] Nash also points out that genetic kinship indicates the idea that genealogical linkages can be traced across vast geographical spaces: i.e. that one's DNA can follow past routes of migration over a long time. See: Nash (2004), 2.

of the series' investment in kinship as a genetic trace that can be deciphered with the help of DNA technology. Crucially, it forms the background for the series' engagement with a current shift in the discourse around science, in which the Darwinian framework is beginning to be questioned. *CSI*'s articulation of the post-genomic issue that I call the artefactuality of kinship evokes the possibility that this traditional understanding of kinship might no longer be viable when medico-scientific discoveries allow us to intervene in the reproductive process. In other words, alongside the series' expression of the dominant notions of biogenetic and genetic kinship, *CSI* also engages with an emergent process whereby kinship is becoming fundamentally redefined.

Worrying at the respatialised genealogical structure of life and artefactual kinship

Plotlines that focus on issues of kinship often feature characters that enact codes of conduct culturally associated with certain types of kinship relationships in grossly exaggerated ways. One example of this is the above-mentioned father in "Let it Bleed" (S09E04), who is so protective of his daughter that he murders everyone who had any role in the events around her death. His acts are dramatized as a result of his biologically rooted feelings for his daughter, but the exaggerated quality of these acts also puts a spotlight on the fact that these are culturally constructed codes of conduct. The same could be said of the depiction of the grandmother in "Secrets and Flies" (S06E06), who murders the birth mother of her biological grandchild in order to reunite the baby with its 'real' biological mother, and thus attempts to align the child's social bonds with its genetic kinship bonds.[48] Her assertion that "We each protect our own – that's how it's done" indicates that genetic kinship is usually assumed to inherently demand certain codes of conduct, which at least in part naturalises these behaviours. However, the series' criminalisation of these codes of conduct (by equating them with murder) also questions the extent to which these bonds are actually natural.[49]

CSI's discourse on kinship brings to mind the fact that the alignment of biological and social kinship takes work, something that Charis Thompson's

[48] Another example of this type of plotline can be found in "Bite Me" (S06E03), where a father's attempt to cover up a murder committed by his daughter is depicted as motivated by his natural instinct to protect his biological family.

[49] By expressing the notion that protecting one's own is a natural instinct rooted in our genes, *CSI* performs cultural work that asserts traditional power structures saturating the institution of the family. This is yet another example showing that *CSI*'s discourse on science must be understood as an assertion of power, but one that is largely concealed by the series' use of bioethical debates as a legitimisation device.

anthropological scholarship on individuals going through infertility treatments fruitfully highlights as a practice central to the current moment, as it is possible to give birth to a child with whom one might not share the same genes.[50] Thompson points out that people often feel the need to work hard to naturalise social kinship bonds, constructing them as biological even when no genetic link exists. Mothers that have conceived through egg donation might, for example, emphasise that they have shared their body and blood with the baby, thus establishing a substantial biological bond despite the lack of genetic kinship.[51] Such attempts to align social and biological kinship make apparent that biological kinship is essentially a culturally constructed concept, but also that the belief that categories of biological and social kinship should be aligned continues to be prevalent. *CSI*'s depiction of characters such as the father in "Let it Bleed" (S09E04) or the grandmother in "Secrets and Flies" (S06E06), who frantically attempt to enact or align biological and social kinship, similarly display that biological kinship takes work, while simultaneously suggesting that there currently is a desperately felt need to align biological and social kinship categories.

This felt need is, at least in part, rooted in cultural fears of what might happen if social kinship is not tied to biological kinship, which thus risks remaining invisible and unknown. The codes of conduct that are culturally associated with different types of kinship roles are generally understood as functioning as clear signs of biological kinship, through which the 'natural' continuous, linear and vertical nature of Darwinian descent can be assured and upheld by avoiding 'unnatural' biological mixing, for example through incestuous relationships. The belief that biological and social kinship needs to be aligned is deeply ingrained in the traditional genealogical framework that understands life itself as being best preserved by a 'healthy' linear descent that is undisturbed by cross-generational or inter-familial mixing of genetic substance. In other words, what is at stake here is a cultural fear of incest as 'unnaturally' opposing the forward drive of descent.

That this cultural anxiety saturates *CSI*'s discourse on kinship is indicated by the episode "Meet Market" (S07E14), in which the criminalists come across the sexual subculture of women employing male "hosts" to get romantic attention. The investigation begins when a middle-aged woman, Margo, is found dead in her living room. Her husband has been out of town, but there are traces of someone else having been in the house. The physical

[50] Charis Thompson, "Strategic Naturalizing: Kinship in an Infertility Clinic" in *Relative Values: Reconfiguring Kinship Studies*, Sarah Franklin and Susan McKinnon, eds. (Durham and London: Duke University Press, 2001), 176.

[51] This is only one example of how Schneider's understanding of biology as constitutive of kinship has been criticised by feminist scholars focusing on the complex and varied ways kinship is being redefined, particularly in times when new reproductive technologies and genetic testing has become everyday. See: Thompson (2001), 176; Strathern (1992), 19; Franklin (2001), 305–309; and Carsten, 32–33.

evidence is traced back to Jesse, a host that Margo had been secretly dating. On the night of the murder, she had asked him to visit her at home, which he assumed was a sign that she wanted to have sex. However, as indicated by a blood-covered photo album recovered at the crime scene indicates, she instead revealed herself as Jesse's biological mother who gave him up for adoption after birth. This admission triggered a sudden rage in Jesse who killed her because he through it was a cruel joke, but also because he – as an orphan – supposedly has no concept of the emotions and behavioural codes associated with biological kinship bond.[52]

(1) Jesse unknowingly attempting to seduce his biological mother and (2) a bloodied family album as proof in "Meet Market" (S07E14).

The interactions between Jesse and Margo within the context of the host club, and the sexual tension that this transaction is based on, are continuously juxtaposed with the 'appropriate' codes of conduct associated with a mother-son relationship. The lack of alignment between the social and biological kinship bonds is thus depicted as something that threatens to result in incest.[53] Implicitly, its suggested that Margo's choice to give up Jesse for adoption, and thus refuse to enact the role of motherhood, has resulted in a subsequent relationship between the two that comes dangerously close to incest. It is noticeable that *CSI*'s problematisation of incest in "Meet Market" (S07E14) is similar to the series' depiction of assisted reproduction

[52] The host club functions as a symbol for the shallow and inauthentic quality of emotional bonds not based on the 'natural' substance of blood-ties.

[53] The plot of "Genetic Disorder" (S12E10) is another example of how *CSI* naturalizes Darwinian genealogy by problematising incestuous deviations from what is perceived as the 'natural order' of vertical descent. Sara's family search in CODIS, which I described above, locates a "first order relative" of the murderer, i.e. a father, brother or son: namely a convicted criminal called Jimmy Duggan. After some genealogy research into the Duggan family, the forensic scientists establish that Jimmy has a younger brother who was abandoned by their mother at birth. Once they locate the brother, called Patrick, a DNA test quickly establishes that he is indeed the murderer. However, when comparing his DNA with Jimmy's they are surprised to find that the two brothers are actually also father and son. Patrick, in turns out, killed the genealogist because he was close to finding out that the mother conceived after an incestuous relationship with her oldest son. Rather than resulting in the expected "family reunions and happy endings" the genealogical research ends in murder, precisely because the biological kinship uncovered is a division from the 'normal' linear descent.

practices in “Secrets and Flies” (S06E06). Both incest and assisted reproduction are practices treated as being unnatural, evoking a more general cultural fear about deviations from what is perceived as the natural order of vertical descent.[54] This is an indication that *CSI* engages with the current shift in the discourses around science, whereby the concept of kinship is being redefined. This process of redefinition is specifically inaugurated by new assisted reproduction technologies that are potentially overthrowing the Darwinian framework of life itself.[55]

Franklin argues that this redefinition of kinship is a result of the general process of geneticization, whereby life has been become understood as a code, or a “sequence of letters”, that increasingly can be recombined freely and endlessly through newly developed biomedical interventions.[56] The classic linear and vertical spatial structure of the Darwinian genealogy is thus becoming reimagined, and replaced with the notion of “the gene pool”, from which genetic codes from different individuals, generations and even species can be recombined, in accordance with an artefactual “mix and match” sensibility. Franklin argues that:

> Recombination need no longer operate intergenerationally, through the downward (as if gravitational) linear flow of descent. Selection need no longer operate like a weir across the river of life. Indeed the river need no longer ‘flow’ at all since its mere width becomes at any given moment a source of greater horizontal variation than it ever was constrained within narrow, lineal, canal-like passages of gene transfer, tapering to their narrowest width at the point of recombination. As sexual reproduction is above all else the mechanism for genetic recombination under Darwin’s scheme, so it is as definitely rendered insignificant by the advent of assisted heredity, cloned transgenics and the entire millennial menagerie of unfamiliar kinds.[57]

To summarise, Franklin convincingly shows that genealogy is in the process of being respatialised, de-sexualised and artefactual.[58] In other words, in the current scientific discourses kinship is increasingly becoming organised

[54] Incest is currently an issue worried at in wider contemporary cultural debates about non-normative family structures and assisted reproduction technologies. These practices are thus more widely interlinked in popular imagination. For more on how the cultural anxieties tied to incest is tied to the current scientific discourse, see for example: Monica Konrad, “From Secrets of Life to the Life of Secrets: Tracing Genetic Knowledge as Genealogical Ethics in Biomedical Britain”, *Royal Anthropological Institute*, 9, 2003, 353; Jillian Sandell, “I’ll Be There For You: Friends and the Fantasy of Alternative Families”, *American Studies*, 39:2, Summer, 1998, 149–151; and Stacey (2010), 161.

[55] Sarah Franklin, Donna Haraway and Jackie Stacey have all discussed kinship as a concept central to the post-genomic redefinition of life itself. See: Franklin (2000), 217–222; Haraway (1997), 52–56, 313–223; and Stacey (2010), 32–34.

[56] Franklin (2000), 218–219.

[57] Franklin (2000), 218.

[58] Franklin (2000), 218–219.

along a horizontal axis rather than vertical, produced in a laboratory and under human control. *CSI*'s tendency of worrying at the alignment of biological and social kinship must, I argue, be understood as part of this wider discourse whereby the blood-ties of Darwinian genealogy are increasingly replaced with artefactual kinship ties that have a fundamentally different structure and significance.[59] *CSI*'s discourse on science engages with this wider process of redefinition, but it also problematises it by worrying at new forms of kinship as being human-made and artificial.

Problematizing human interventions into the 'natural facts of life'

CSI's treatment of kinship can thus be understood as part of a wider cultural debate about the implications and impacts of the medico-scientifically produced possibility to circumvent the 'natural selection' of sexual reproduction. The artefactuality of kinship is worked over and worried at in numerous episodes by dramatizing practices that, in one way or another, question biological kinship and sexual reproduction as 'the natural facts of life'. Some plotlines, like "Secrets and Flies" (S06E06), explicitly depict newly invented reproduction technologies, but there are others that present the current redefinition of kinship as rooted in a more general human aspiration to interfere in 'natural' biological processes.

There are, for example, a number of plotlines that dramatize murders that are essentially attempts to stop hereditary genetic traits from being transferred onto the next generation. "A Little Murder" (S03E04) and "Werewolves" (S06E11) are two examples of this, both depicting crimes where the victim has been killed to stop them from procreating. More specifically, their partners' relatives have killed them in order to stop their genetic traits – namely dwarfism and hypertrichosis – to be transferred onto any future children. Similarly, "Feeling the Heat" (S04E04) and "Still Life" (S06E10) both depict parents that murder their own children because they believe their genetic heritage will cause them harm in the future. In all these episodes, the perpetrators are depicted as having strong essentialist beliefs in genetics and their acts can be read as symbolic bioethical discussions about the possible choices we are faced with when developments in genetic scanning and assisted reproduction will increase our reproductive choices.[60]

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[59] Donna Haraway has summarised this as a process whereby the traditional concept of blood-ties is being replaced with "streams of [genetic] information". See: Haraway (1997), 134.

[60] Sarah Franklin has argued that while assisted reproduction technologies are understood as gaining greater control over the reproductive process and increasing reproductive choice, these are not the actual consequences experienced by people going through assisted reproduction. See: Franklin (1998).

In other words, these episodes stage the act of murder as synonymous with the medical possibility to scan for genetic disorders at early stages of foetal development and then terminate the pregnancy if the unwanted characteristics are present. This association comes particularity readily to mind in cases where genetics and assisted reproduction are referenced through the use of medical language when discussing the heredity of certain traits. In "Feeling the Heat" (S04E04) the parents of the dead infant Joshua had lost their first child to the genetic and degenerative Tay-Sachs disease. As their doctor explains to the forensic scientists: "Since both parents were carrying the Tay-Sachs allele there was a 25 percent chance that the second child would be born with it." Similarly, in "A Little Murder" (S03E04) the father of the victim's average-height fiancé also uses the medical language of risk and probability when describing her as a "genetic miracle" and a "¼ shot", since both him and his wife carried the dwarfism allele. His dislike of his daughter's choice of husband is, as pointed out by Grissom, solely based on genetics: there would have been a 50 percent chance their baby would be a dwarf. These dialogues place the motivations behind the murders within a genetic framework where genes are understood as blueprints of future bodies. However, the incentive to intervene and hinder these futures is clearly problematised by *CSI* through the alignment of such practices with the act of murder. Human interference is thus literally criminalised.

These episodes suggest that *CSI*'s investment in essentialist genetics is structured by a pro-life sensibility that condemns attempts to intervene in sexual reproduction and the vertical forward motion of descent, understood as 'the natural facts of life'.[61] In "A Little Murder" (S03E04), the father's attempt to stop his daughter from procreating with her short fiancé turn out to be useless, because his daughter is already pregnant. It is thus suggested that sexual reproduction, and by extension the 'natural' force of vertical descent, will always find a way to move forward. This belief has similarly been expressed in another well-known popular text working over the current redefinition of kinship within scientific discourse, namely the film *Jurassic Park* (Steven Spielberg, 1993). Sarah Franklin has argued that the film expresses its message and morals through the voice of chaos theorist Ian Mal-

[61] However, it is worth noting that by explicitly evoking contemporary bioethical worries about the rise of new-eugenics as enabled by assisted reproduction technologies, *CSI* largely rejects the 'survival of the fittest' aspect of Darwin's genealogy. Both these episodes spend much time exposing the prejudice and discrimination the characters was used to meeting in their everyday life, behaviour which is characteristically juxtaposed with the acceptance and understanding expressed by the forensic scientists. Implicit in these episodes is a notion that 'natural' sexual reproduction will produce a healthy genetic diversity that allows for a wide variety of human beings, thus emphasised as being equally 'normal' no matter their physical appearance. However, in cases where the 'natural' order of reproduction is circumvented, as for example in the episode "Genetic Disorder" (S12E10), the result is depicted as disastrous.

colm, particularly in the scene where he predicts that the all-female cloned dinosaurs will find a way to reproduce naturally:

> **Dr Malcolm:** If there is one thing the history of evolution has taught us it's that life will not be contained. Life breaks free, expands to new territories, and crashes through barriers, painfully, maybe even dangerously, but, ah, well, there it is.
> […]
> **Scientist:** You are implying that a group composed entirely of female animals will breed?
> **Dr Malcolm:** No! I'm simply saying that life finds a way.

Both *Jurassic Park* and *CSI* dramatize life itself as a vital force that will always find a way around any human attempt to control it, which implicitly suggests that scientists should not interfere with nature just because they can.[62]

The notion that life finds a way (i.e. that sexual reproduction will always reassert itself as a basis for 'the natural facts of life') is also conveyed in the *CSI* episode "Spark of Life" (S05E19). Beginning as two separate plotlines, the criminalists investigate the murder of married couple Morgan and Corinne and their daughter Danni, and the near fatal burning of a woman called Tara. After a DNA test of hair found in Morgan and Corinne's bed is matched to Tara, the forensic scientists realise that the two cases are connected. The following causal events are eventually established. Tara and her husband Neal had been trying to get pregnant, but Neal is infertile. After having gone through multiple unsuccessful in vitro fertilisation treatments, their close friends Corinne and Morgan have secretly suggested to Tara that Morgan could impregnate her. When Neal accidently found out, he killed both Morgan and Corinne, and Danni accidently drowned in the pool. He told Tara, who blamed herself and attempted to take her own life.

Apart from the episodes' dramatization of traditional patriarchal fears about female sexual infidelity and the problem of establishing biological paternity, much importance is placed on the fact that assisted reproduction technologies could not actually help Tara to conceive and that the "spark of life" could only be ignited through traditional sexual intercourse with a fertile man. That Tara, in the end, is still alive in spite of her severe burns is explicitly accredited to her carrying a new life that her body is "programmed" to protect. The episode ends with a slow pan of Tara's bandaged body, finishing on a close-up of her face as she opens her eyes. By depicting sexual reproduction as a kind of natural force, "Spark of Life" (S05E18) critiques medico-scientific developments that detraditionalize human reproductive practices. As in many other episodes dealing with issues of kinship, it also expresses a fantasy of the ideal nuclear family as the natural site of

[62] See: Franklin (2000), 198.

reproduction: the problem in "Spark of Life" (S05E18) is that Tara is forced to reproduce outside her own nuclear family unit.

Non-reproductive sexual practices and non-normative family structures

Jackie Stacey's study of cloning films shows that there are a number of fairly recent popular texts that articulate fantasies about heterosexual reproduction and "normative familial forms" when depicting new assisted reproduction technologies. This shows that the contemporary discourses around biomedical advances are more widely saturated by cultural anxieties about the potentially obsolete nature of the nuclear family and heterosexuality. Stacey argues that:

> In the landscapes of the genetic imaginary, the proliferation of sexual and reproductive practices is seamlessly elided, condensed, and substituted one for the other: donor insemination becomes in vitro fertilization; egg donation becomes lesbian cloning; stem cell manufacture becomes designer babies. What lies at the heart of these moves is a profound anxiety about the destabilization of sexual difference as the cornerstone of culture and about the introduction of unnatural forms which separate sexuality, reproduction, procreation and kinship. New techniques of reproductive and genetic intervention become inextricable from the detraditionalization of normative familial forms and modes of procreation.[63]

This anxiety is also expressed by *CSI*, particularly in the many plotlines that depict non-reproductive sexual practices as a framework for dealing with questions of kinship. There has already been some scholarly interest in *CSI*'s frequent depiction of sexual subcultures and most of these studies emphasises that the series seems to have a particular interest in sexual practices that are constructed as controversial or non-normative.[64] The fact that a majority of the sexual practices depicted in the series are heterosexual and non-reproductive has received little previous attention, but my own framework of analysis identifies this aspect as symptomatic of *CSI*'s wider tendency to worry at the post-genomic artefactuality of kinship.

The series usually places much emphasis on the fetishist nature of the sexual practices it depicts, usually by spectacularizing the rituals and objects associated with the particular sexual activity. The reoccurring plotlines that focus on sadomasochist communities, for example, feature lengthy displays of the masks, leather outfits, whips, ropes and chains used by the practition-

[63] Stacey (2010), 33.
[64] See for example: Bull (2008); Lo (2005); Steenberg (2008); Rahilly (2007); and Lavigne (2009).

ers to stage elaborate role-playing sessions.[65] Similarly, *CSI* depicts the plushies and furries in "Fur and Loathing" (S04E05) as dressing up in furry animal costumes and receiving pleasure from rubbing against each other; the biting fetishists in "Bite Me" (S03E03) as being attracted to large, bright white teeth that leave marks on the skin; the vampires in "Suckers" (S04E13) as getting off on drinking each others blood; the men in "The Panty Sniffer" (S10E16) as prefering to interact with women's underwear alone; and the infantilists in "King Baby" (S04E16) as acting like infants, wanting to be breastfed or have their diapers changed.

(1) White teeth as fetish object in "Bite Me" (S03E03) and (2) the costumes and props of an infantilist on display in "King Baby" (S04E16).

(1) The roleplaying games of sadomasochists depicted in "Lady Heather's Box" (S03E15) and (2) the criminalists interrupting a 'fur pile' in "Fur and Loathing" (S04E05).

Implicit in the programme's construction of these sexual practices as 'kinky' is a suggestion that these practices almost completely omit the act of intercourse. [66] In the cases where sexual subcultures are depicted as indeed practising intercourse, as in the case of the swapping parties in "Swap Meet"

[65] So far sadomasochism, embodied by the recurring character of Lady Heather, has been featured in six episodes: "Slaves of Las Vegas" (S02E08), "Lady Heather's Box" (S03E15), "Pirates of the Third Reich" (S06E15), "The Good, the Bad and the Dominatrix" (S07E23), "Leave Out All the Rest (S09E05) and "Unleashed" (S11E19).

[66] That *CSI* is often understood as depicting "kinky" sexualities is for example indicated by the following *USA Today* article, which argues that the frequency with which it "walks on the kinky side" is what distinguishes it from *CSI: Miami* and *CSI: NY*. See: Bill Keveney, "Why not '*CSI*: Kink'?", *USA Today*, February 8, 2006, http://usatoday30.usatoday.com/life/ television/news/2006-02-07-csi-kink_x.htm (accessed October 4, 2012).

(S05E05) or the chubby chasing conventions in "Big Middle" (S05E16), *CSI* emphasises that the participants are careful to always use contraceptives and that they are only looking for casual sex as part of a promiscuous lifestyle, which in extension stresses the non-reproductive nature of these sexual acts.[67] These episodes can thus be understood as worrying at the "detraditionalization" of "modes of procreation" in contemporary society, an issue that according to Stacey is also at the centre at many of the cloning films that similarly articulate a post-genomic structure of feeling.[68]

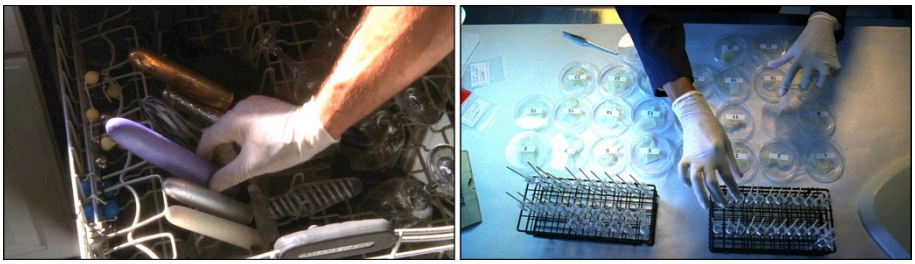
Some of the plotlines about such sexual subcultures not only worry at the post-genomic artefactuality of kinship by depicting the practitioners as solely interested in non-reproductive sex, but also by narratively linking these non-reproductive sexual practices to non-normative familial structures. For example, both "Swap Meet" (S05E05) and "Bite Me" (S06E03) problematise swapping parties and biting fetishes as signs of the failure of the traditional nuclear family structure. The crime investigations are dramatized as revealing the 'dark secrets' hiding behind the seemingly perfect picket fences and green lawns in suburban Las Vegas. Both episodes depict crimes that are committed by teenagers, implicitly presented as reactions to the disbandment of their nuclear family units and their introduction to the non-normative sexual subcultures of their parents.

More specifically, "Swap Meet" (S05E05) depicts an investigation into the death of Vanessa, a woman who has been killed after attending a neighbourhood swapping party. When interviewing the hosts of the party on the morning after, the criminalists find a dishwasher filled with dildos: a first symbolic sign that the domestic bliss on offer in suburbia is no longer that which is traditionally associated with the ideal fifties housewife. The spouses are initially adamant that they are indeed happily married, and that their domesticity in fact is maintained and strengthened by finding sexual satisfaction elsewhere – at least as long as the following rules are followed: "No means no. Arrive as a couple, leave as a couple. Drugs never, condoms always. No affairs, sex with someone else is only allowed at the parties. No photos, no video. And the kids must never know." Nevertheless, the investigation soon reveals that few of these rules have actually been upheld and that there are significant drifts in more than one of the families in the neighbourhood. The forensic evidence establishes that several guests left the party with

[67] Some of the characters are indeed depicted as wanting to establish monogamous romantic relationships that presumably could result in the construction of a nuclear family unit, but in these cases their failure to do so is dramatized in ways that function to highlight that non-reproductive promiscuity is prominent within these communities. For example, in "Fur and Loathing" (S04E05) Wolfie expresses his sorrow that his former fiancé Linda Lamb has left him for the promiscuous Rocky Raccoon and in "Big Middle" (S05E16) the overweight woman accidently killing her lover displays deep distress over the fact that the men she meets only wants her for casual sex, and would not want to be seen with her in public.

[68] See: Stacey (2010), 33.

other people than their spouses and are having ongoing illicit affairs. The swapping culture is thus ultimately depicted as creating a number of problematic extra-familial relationships. The scene where a lab technician tests the insides and outsides of the 26 used condoms recovered from the swapping party ends with an illustrative image – drawn as a diagram on a whiteboard – of how a complex network of sexual relationships deconstructs the traditional nuclear family units in this community.



(1) The dishwasher of a suburban home is found to contain sex toys and (2) DNA tests of 26 used condoms reveal a complex network of sexual relationships in "Swap Meet" (S05E05).

The children of the couples participating in the swapping culture are present in the periphery of shots in "Swap Meet" (S05E05).

Furthermore, the narrative also emphasises that the victims' own family already is a post-divorce family and her murder is implicitly tied to this family structure: Vanessa has been killed by her step-daughter Amy, who stabbed her in a jealous rage after finding out that she left the party with a neighbouring husband, with whom Amy herself has been having an affair for some time.[69] "Swap Meet" (S05E05) thus expresses cultural worries about how non-normative family structures might affect the children. The rule "the children must never know" is central to the crime.[70] Throughout the episode,

[69] The episode "Bite Me" (S06E03) similarly depicts an investigation revealing that a teenage girl has killed her adulterous stepmother.

[70] Both "Swap Meet" (S05E05) and "Bite Me" (S06E03) fits with Derek Kompare's observation that *CSI* often feature narratives about the effect life in the city of Las Vegas has on children, growing up without 'normal' rules and restrictions. Steve Cohan has similarly pointed out that *CSI* pay much attention to domestic crimes as specific to the Las Vegas setting,

the children of the couples participating in the swapping culture are constantly present in the periphery, both narratively and visually. Playing video games or sunbathing by the pool as the investigators process the houses or interviews the parents, the children seem preoccupied, but are in fact more involved in the events than the adults might think.

In most of these episodes, the formal narrative framework provided by the crime investigation results in a problematisation of alternative social bonds, non-normative family structures and non-reproductive sexual acts. Steenberg, Rahilly and Lavigne have all respectively argued that *CSI*'s narrative association between sexual practices and violent crimes results in a necessary assumption that non-normative sex is dangerous.[71] As Rahilly wittily puts it: "on *CSI*, love and sex almost invariably lead not to the self-obliterating pleasure of *le petit mort* but to actual fatality".[72] I would add that considered within the context of *CSI*'s discourse on science, unsuitable cross-generational sexual affairs, extra-familial bonds and non-reproductive sexual acts also become understood as posing a threat to the 'natural order' of vertical descent. At the very least, these practices stand at odds with *CSI*'s investment in genetic kinship: fleeting sexual relationships are dramatized as lacking in both substance and significance. From this perspective, the series' depiction of familial bonds are structured by the long-running fantasy of the nuclear family as a controlling framework for sex and reproduction. The programmes' depiction of non-reproductive sex and non-normative familial structures express a pro-life perspective that idealises biological reproduction and the nuclear family as frameworks for restoring a traditional Darwinist genealogy.

"A First Amendment show": expressing oppositional views on kinship and sex

While *CSI* entertains the fantasy of the nuclear family as an ideal framework for kinship, it still constructs a narrative world where non-normative versions of kinship bonds and reproductive practices are ever present. For example, the episode "Swap Meet" (S05E05) could equally be understood as depicting the nuclear family as a superficial ideal, never actually existing in 'real life'. The forensic investigation in this episode does establish that the normative nuclear families you would perhaps expect to find in suburbia are long lost, if they ever existed. Furthermore, the programme's depiction of the relationships between the criminalists stages a different notion of kinship

thus discussing "Las Vegas impact on middle-class 'normalcy'." See: Kompare (2010), 47–48, Cohan (2008), 121.

[71] Steenberg (2008), 214, Rahilly (2007), 125 and Lavigne (2009), 385.

[72] Rahilly (2007), 125.

– one that suggests that significant and enduring social bonds of kinship that can exist between "unfamiliars" without any blood-ties.[73] In particular, the main crime scene investigators (Grissom, Catherine, Sara, Nick, Warrick and eventually Greg) are portrayed as all sharing close bonds of mutual trust and love that are often explicitly depicted as substituting their generally dysfunctional familial or romantic relationships outside of work.[74] The team is regularly depicted as enjoying family-type activities (such as bowling, driving go-karts or sharing meals) in scenes that are constructed to display their close companionship.[75]

(1) The criminalists enjoying go-karting in "A La Cart" (S08E02) and (2) having breakfast together in "Rashomama" (S06E21).

I would propose that *CSI*'s portrayal of the criminalists' relationships draws prominently on the long-running history of American mainstream television series focusing on "work families" or "families of friends", a cross-generic cluster that has grown significantly in popularity since the 1970s, to practically surpass the traditional, nuclear family-centred shows.[76] As a generic trope, the work family has a rich history of heralding non-normative kinship structures and depicting social kinship bonds as being

[73] Haraway has argued that the post-genomic moment calls for a drastic reconfiguration of kinship that precisely allows for bonds between "unfamiliars". See: Haraway (1997), 265.

[74] Catherine has a complicated relationship with the casino mogul Sam Braun, who she finds out is her biological father in season 3, and she is herself a divorced single mother. Sara Sidle has grown up in foster care after her abusive mother murdered her father. Warrick Brown was raised by his grandmother when his dad abandoned the family and his mother died. While Nick comes from a large and close-knit family, his relationship with Grissom is often depicted as that between a father and son. Furthermore, Catherine helps him work through a childhood trauma. While Grissom's mother appears in a season 11 episode, he is generally depicted as socially isolated outside work.

[75] See for example episodes: "A la Cart" (S08E02), "Lucky Strike" (S10E08) and "For Gedda" (S08E17).

[76] For more in-depth discussions on the history and representation of families and families of friends on American television, see for example: Katherine E. Heintz-Knowles, "Balancing Acts: Work-Family Issues on Prime-Time TV" in *Television and the American Family, Second Edition*, Jennings Bryant and J. Alison Bryant, eds. (Mahwah, NJ: Lawrence Erlbaum Associates, 2001), 177-206 and Ella Taylor, *Prime-Time Families: Television Culture in Postwar America* (Berkley: University of California Press, 1989).

even more important for the happiness and identity of the individual than blood-ties. Through its portrayal of the criminalists as a work family, *CSI* voices the idea that mutual affective life, cohabitation and shared resources are bases of kinship as significant and enduring as shared genetic matter.[77] However, this does not mean that the series' portrayal of the work family is completely free from normative ideas. The relationships between the criminalists are, as Lavigne has pointed out, governed by a traditional hierarchal structure that clearly emulates the ideal of the nuclear family: with "a white male in charge of a crime lab, his white female second-in-command, and assorted underling 'children'".[78] The criminalists' work family is thus, on the one hand, depicted as providing more fulfilling and stable bonds than most blood-ties, while on the other hand largely retaining the conventional gender hierarchy associated with the nuclear family.

CSI's treatment of non-reproductive sexual practices is also characterised by a similar ambiguity. Steenberg has convincingly indicated that this is the case by using the concept of "the tabloid" to describe *CSI*'s mode of address. This term aptly highlights the series' tendency to depict non-reproductive sexual practices with large measures of sensationalism and moral panic, while at the same time constructing an "alternative public sphere" where an array of issues usually ignored by "the mainstream" are discussed.[79] Steenberg's analysis shows that *CSI*'s tendency to turn sexual practices into "tabloid spectacles" almost inherently engenders the expression of oppositional meanings:

> While reinforcing the status quo (heteronormativity, whiteness, patriarchy) the spectacles of *CSI*'s Sin City allow the spectator to indulge in a paranoid (i.e. us vs. them) fascination with the subcultural and the sexually non-conformist. These regain, paradoxically perhaps, a conservative charge as well as a subversive potential.[80]

In other words, it is significant that *CSI* creates a kind of liminal space where non-reproductive (and non-normative) sexual practices are given a rare opportunity for mainstream acknowledgement on prime time television.

Using Steenberg's framework as a stepping stone, I would suggest that this line of reasoning could be further crystallised through an examination of the critical reception that *CSI* has received due to its depiction of sexual

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[77] For analyses on how this idea circulates within contemporary discourses around kinship, see for example: Kath Weston, *Families We Choose: Lesbians, Gays, Kinship, 2nd edition*, (New York: Columbia University Press, 1997); Bob Simpson, "Bringing the 'Unclear' Family into Focus: Divorce and Re-marriage in Contemporary Britain", *Man*, 29, 831–51; and Judith S. Modell, *Kinship with Strangers: Adoption and Interpretations of Kinship in American Culture*, (Berkley: University of California Press, 1994).
[78] Lavigne (2009), 385.
[79] Steenberg (2008), 32–34.
[80] Steenberg (2008), 216.

practices. In spite of its formal problematisation of these practices, the series has been heavily criticised by conservative and family-oriented lobbying groups in America for the fact that it depicts non-normative and non-reproductive sex at all.[81] Because seasons 1–10 were aired during the prime time slot between 9pm and 10pm they were subjected to the broadcast indecency rules of the Federal Communications Commission (FCC).[82] These state that "language or material that, in context, depicts or describes, in terms patently offensive as measured by contemporary community standards for the broadcast medium, sexual or excretory organs or activities" may only be broadcast between 10pm and 6am.[83] Exactly what language or material is deemed indecent is essentially up for individual interpretation, but the system builds on an assumption that the number of complaints is indicative of the current community standards. There are therefore a number of lobbying organisations that campaign in order to make more people file complaints against certain television shows. One of the biggest and most influential is the Los Angeles-based Parents Television Council (PTC), which uses its vast website to publish reviews and rankings of television shows, as well as providing pre-printed complaint forms for shows they campaign against.

The PTC has continually ranked *CSI* among the top ten 'Worst Shows on Network TV', primarily due to its sexual content. Several of the series' episodes have also been targeted as 'Worst TV Show of the Week', among others "King Baby" (S05E15) which earned the following statement on the website:

> [*CSI*] has explored almost every facet of human sexuality, but has a tendency to focus on the most deviant and debauched in episodes that are calculated to shock, titillate and push the envelope of television decency. Past episodes have explored incest, fur fetishes, wife-swapping parties, a teenaged boy sleeping with his stepmother, a teenaged girl in love with her father, a transsexual operation and other topics that leave nothing to the imagination and de-

[81] The PTC was founded in 1995 as a branch of the conservative Media Research Center (MRC) group. While the MRC focuses on criticism against what they perceive to be a widespread liberal bias in US news media, the PTC was established to lobby against what they felt was a decline of decency on primetime television and subsequently hold the entertainment industry accountable for this.

[82] Season 1 was initially aired on Fridays between 9pm–10pm, but was mid-season moved to the same time slot on Thursdays, where it remained until the end of season 12. Season 12 has been moved to Wednesdays, and airs on a later time slot between 10pm – 11pm.

[83] The penalty for not keeping with these guidelines is a fine issued to the networks. See: "Guide: Obscenity, Indecency, and Profanity", *FCC website* http://www.fcc.gov/guides/obscenity-indecency-and-profanity (accessed November 15, 2011). For more discussion on the indecency rules, see for example: Kathryn C. Montgomery, "Censorship Regimes and Content Parameters – US" in *Television Industries*, Douglas Gomery and Luke Hockley, eds. (London: BFI Publishing, 2006), 51–54 and Wayne Overbeck and Genelle Belmas, *Major Principles of Media Law: 2010 Edition* (Boston: Wadsworth, 2010).

> stroy the innocence of young viewers who watch. The latest taboo-busting episode ["King Baby"] broke even more barriers of morality and decency…[84]

In 2005, the PTC initiated a campaign (still active at the time of writing) against "King Baby" (S05E15) and filed a complaint to the FCC as an organisation.[85] The controversy stirred up by *CSI* has precisely been focused on the depiction of what the PTC call "deviant and debauched" sexual behaviours, i.e. not material that contains actual nudity or explicit depictions of sexual acts.[86] As indicated by a research report produced by the PTC titled *Happily Never After: How Hollywood Favours Adultery and Promiscuity Over Marital Intimacy on Prime Time Broadcast Television* almost any depiction of "once-taboo sexual behaviours" is assumed to result in a "glorification of non-marital sex".[87] Furthermore, the listing of "masturbation, pornography, sex toys, and kinky or fetishistic behaviours" as troublesome indicate that what is at stake here is precisely a worry about sex increasingly becoming non-reproductive outside the framework of marriage.[88] At least by certain audiences, *CSI* is thus understood as 'glorifying' non-normative and non-reproductive sexual practices, even when – as my analysis above has shown – it formally constructs such behaviours as highly dangerous and even criminal. *CSI*'s treatment of sexual practices, reproduction and kinship are thus wrought with contradiction and voice a range of ambiguous meanings.

CSI's construction of a liminal space for discussing potentially controversial topics is one of the aspects that differentiate it from earlier forensic crime dramas. While both the British and the American forensic crime dramas from the sixties and seventies did occasionally feature plotlines about such topics as straying spouses, illicit affairs, children born out of wedlock, the use of prostitutes and homosexuality, they were always dealt with in a far more sombre manner than *CSI*'s tabloid handling. Any issue tied to sexual

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[84] Aubree Bowling, "Parents Television Council Presents: Worst TV Show of the Week, *CSI*: Crime Scene Investigation on CBS", *PTC website*, 2005, http://www.parentstv.org/PTC/publications/bw/2005/0220worst.asp, (accessed August 5, 2007).

[85] "King Baby" has not yet resulted in fines, but Wayne Overbeck and Genelle Belmas mention that Viacom (as the owner of CBS) in 2004 not only was fined for the infamous Janet Jackson 'wardrobe malfunction' at the Super Bowl halftime show, but also agreed to pay a settlement sum of $3.5 million for several indecency charges, including one unnamed episode of *CSI*. See: "Broadcast Indecency Campaign: Content from '*CSI*"', *PTC website*, http://www.parentstv.org/PTC/action/complaints/CSI.asp (accessed November 15, 2011) and Overbeck and Genelle (2010), 47.

[86] Bowling (2005).

[87] See: *A Parents Television Council Special Report: Happily Ever After: How Hollywood Favours Adultery and Promiscuity Over Marital Intimacy on Prime Time Broadcast Television*, August 5, 2008, http://www.parentstv.org/PTC/news/release/2008/0805.asp (accessed November 15, 2011).

[88] See: *A Parents Television Council Special Report* (2008), 3.

practices was generally treated with much sincerity and respectfulness, a treatment that is in line with the generic portrayal of the criminalists as able to stay neutral and detached no matter the types of human behaviour encountered. The programmes produced in the nineties largely continued this tradition. They tended to mainly feature realistic depictions of sexually motivated crimes and rarely revelled in non-normative sexual practices as such. More than signalling objectivity, this more demure approach usually resulted in a depiction of sex that was far less controversial than that of *CSI*.

CSI's tabloid address rather follows the rubrics set up by a successful cluster of "quirky" television dramas from the nineties, which can be understood as standing in stark opposition to the generic traditions of the forensic crime dramas. Popular culture scholar Robert J. Thompson has argued that the overwhelming prevalence of realistic crime dramas during the early nineties meant that US networks consciously began to make an effort to produce shows that would attract audiences by simply standing out from their peers.[89] Shows such as *Picket Fences* (CBS, 1992–1996), *Twin Peaks* (ABC, 1990–1991), *Northern Exposure* (CBS, 1990–1995) and *X-Files* are examples of how depictions of eccentric characters and controversial subject matters turned "quirkiness" into a marker of 'quality television'.[90] This use of controversial topics could, I would argue, be understood as a parallel tendency to that of "televisuality", sharing the same basic causes and intended results: i.e. rendering individual programmes identifiable and attractive within an increasingly competitive broadcast flow.[91]

CSI's depiction of non-reproductive sexualities follows in this tradition, using controversial and quirky subject matter to attract viewer attention in the competitive network-era television landscape. *Picket Fences* in particular can be identified as an important forerunner to *CSI*'s tabloid address. The similarities between the two shows has one concrete explanation in the fact that *CSI*'s executive producer Ann Donahue previously worked as a supervising producer on *Picket Fences*.[92] Interestingly, Donahue has explained that *Picket Fences* was created to be "a First Amendment show", intended to

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[89] Robert J. Thompson, *Television's Second Golden Age: From Hill Street Blues to ER*, (Syracuse University Press, 1997), 149–150.

[90] I would like to point out that *X-Files'* 'monster of the week' episodes at times focus on non-normative sexual practices, like for example vampirism in "Trinity" (S02E07) or a hair and nail fetish in "Irresistible" (S02E13), but often in a way that was far more explicitly condemning that *CSI*'s depiction of non-reproductive sex is. See: Thompson, 149–150.

[91] The sense of innovation created by the quirky dramas is, however, primarily created at the level of the narrative, rather than through visuals, by continuously flaunting surprising and controversial topics. See: Caldwell (1995), 5 and Thompson (1997), 149–150.

[92] *Picket Fences* is also a forerunner to *CSI*'s current standing as a show that significantly bettered CBS's status. David E. Kelley was given much artistic freedom as the creator, producer and writer of *Picket Fences* because the network hoped that his already known penchant for controversial subject matters would attract young urban viewers, as a particularly desirable demographic and bring CBS some much needed prestige. See: Thompson (1997), 168–169.

celebrate "everybody's right to their space, their religion, their death and their life."[93] The controversial topics featured in *Picket Fences* included a town priest with a shoe fetish ("My Left Shoe", S02E20), a transsexual schoolteacher ("Pageantry", S01E11), a husband suffocated by his wife's overweight body ("Squatter's Rights, S02E17) and a "serial bather" obsessed with using stranger's tubs ("Frank the Potato", S01E05). According to Donahue, the plots were careful crafted by the series creator David E. Kelley to deal with these controversial issues in ambiguous ways, as to not take sides: "[Kelley] always goes down the middle, and he's able to show each side. So the first act you root for one side. The second act of the episode you root for the other side because you finally understand them."[94]

The device of having the main characters confront each other's bigotries and prejudices has been wholeheartedly adopted by *CSI* and it features particularly prominently in episodes dealing with sexual practices, reproduction and kinship. Typically, it is Grissom who embodies a liberal open-minded perspective and he is often mistaken for himself being a practitioner of the sexual practice in question. For example, in "King Baby" (S05E15), a saleswoman in the infantilism store Forever Baby assumes that Grissom is there to buy diapers in the role of being Nick's 'daddy' and in "Big Middle" (S05E16) he allows a woman to think he is himself a 'chubby chaser'.[95] Due to Grissom's status as the most authoritative scientist of the team, his open-mindedness is presented as an ideal viewpoint.[96]

(1) Grissom flirting with a suspect in "Big Middle" (S05E16) and (2) Nick having a look around the infantilism store Forever Baby in "King Baby" (S05E15).

Curiosity and open-mindedness are thus portrayed as ideals that the criminalists should embody, but the series often concludes that it is 'only human' to have more conservative values, or express prejudices. His colleagues often voice more critical opinions about the non-normative lifestyles depicted.

[93] See: Thompson (1997), 171.
[94] See: Thompson (1997), 172.
[95] Furthermore, one of the long-running plotlines that centre on Grissom follows his romantic involvement with the dominatrix Lady Heather. Over several episodes, the series thus creates a distinct sense of sympathy between the criminalists and the professional sadomasochists.
[96] This has previously been pointed this out in Cohan (2008), 124–125.

One representative example of how this device allows oppositional opinions to be expressed on equal terms is the conversation between Grissom and Sara after they have interrogated the hosts of the swinger party in "Swap Meet" (S05E05). Although Sara knows that she should remain objective, she admits to having a problem with the promiscuous lifestyle. Grissom tries to remind her that the swingers are consenting adults who only really risk hurting themselves. Sara retorts that he should tell that to the victim, whom she believes was killed because of jealousy. In this case, Sara's suspicions are in the end proved right, which suggests that her prejudice is a legitimate opinion. However, Grissom's standpoint is also given weight as the ideal scientific perspective. Many similar conversations between the criminalists are carefully constructed to allow the viewers to judge themselves which opinion they think is the right one.

CSI's tabloid sensibility or First Amendment-approach are further indications that the series functions as a cultural forum that expresses a multiplicity of perspectives on kinship, reproduction and sexual practices.[97] My analysis has shown that the Darwinian framework of genealogy structures *CSI*'s depiction of forensic science as able to establish proof of kinship bonds through DNA testing and engender its problematisation of the idea that new scientific discoveries are turning kinship artefactual. The series constructs biogenetic kinship as substantial, enduring and significant by using iconographies of likeness, blood and the family tree, and it thus express ideas that have been central both in traditional biology and essentialist genetics. However, in dramatizing the felt need to align biological kinship and socially constructed kinship categories, *CSI* also inadvertently displays that sexual practices, reproduction and the nuclear family structure do not automatically accompany each other: this process of alignment takes work. While it is still invested in both the traditional 'natural facts of life' and the ideal of the nuclear family, the programme also engages with the post-genomic respatialisation of genealogy and constructs a kind of liminal space where currently controversial topics are given attention. Hence, if one not only considers the series' formal conclusions, but also takes into account what topics are brought up for discussion, it becomes clear that *CSI*'s discourse on science is highly ambiguous.[98] Furthermore, it is likely that this ambiguity is the very thing that makes this series, as a transnational example of phenomenal television, accessible and enjoyable to diverse audiences, from conservative and pro-life to liberal and leftist, from a range of different cultural and social contexts.[99]

[97] Newcomb and Hirsch (1983).
[98] Newcomb and Hirsch (1983), 49
[99] Lotz (2007), 37

4. Science of Emotions: Objective, Subjective or Affective Forensics?

The episode "Pledging Mr Johnson" (S01E04) features a plotline in which Grissom and Catherine work to explain the death of Wendy Barger, a married woman whose body is recovered in Lake Mead after an illegitimate meeting with her lover, Phil. Her husband, Winston Barger, is seemingly unaware of her philandering ways and Phil is adamant that she was still alive when she left him to travel home over the lake in a small motorboat. Catherine is struggling to remain objective throughout the investigation, due to her own recent experience of an extramarital affair; she has recently left her unfaithful husband Eddie. She expresses strong feelings of empathy for Winston and keeps him updated of any progress, despite the fact that he himself is a suspect. She even goes as far as telling him about Wendy's affair and as a result, is severely reprimanded by Grissom:

> **Grissom:** You just compromised our investigation!
> **Catherine:** He deserved to know the truth.
> **Grissom:** Knowing how she died – yes! Knowing that she had an affair? How does that bring closure?
> **Catherine:** I guess you just had to have been on the wrong end of an affair to understand.
> **Grissom:** You can't make this about Eddie. Look – you hurt our case because your ex hurt you.
> **Catherine:** We bring ourselves to our cases. We can't help it! I knew how Barger felt. Will you just relax? I didn't give him chapter and verse.
> **Grissom:** You can't give him anything! We are scientists. We are not psychiatrists or victims' rights advocates.
> **Catherine:** I know! I should be just like you, alone in my hermetically sealed condo, watching Discovery on the big screen. Working genius-level crossword puzzles. But no relationships – no chance any will slop over into a case. Right. I want to be just like you!
> **Grissom:** Technically, it's a townhouse. And the crosswords are advanced, not genius. But you're right, I'm deficient in a lot of ways, but I never screw up one of my cases with personal stuff.
> **Catherine:** Grissom, what personal stuff?!

This dialogue questions the series' usual assertion that the criminologists are reliable due to their ability to stay objective and detached, and suggests that this approach places unrealistic and inhuman demands on the criminalists to

act in a machine-like manner.[1] The series' general assertion that the criminalists are simply interested in the 'how' and the 'who' of the crime – and never the 'why' – is actually regularly subjected to self-reflexive inquiries, asking whether this objective and detached approach has its downsides. *CSI* continuously stages situations where it is suggested that a more subjective and empathic approach might actually provide valuable insights into the subjective experiences, thoughts and emotions of the individuals involved in a crime. As in the case of the above-mentioned dialogue, this question is often dramatized as discussions between Grissom and Catherine, who are portrayed as the main representatives of the objective (remaining detached and distanced) and subjective (empathically attempting to understand the thoughts and emotions of others) approaches.[2] Throughout the series, Grissom criticises Catherine for mixing up her work and private life, while Catherine argues that Grissom's aptitude for objectivity is a sign of his problematic lack of social skills.[3]

(1) Catherine sympathizing with Wendy's betrayed husband and (2) arguing with Grissom about her inability to stay objective and his detachment in "Pledging Mr Johnson" (S01E04).

[1] A number of other scholars have previously pointed out that *CSI* treats the idea of scientific objectivity with some ambiguity. To summarise, the programme has been said to, on the one hand, assure us that physical evidence always result in objective and infallible scientific facts, and on the other hand, make us aware that messy and subjective interpretations are practically impossible to avoid. Variations on this argument can be found in a number of texts on *CSI*, including: Cohan (2008); 17, Turkel (2009), 133–147; Gere (2007), 129–139; Panse (2007), 153–166; and Ruble (2009), 7.

[2] This has previously been pointed out by Steven Cohan in his analysis of *CSI*: "For all its obvious endorsement of scientific objectivity, *CSI* nonetheless complicates this premise by framing it through two lead characters, with the more subjective represented by Catherine Willows placed alongside the objective one of Grissom." See: Cohan (2008), 15.

[3] The different crime scene investigators (Grissom, Catherine, Sara, Nick, Warrick and Greg) usually take turns in embodying the subjective or objective perspective. There are even examples where Grissom is the one who fails to remain objective, perhaps most prominently in the episode "Butterflied" (S04E12).

However, in this chapter I will argue that *CSI* not only stages such discussions about the traditionally dichotomous relationship between objectivity and subjectivity, but that it also more specifically works over and worries at a more fundamental *redefinition of the objectivity/subjectivity dialectic* that is currently being engendered by the discourses around molecular science. *CSI*'s discourse on science engages with the idea that new scientific discoveries have changed the way in which emotions should be understood, namely that they have been provided with a newly molecular framework of explanation, which not only renders them material and corporeally rooted, but also changes their status as knowledge.[4] Redefined as "affects" in the current scientific discourse, emotions are understood as physical traces that have the status of scientifically viable facts.[5]

Like the other post-genomic issues that *CSI* articulates, this is an emergent notion that is only beginning to be formulated and discussed, engendered by a elements of *CSI*'s visual language, narrative structure and plotlines. This chapter will primarily discuss how it surfaces in re-enactment scenes: a recurring audio-visual device depicting physical experiments performed by the criminalists in order to reconstruct past events, often using their own bodies as proxies of the subjects involved in the crime. *CSI*'s use of this device has previously received very little scholarly attention, but I propose that it can provide valuable insights into the specificity of its discourse on science. In short, by habitually conflating sensory perception, physiological responses and internal emotions, the programme's re-enactment scenes dramatize an affective forensic approach that bridges the traditional objectivity/subjectivity dialectic.

Unbiased or inhuman? The objectivity/subjectivity dialectic as generic trope

From the very start, *CSI* presents objectivity and subjectivity as two basic, and traditionally oppositional, approaches to crime solving. For example, the very first episode, "Pilot" (S01E01), includes a plotline that examines the possibility that if a criminalist has a vested interest in a case, that might affect their interpretation of the evidence. Warrick and Nick are competing

[4] For discussions mapping theories on the molecular materiality of affect, see: McCormack (2007); Patricia T. Clough, "Afterword: The Future of Affect Studies", *Body & Society*, Vol. 16(1), 2010, 225; and Constantina Papoulias and Felicity Callard, "Biology's Gift: Interrogating the Turn to Affect", *Body & Society*, Vol. 16(1), 2010, 33, 37–38.

[5] I want to make clear that, unlike other film and television scholars that draw on theories about affect, I am not primarily using the terms affect and affectivity to describe audio-visual characteristics, audience responses or the relationship between the image and the audience, but rather to describe a notion that *CSI* articulates and represents as part of its discourse on scientific knowledge.

with each other to solve their individual cases, as the first to finish has a better chance of getting a promotion. Warrick attempts to get ahead by ignoring the fact that he does not have sufficient evidence and convinces a judge to sign a warrant in exchange for a gambling favour. He is, however, caught in the act and is forced to let the likely perpetrator run free. Grissom scolds him for having neglected the evidence out of personal interest:

> **Warrick:** Damn it Grissom! I had his ass, too!
> **Grissom:** Yes, you had him and the minute you started thinking about yourself instead of the case, you lost him. There is no room in this department for subjectivity. You know that Warrick. We handle every case objectively and without presupposition regardless of race, colour, creed or bubble-gum flavour. Okay?[6]

This dialogue expresses an idea familiar from by many of the earlier forensic crime dramas, particularly those from the sixties and seventies; namely, that objectivity is an approach that combines scientific detachment and focus on the empirical evidence, with an unbiased and non-judgemental mindset. *CSI*'s portrayal of Grissom as an example of an ideal objective and unbiased scientist can thus be identified as following a highly generic model for how to distinguish the figure of the criminalist from other types of investigators.
The Expert, for example, depicted Dr Hardy as being particularly reliable due to his detached and unbiased approach to the crimes investigated.[7] *The Expert's* very first episode, "The Unknown Factor" (05/07/1968), featured a plotline tailored to display that objectivity is a central issue of concern for the forensic approach. The plot focuses on an insurance policy, and Dr Hardy is employed by a private party to provide evidence, rather than the police. The audiences are assured that as a private expert, he is able to remain unbiased and focused on the scientific facts. A plot summary printed in *Radio Times* even emphasised this aspect further, in order to dispel any possible worries that he might side with his employer, pointing out that: "even when he has no particular liking for the people employing him he will always fer-

[6] Warrick and Grissom has a similar discussion in "Random Acts of Violence" (S03E13), where Warrick becomes personally involved in a case and tells Grissom that he is tired of hearing that his job simply is to process the evidence "objectively and without prejudice", as he feels he cannot be like Grissom: "I'm not a robot, ok? I actually care about these people."

[7] Several plotlines explicitly compare Dr Hardy's objectivity with other characters who are biased and thus make rash judgements, like for example "And so Say All of Us" (27/09/1968), "Second Appeal" (27/09/1976), and "Prejudice" (15/10/1976). An audience research report concerning the episode "And so Say All of Us" (27/09/1968) specifically mentions that: "The themes emotional side, relationship between driver and victims, was balanced, very realistically, some viewers thought, by Hardy's objective approach to his search, which, if successful, might 'scotch' the possible manslaughter charge." See: "An Audience Research Report: The Expert: And So Say All of Us", BBC document, Friday September 27th 1968.

ret out the facts. When these facts do not prove to be advantageous to his clients he can find himself in a difficult position."[8]

The spotlight placed on the objective approach persistently remained throughout the entire run of *The Expert*. A 1976 interview with actor Marius Goring (who played Dr Hardy) still highlighted that impartiality was the most important element of the forensic approach to crime solving:

> 'In a court of law the forensic scientist is called in as an expert witness. He is *not* a medical advocate. He is there just to give straight scientific facts. But, of course, his evidence can swing a case from accidental death to murder – or vice versa.' It is a delicate relationship between medicine and the law, and one which can put incalculable pressures on the man of medicine. 'You see', explains Goring, 'it is absolutely vital that the expert remains impartial and thorough in his investigations. Sometimes, [the police] want a pathologist's result that will confirm their views and so will dispose of the case quickly. […] '[*The Expert*] shows, says Goring empathically, 'the pressures a forensic scientist can come under. And the impartiality that *must* be maintained.'[9]

Goring's passing comment that the demand for objectivity "can put incalculable pressures on the man of science" interestingly implies that the ability to keep level-headed, detached and impartial is understood as being hard earned, and difficult to sustain. The idea that the objective approach is something that cannot be achieved by anyone is explicitly dramatized in the episode "Second Appeal" (27/09/1976), in which Dr Hardy finds himself testifying against an "old medical friend from his student days". The friend works as a coroner and Dr Hardy proves that he has failed to remain fully informed and objective when establishing the cause of death in a case and that an innocent man has been sentenced to jail as a result. Again, Dr Hardy is portrayed as able to remain unbiased, but the episode shows that this demand has its downsides: his friend is discredited and Hardy himself loses an important friendship.[10] The implication that the objective approach comes with a steep price – namely, that the detachment risks resulting in an inhuman failure to connect and empathise with other people – is also a generic trope that continuously resurfaces in forensic crime dramas.

The pathologist-centred shows of the nineties, for example, focused more closely on the potential problems of objectivity (and the benefits on a more subjective approach) when dealing with this generic issue. Programmes such as *Silent Witness* and *McCallum* distinguished the criminalists from the police by depicting them as not only providing expert scientific knowledge, but

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[8] "The Expert", *Radio Times*, July 5th, 1968, 49.

[9] Victoria Hainworth, "Admissible Evidence", *Radio Times*, 18 September 1976, 9, 12.

[10] In "Second Appeal" (27/09/1976 Dr Hardy is adamant that his "job is to find the truth which scientific facts dictate. It is for others to make judgements." His old friend has made the mistake of letting his assumptions about the murder suspect influence his interpretation of the evidence.

also a more emotive and empathic perspective than the average police officer. Dr Ryan and Dr McCallum were both portrayed as struggling to find a middle road between objectivity and subjectivity. On the one hand, they are stoic in the face of gruesome autopsies and have problems maintaining healthy social lives due to their commitment to work. On the other hand, they get personally involved in most investigations and often go beyond the call of duty to catch the killer and find justice for the victims. Dr McCallum has the unfortunate habit of finding his lovers on the autopsy table and the empathic Dr Ryan has a tendency to become emotionally attached to the victims of crimes, often finding herself wanting to know 'why' they died, rather than just establishing the 'how'.[11]

In many of the forensic crime dramas of the nineties, the treatment of the objectivity/subjectivity dialectic is closely tied to their more general concern for the responsibility and accountability of law enforcement.[12] The criminalists were partly portrayed as an empathic and considerate alternative to complacent and corrupt police officers or government agency representatives. However, the criminalists' subjective approach was also regularly problematised as a tendency that might decrease their reliability and trustworthiness. In other words, shows such as *Silent Witness* and *McCallum* did not straightforwardly celebrate their main characters' inability to remain objective, but often depicted the difficulties and risks of the forensic method. This willingness to display that scientists are not beyond human error became a marker of realism during this period. According to Stuart Hepburn, the creator of *McCallum*, his intention was specifically to create a 'flawed' forensic hero more suitable for the sensibilities of the nineties television audience:

> I guess you can create characters who are perfect, who have everything sussed, but generally audiences won't accept it. They're too sophisticated now. I was watching *Quincy* – God, still on 20-odd years after it was made and as a hero of the nineties he's a disaster, an uncomplicated, white knight solving everything in 50 minutes. It doesn't work any more. Not that I didn't want McCallum to be righting wrongs. I did. I wanted him on the side of the people.[13]

[11] One telling example of this is the plotline playing out over the two-part episode "Divided Loyalties" (S03E05) of *Silent Witness*. After performing autopsies on a female drug addict and her neglected child, Dr Ryan becomes emotionally involved to the extent that she starts helping an undercover cop infiltrating a network of drug dealers. Dr Ryan's personal investment solves the case, but she unknowingly helps the undercover cop who secretly has began killing the people he sees as responsible for the death of the woman and child.

[12] This was, as I have previously outlined, a generic tendency of both the UK and US crime dramas during this particular period. See: Brunsdon (1998), 225, 228 and Sumser, (1996), 154–161.

[13] Cordell Marks, "How I created…Ian McCallum", *Radio Times*, 24–30 January 1998, 141.

The complete objectivity achieved by the criminalists in earlier forensic crime dramas, such as *The Expert*, had thus become understood as unrealistic and the portrayal of a subjective approach was now treated as a sign of emotional authenticity.[14]

On a formal level, *CSI* could be said to articulate stronger generic links with the earlier forensic crime dramas of the sixties and seventies by making Grissom, who is generally depicted as an ideal criminalist, the main representative of the objective approach. However, the programme also follows in the footsteps of the nineties programmes by repeatedly including plotlines where the criminalists, including Grissom, are unable to live up to the ideal of objectivity. Ultimately, *CSI* also diverges from both these traditions, in that it continuously depicts forensic science as an embodied practice. This, I will argue, results in a more fundamental reconfiguration of the objectivity/subjectivity dialectic, which does not have any long-running precedents in any of the earlier forensic crime dramas.

Forensics becomes an embodied practice: from objectivity/subjectivity to affectivity

It is notable that the sixties and seventies forensic crime dramas' generic depiction of the criminalist as objective and detached is intimately liked to their portrayal of forensic science as a visual practice. As has been pointed out by numerous scholars writing on sensory history and visual culture, vision has long been considered the 'highest' in the hierarchy of the senses, through its historic association with the concepts of rational truth and objectivity.[15] The portrayal of forensic science as a visual practice was thus used to precisely emphasise the cerebral nature of the forensic method, depicting it as a detached, objective and rational form of analysis. While *CSI*'s visual

[14] This acceptance of subjectivity and empathy can also be understood in relation to the more gruesome depiction of the autopsy practice in these nineties programmes: it can be understood as responding to cultural worries about professions related to the care of dead bodies. As Mary Roach has shown in her cultural study of the corpse, detachment has long been a legitimising and rationalising practice expected of pathologists. However, there is also a deep-seated fear that complete objectivity will lead to inhumanity, cruel jokes, necrophilia and even violence. The depiction of the autopsy practice is thus surrounded by numerous ethical pitfalls and these pathology programmes worked hard to ensure the viewers that their heroes was sustaining their scientific objectivity, all the while being emphatic and caring. See: Mary Roach, *Stiff: The Curious Lives of Human Cadavers* (New York and London: W.W. Norton & Company, 2003), 18–19.

[15] For more discussions on ocularcentrism, see for example: Smith (2007), 21–27; David Howes, *Sensual Relations: Engaging the Senses in Culture and Social Theory* (Ann Arbor: University of Michigan Press, 2003); David Levin, ed. *Modernity and the Hegemony of Vision* (Berkley: University of California Press, 1993) and W.F. Bynum and Roy Porter, eds. *Medicine and the Five Senses* (Cambridge: Cambridge University Press, 1993).

language stages an intensification of the generic construction of forensic science as a visual practice, it also presents a significant diversion from this tradition in that it continuously emphasises that vision is an embodied sense that necessarily works in tandem with the other human senses. This shift can be understood as tied to the series' increased visual and narrative focus on physical evidence, which also distinguishes *CSI* from its predecessors. In other words, the series' uniquely strong investment in physical evidence as harbouring significant knowledge is mirrored by a new portrayal of the criminalists as needing to approach the analysis of the evidence in a physical and embodied manner.

In making this argument, I am indebted to Karen Lury, Elke Weissmann and Alexia Smit, whose respective research has already suggested that *CSI*'s depiction of scientific labour constructs vision as one of several embodied senses utilised by the criminalists.[16] Their studies also indicate that the series' depiction of forensic science as a multi-sensory scientific practice at times constructs sensory perception as providing information that bridges the objectivity of physical sensations and the subjectivity of emotions. Lury has, for example, discussed *CSI* as often depicting sound-based evidence and in extension, presenting skilful listening as an important scientific practice.[17] In extension, she points out that while the programme generally features multi-layered and largely technological sounds, which seem to present sound "as something that can be comprehended and organised via a rational, deductive or diagnostic process", it also repeatedly interjects organic or human elements into the soundscape.[18] This, she argues, functions as a reminder that the "scientific or rational discourse cannot entirely repress the messiness of humanity" and that the criminalists need to adopt a more irrational and emotional type of hearing experience, which allows them to "hear the dead" tell the truth about the crime.[19] In other words, the sense of hearing also becomes a source for emotional insights that one might not expect to be part of the objective framework of science, but that still plays a significant part of the forensic investigations in *CSI*.

The tendency to align sense perception with human emotions is, as Lury points out, explicitly dramatized in the long-running story arc that follows Grissom's struggle with loss of hearing (an genetic affliction he has inherited from his mother).[20] This topic is first addressed in "The Hunger Artist"

[16] Lury, (2007); Weissmann (2010); and Smit (2010).
[17] Lury (2007), 110,114–121.
[18] Lury (2007), 114–115.
[19] Lury (2007), 114.
[20] This plotline begins in the final episode of season 2 and is prominent throughout season 3 and in the first episode of season 4. From then on, it is returned to occasionally, in multiple episodes that features characters from the deaf community; one of the most prominent being "The Two Mrs Grissoms" (S11E13). For a detailed analysis of *CSI*'s representation of hearing loss and deafness, see: Katherine Foss, "Gil Grissom and His Hidden Condition: Construc-

(S02E23), when Grissom starts acting strange during interactions. The final scene of the episode cross-cuts between Grissom walking disoriented down a busy Las Vegas street, the sounds muted to a murmur, and discussing his disease with a health care professional. Here he explains the impact of his hearing loss:

> Obviously most of crime scene investigation is about seeing. But much of it is about hearing as well. Listening. Knowing how to listen. Not just to what people are saying but how they say it…how their tone of voice matches their facial expressions or body posture. So, even if I read lips and know what they're saying…it's not enough.

This monologue presents Grissom's deafness as primarily affecting his ability to communicate and interact with other human beings. The plotline more generally constructs sensory perception as crucial for the ability to read the emotions of others. Lury thus concludes that this plotline not only emphasises that the criminalists practice a multi-sensory approach, but also forces Grissom (who normally embodies the strictest version of scientific objectivity) to "acknowledge the nature and power of the emotions, the spirituality and the 'messiness' of both himself and other people."[21]

Similarly, Weissmann has argued that *CSI* "proves to be much less ocularcentric than it first appears", because it frequently depicts the criminalists as using different senses than vision to analyse the evidence they encounter.[22] With reference to a scene in "Gentle, Gentle" (S01E19), in which Grissom establishes that bleach has been used to clean up the crime scene by using his sense of smell, Weismann points out that the series often features close-ups of the criminalists' faces as they inhale deeply in search for traces of smell. I would add that the series frequently depicts the act of smelling in more spectacular ways. The lab technician Hodges is, for example, continuously portrayed as having a particularly acute sense of smell and in "Iced" (S05E23) he is called into the autopsy room because of a "genetic quirk" that enables him to smell traces of cyanide. The scene humorously equates the smelling criminalist with another contemporary expert using the sense of smell, namely the wine taster. Hodges calmly lifts each glass container of yellowish stomach fluids, swirling them under his nose to release the aromas.

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tions of Hearing Loss and Deafness in *CSI: Crime Scene Investigation*", *Disability Studies Quarterly*, Fall 2009, Volume 29, No. 2, http://dsq-sds.org/article/view/921/1096 (accessed February 14, 2011).

[21] Lury (2007), 118.

[22] Weissmann (2010), 136.

(1) Grissom smelling traces of bleach on a carpet in "Gentle, Gentle" (S01E19) and (2) Hodges determining whether stomach content contains cyanide in "Iced" (S05E23).

In addition to arguing that *CSI* constructs forensic science as dependent on "lived, multi-sensory" experiences for their objective insights, Weissmann also implies that the embodied approach is portrayed as providing the criminalists (and by extension the audience members) with an understanding of the subjective corporeal and emotional experiences that violent crimes produce.[23] Weismann argues that this is primarily achieved through 'CSI shots' that display the dead body in gory detail and are intended to elicit physical and emotional responses from the viewers. Drawing on feminist writings on how horror cinema triggers physical reactions of disgust in its audience, Weissmann proposes that *CSI*'s audio-visual language allows "the viewer a similar engagement with science as the investigators, namely one that relies on a multi-sensory experience: sight, sound and something similar to touch."[24] Smit has elaborated further on this line of reasoning, in turn arguing that *CSI*'s display of visceral imagery should be understood as a case of "tele-affectivity" that not only attracts the viewers' attention, but also heralds a "scientific sensitivity". According to Smit, the programme constructs forensic science as a method used to analyse both physical evidence and more ephemeral sensations and emotions.[25]

The respective observations of Lury, Weismann and Smit thus fruitfully conclude that *CSI* depicts forensic science as an embodied practice that importantly can produce both objective cerebral facts and subjective emotional insights. This is, I would add, symptomatic of how the series engages with the wider discursive shift currently circulating around science. Furthermore, rather than simply asserting that subjective insights can be equally important

[23] See: Weissmann (2010), 138–139.

[24] Weissmann (2010), 139. Weissmann has also presented this line of reasoning together with Karen Boyle in: Weissmann and Boyle (2007).

[25] Smit argues that *CSI* should be understood as part of a wider tendency on contemporary American and British television to increasingly display the body in excessively visceral imagery. With the term "tele-affectivity", Smit suggests a revision of Caldwell's term "televisuality", arguing that an increasing number of shows now are attempting to distinguish themselves by the use of imagery intended to induce affective responses. See: Smit (2010), 7–9, 11–17, 123, 135 and Caldwell (1995).

as objective facts, *CSI* specifically stages a redefinition of the objectivity/subjectivity dialectic through which a new conceptualisation of affect emerges. By thus being provided with an explanatory framework of molecular science, sense perception and emotions become similarly understood as having a material existence. As a result, sensory and emotional experiences are conflated, and can be seen as producing knowledge of a more factual and certain kind.

Re-enactment scenes and the molecular materiality of affect

That *CSI*'s depiction of forensic science as an embodied practice articulates an engagement with the wider redefinition of emotions within the current discourse around molecular science becomes especially apparent by considering the series' recurring re-enactment scenes. Indeed, the very first episode, "Pilot" (S01E01), diegetically establishes re-enactments as a method central to the forensic approach: Grissom explains to new recruit Holly Gribbs that criminalists not only "scrutinize the crime scene [and] collect the evidence", but also "recreate what happened without having ever been there." The second episode, "Cool Change" (S01E02), introduced the concept in even more detail, depicting re-enactments as a type of scientific experiment used to both confirm (or falsify) theories and locate new physical evidence. In this case, the criminalists investigate a man found dead on the street outside a casino. They already know he died from a fall, but in order to disclose whether his death was a suicide, an accident or a murder, Nick and Grissom recreate his fall. With Grissom observing from the ground, Nick is positioned on the casino roof staging three dummies as if one was pushed, one jumped and one fell accidently. This allows Grissom to visually compare the positions of the bodies and conclude that the victim was indeed pushed. Furthermore, Nick's physical re-enactment of the killer's acts provides a new piece of evidence: anyone who has been on the rooftop will be covered in traces of "roof dust".[26]

In "Cool Change" (S01E02), the re-enactment thus functions as a kind of visualisation device that allows the criminalists (and in extension the viewers) to observe the events around a crime, and visually locate and analyse physical evidence. However, in many subsequent re-enactment scenes this method is depicted as being particularly useful because it can recreate an embodied experience of past events, potentially resulting in knowledge about the actions, subjects and emotions involved. One representative example of this is the re-enactment scene in "Pledging Mr Johnson" (S01E04), the

[26] Roof dust is a reflective material used to divert sunshine.

episode that I discussed in the opening of this chapter as discussing of the traditional objectivity/subjectivity dialectic. Indeed, throughout the episode, Grissom and Catherine are depicted discussing the pros and cons of their respective approach. However, a re-enactment scene towards the end of the episode instead stages a thorough amalgam of the objective and subjective sensibilities, thus evoking the idea of an affective approach. Grissom has organised a scientific experiment in order to produce empirical proof that this theory about how Wendy died is correct. It takes place in the forensic laboratory, to which Wendy's motorboat has been towed. The criminalists have already found a lack of petrol in the motor and traces of skin and blood on the side of the boat. In an attempt to explain the significance of these findings, Grissom urges Catherine to get into the boat and re-enact Wendy's movements by attempting to start the motor.

At this moment, Catherine's continuous feelings of frustration with the case reach a crescendo; her personal involvement and Grissom's criticism have left her visibly annoyed. She gets into the boat, practically fuming, and takes her frustration out on the motor. After a series of frenzied attempts Grissom asks her how her "shoulder feels?" and Catherine angrily replies: "It is sore!" This insight is presented as the final proof that Wendy's death was in fact an accident. She panicked after the motor ran out of gas on the middle of the lake and attempted to re-start it with such vigour that she dislocated her shoulder, hit her head on the railings and accidently fell overboard. This re-enactment thus frames Catherine's subjective feelings of desperation and physical pain within a scientific framework, conflating her emotions with the sensory knowledge produced by her physical actions.

(1) Grissom visually observing an re-enactment in "Cool Change" (S01E02) and (2) a re-enactment in "Pledging Mr Johnson" (S01E04) where Catherine's physical and emotional experience is treated as evidence.

This type of redefinition of emotions is, I would argue, engendered by the series' more general legitimisation of embodied investigative practices by placing them within the explanatory framework of molecular science. Continuously, multi-sensory perception is depicted as crucial means for access-

ing knowledge at a molecular level, which thus remains hidden out of sight. In particular, acts of smelling and hearing are regularly depicted as senses allowing the criminalists to access miniscule physical evidence. A scene in "Coming of Rage" (S04E10), where a bloodhound is used to track the escape route of a murderer, is a representative example of this. After having sniffed a piece of clothing, the dog sets off into a nearby mall, making criminalist Sara Sidle worry that the dog might get lost. The handler assures her: "We have 5 million olfactory sensory receptors and she's got 220 million. She sees the world differently." At this point the camera cuts to a digitally manipulated sequence of hand-held shots from the dog's point-of-view; the colours are washed out leaving an almost black and white world, accept for a bright red misty scent trail clearly visible throughout the mall. The bloodhound's sense of smell is thus dramatized as having the same function as the microscope: aiding the criminalists to access evidence hidden on a molecular level. There are numerous other examples where different types of scientific smelling or hearing technologies are depicted in a similar way. For example, "Bully for you" (S02E04) features an "artificial nose" that allegedly can identify the exact vapour molecules from a perfume worn by a murderer and "Committed" (S05E21) depicts the use of laser technology enabling the criminalists to hear evidence that would otherwise have been too vague for the human ear.[27]

(2) Molecular traces visualised from the perspective of a dog's nose in "Coming of Rage" (S04E10) and (2) inaudible sounds rendered audible in "Committed" (S05E21).

Considering that the re-enactment scenes tend to conflate sensory and emotional knowledge, I would propose that the molecular framework of explanation is also transferred onto insights of a more emotional kind, redefining them as having a molecular materiality that turns them into scientifically viable evidence. This is, furthermore, in line with the series' more gen-

[27] Laser technology is used in "Committed" (S05E21) to access sounds from an incriminating conversation, recorded into a spinning clay pot in a pottery studio. This use of "acoustic archaeology" not only displays the ability of scientific technology to access evidence otherwise undetectable, but functions to authenticate sound as proof by emphasising its physical presence, an extreme close up depict the sound – in form of miniscule vibrations – cutting grooves into the pot.

eral engagement with the current discourses around science and its articulation of a post-genomic structure of feeling. The wider process of molecularization has engendered the idea that sensory, sensual and emotional experiences alike have a molecular materiality only newly discovered by science.[28] This idea has increasingly been discussed across the natural, social and human sciences, using the umbrella term of affect.[29] One representative theorisation that provides more insights into how this idea circulates within the current discourses around science is Teresa Brennan's concept "transmissions of affect", which redefines emotional and empathic engagements between different subjects (and their physical and social environments) as inter-subjective processes of moving, and being moved by, others.[30] According to Brennan, such transmissions of affect between different individuals are "social in origin but biological and physical in effect" and she specifically draws on scientific studies of biological phenomena such as chemical transfers, and hormonal and pheremonal interactions, to explain emotions as resulting in concrete and dynamic bodily changes[31]

CSI's re-enactment scenes engage with this wider discourse on molecularly material affects, and can more precisely be understood as dramatizing a redefinition that casts the criminalists' empathic engagements with the subjects investigated as a form of corporeally rooted affective transfer. In many re-enactment scenes, it is the series' use of expressionistic flashback that depicts this embodied practice as enabling a form of emotional transfer between the criminalist and the subject investigated. A representative example of this is the re-enactment scene in "Deep Fried and Minty Fresh" (S09E13), where Nick and Langston attempt to figure out how a man was killed in the kitchen of a fast food chain. Working from a theory that his head was forced into a deep fryer filled with boiling oil during an altercation with a co-worker, the criminalists re-enact these events. As is the case with most of the re-enactment scenes, the acts are presented as a scientific experiment. However, as Langston forces Nick's head into the (now empty) deep fryer, an expressionistic insert suddenly depicts the victim's face as it descends into the boiling oil and he struggles while the skin starts to peel off. Diegetically,

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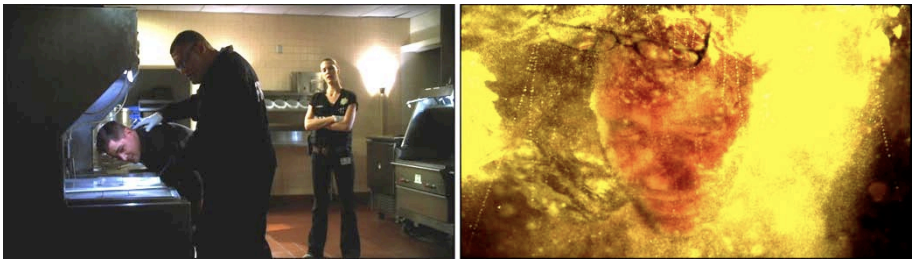
[28] See McCormack, (2007), 359–377; Clough (2010), 225; and Papoulias and Callard (2010), 33, 37–38.

[29] For overviews on the so-called "the affective turn", see for example: Papoulias and Callard (2010); Patricia T. Clough with Jean Halley (eds) *The Affective Turn: Theorizing the Social*, (Durham: NC: Duke University Press, 2007); Patricia T. Clough, "The Affective Turn: Political Economy, Biomedia and Bodies", *Theory, Culture & Society*, Vol 25(1), 2008, 1–22: Anu Koivunen, "An Affective Turn?: Reimagining the Subject of Feminist Theory" in *Working with Affect in Feminist Readings: Disturbing differences*, Marianne Liljeström and Susanna Paasonen, eds. (London and New York: Routledge, 2010), 8–27; and Lisa Blackman and Couze Venn, "Affect", *Body & Society*, Vol. 16(1), 2010, 7–28.

[30] Brennan (2004), 3.

[31] Brennan (2004), 3, 9–11.

the re-enactment is treated as merely having produced a new piece of empirical evidence (the criminalist now know where they can expect to find a hand mark from the perpetrator), but the flashback inadvertently suggest that it has conveyed knowledge of a more emotional kind.



(1) The re-enactment of a murder (2) interrupted by an expressionistic flashback conveying the experience of the victim in "Deep Fried and Minty Fresh" (S09E13).

In the context of re-enactment scenes, the usually spectacular and expressionistic nature of these types of shots precisely constructs them as a kind of transfer of subjective feelings and emotions, rather than realistic illustrations of the events. This is partly a result of a set of generic linkages activated by this particular combination of re-enactments and expressionistic re-telling of the past. It is important to remember that re-enactment scenes have a long history as a documentary audio-visual device, traditionally used to precisely convey subjective experiences of events.[32] Furthermore, as such, they have played a particularly important role in so-called "real crime" television shows.[33] Series such as *Crimewatch* or *America's Most Wanted* (Fox, 1988–) often feature spectacularly dramatized reconstructions of the crime, framed within talking head footage of the actual crime victim giving us a first person testimony of the events and post-trauma reflections.[34] This not only establishes a link between the reconstruction and the perceived reality of the testimonial, as has been argued by Richard Kilborn, but also constructs the re-enactment as a subjective account of the events, specifically depicting the personal experience of the victim.[35] Television scholar Deborah Jermyn has

[32] Historical re-enactments have a long history within the documentary genre, but have tended to meet with much suspicion and scepticism, precisely because they have been understood as being a way to manipulate the viewers for emotional responses. See: Richard Kilborn, *Staging the real: Factual TV Programming in the Age of Big Brother*, (Manchester and New York: Manchester University Press, 2003), 139–140.

[33] Producers of reality crime television have often defended the use of re-enactments by arguing that it is a memorable way to present clues that might jog the memory of any potential witnesses amongst the television audience. Hence, it is presented it as having a positive function as assisting crime prevention and the apprehension of criminals. See: Jermyn (2007b), 49 and Kilborn (2003), 72.

[34] For more on this device see Kilborn (2003), 73.

[35] Kilborn (2003), 73.

similarly argued, when discussing re-enactments specifically depicting crimes against women, that the apparent aestheticisation of such re-enactments evokes conventions of Hollywood thrillers and the gothic genre.[36] While this historic use of re-enactments is largely suppressed in *CSI*, I would argue that the series' use of expressionistic flashbacks at least momentarily bring these generic associations into mind.

In the context of the re-enactment scenes, *CSI*'s expressive flashbacks thus provide a sudden emotional insight of a subjective experience of past events. However, the abruptness of the insert and the fact that it is framed by a scientific experiment that provides a more general embodied understanding of the event more specifically evokes the wider scientific discourse that *CSI* participates in and the ideas of affective transfers circulating there. Inserts such as the one in "Deep Fried and Minty Fresh" (S09E13) become a kind of intersubjective device illustrating a corporeally rooted affective transfer.[37] This is also the result of the lack of a cerebral process being explicitly depicted by the re-enactment scenes. An empathic engagement is traditionally defined as an intellectual or emotional process of identification, and is usually imagined as a more coherent process of understanding someone else's feelings or emotions. The abruptness of the inserts in *CSI* rather redefines the engagement between the criminalist and the investigated subject as being of a more direct, automatic and corporeal kind: an affective impulse triggered by the shared embodied experience.

Given the wider discursive context that *CSI*'s discourse on science engages in, I would propose that ideas about affectivity play a similar role in the series that, according to Jackie Stacey, it did in a number of cloning films of the late nineties that similarly participate in the post-genomic redefinition of life itself.[38] In Chapter 2, I drew on Stacey to discuss the programme as wor-

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[36] Jermyn specifically mentions *Manhunter* as a point of reference when describing the narrative structure, editing and expressionistic use of lighting and colour used in a re-enactment from *Crimewatch* that she argues aims to depict the victim's feelings of "anticipation, tension, horror and suspense". See: Jermyn (2007b), 159–160.

[37] I here partially draw on Smit's analysis of the use of a 'CSI shot' in the context of what is actually a brief re-enactment within the autopsy scene in "Pilot" (S01E01). Smit proposes that this insert functions as an "intersubjective device" that dramatizes affective insights as being produced by the criminalists' collaborative analysis. According to Smit, it is in this case "a tactile moment of contact between teacher and student that initiates the plunge into the affective space of the body". In other words, she argues that the insert establishes an affective bond between Grissom and Gribbs: it simultaneously conveys Grissom's intellectual theory of the event and Gribbs' feelings of shock and unease with being too close to the dead body. This is in line with Smit's overall argument that *CSI* constructs scientific knowledge as generally being transferred between individuals through embodied engagements within the framework of teaching. See: Smit (2010), 122–123, 149.

[38] Stacey's analysis identifies affect as a issue central to the wider "genetic imaginary", precisely with reference to the way Brennan and others have positioned affect as rooted in molecular biology. See: Stacey (2010), 182–183.

rying at the loss of bio-aura when dealing with the issue of bodily plasticity. Interestingly, Stacey argues that the concept of bio-aura – as imagined in cloning narratives – connects the sense of "the body's singularity, nonrepeatability, uniqueness [and] integrity" to an idea about affect as a material marker of authenticity.[39] In other words, what is feared to be lost as medico-scientific discoveries allow us to reproduce bodies is not only the body's singularity, but also its ability to establish emotional connections to others (and to the object around us) in affective exchanges.[40] The ability to form inter-subjective affective engagements is thus thought to be an integral aspect of what it is to be human and have an 'authentic' body.

Stacey argues that the cloning films express a cultural worry about what will happen to the transmission of affect in "posthuman times".[41] Her reference to Katherine Hayles' assertion that we are currently experiencing a redefinition of human subjectivity through our increased interactions with technology points to the differences between Stacey's material and mine: the cloning films explicitly worry at genetically engineered bodies and this means that they might deal with this issue in slightly different ways.[42] Still, I would propose that *CSI* also implicitly engages with the idea that affect is a quality under threat within the wider discourse around molecular science: an ability that might be lost when biomedical interventions reconfigure our bodies. When understood within this particular discursive context, *CSI*'s re-enactment scenes authenticate the bodies of the subjects depicted – particularly those of the criminalists – by portraying them as able to establish inter-subjective affective engagements.

Affective identity loss: a comparison between *CSI* and profiling narratives

However, the notion of molecularly material affects is not simply 'celebrated' within *CSI*'s discourse on science, but rather worked over in contradictory ways. The redefinition of the traditional objectivity/subjectivity dialectic does not have a dominant presence in the series, but merely surfaces momentarily as part of its articulation of the emergent post-genomic structure of feeling. However, the fleeting nature of the programme's depiction of affectivity can also be read as implicitly motivated by a number of cultural anxieties tied to this concept within current discourses around science. I propose

[39] Stacey (2010), 182.
[40] Stacey (2010), 179, 182.
[41] Stacey (2010), 15, 182–283.
[42] See: Stacey (2010), 15 and N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics* (University of Chicago Press: Chicago, 2010).

that certain worries currently circulating around the concept of affectivity function as a structuring absence of the programme's discourse on science. Hence, the uneasy and transitory nature of this issue is as significant to examine as the instances when it is explicitly dramatized.

For example, many of *CSI*'s re-enactment scenes can be understood as covertly worrying at the notion of affective engagements as posing a threat to a traditional understanding of the stable and bounded individual body and self. In the wider contemporary discourse around molecular science, it is fairly common to understand the notion of affect as resulting in a transgressive redefinition of the traditional self-contained subject. If our bodies are continuously connecting with each other in material exchanges of affective emotions and experiences, is it difficult to still understand them as stable and bounded entities: where there used to be individual bodies, there is now a network of inter-subjective affective connections. Brennan's theory on transmissions of affect, for example, suggests that the discovery that affects have a molecular materiality fundamentally opposes the essentialist and determinist understanding of genes:

> In a time when the popularity of genetic explanations for social behaviour is increasing, the transmission of affect is a conceptual oddity. If transmission takes place and has effects on behaviour, it is not genes that determine social life, it is the socially induced affect that changes our biology.[43]

Brennan argues that the study of affects is important precisely because it questions "the sociobiological claim that the biological determines the social" and renders the biological subject dynamically malleable.[44] This is just one example of how, in the wider discourse on affects, the newly molecular framework of explanation not simply results in a redefinition of emotions as automatic, material and scientifically viable, but in addition, a more fundamental reconfiguration of our understanding of bodies and subjects. A number of theorisations of affect call on molecular biology precisely to rethink life itself as non-fixed and non-determined.[45] Clough has proposed that the newly molecular understanding of affect invites "an awareness of dynamism

[43] Brennan (2004), 1–2.
[44] Brennan (2004), 74.
[45] Constantina Papoulias and Felicity Callard have made clear that, in the contemporary scholarly turn to affect, affects are often through to redefine life as "self-organizing, extended networks, as processual and dynamic". This is interesting for my own discussion on *CSI*, as it points out that the notion of affects is also closely interconnected with scientific ideas about complexity and chaos, which also means that the issue of material affects conversely sits somewhat uneasily with *CSI*'s overall investment in the notion of stable and static identities and bodies. In short, the re-enactment scenes can also be understood as evoking the possibility of life itself being redefined as a complex network of biological interconnections between dynamic subjects and objects. See: Papoulias and Callard (2010), 33, 36, 47.

at scales of bodily matter below or beyond human perception" that point to drastically different ways "to conceive of bodies or life".[46]

Tellingly, Clough also points out that this redefinition of individual identity might engender a deep cultural anxiety.[47] Indeed, in the overall context of *CSI*'s discourse on science, the idea of the unbounded affective subject clashes with the series' dominant investment in essentialist genetics. As I have already outlined, the series' depiction of forensic science is still largely reliant on a traditional understanding of bodies and identities as ultimately inherent and static, which might result in a wilfully suppression of the more transgressive associations currently tied to the notion of affect. That *CSI*'s re-enactment scenes stage a consciously restrictive engagement with current ideas about affect becomes more apparent when examining the generic background of re-enactment scenes as a method of investigation depicted in crime dramas. The programme's depiction of re-enactments not only activates generic roots to real crime television; it also articulates linkages to the crime drama subgenre that I call the profiling narrative. In the 1990s, profiling films and television series frequently featured re-enactment scenes stylistically similar to those in *CSI*.[48] However, whereas *CSI* suppresses the idea that that emotional engagements might erase the boundaries of the embodied subject, the profiling narratives often use re-enactment scenes to explicitly discuss inter-subjective engagements as resulting in a loss of the individual 'self'. A more detailed consideration of this generic background can thus help show more clearly that *CSI* consciously curbs the more dynamic aspects of the notion of affect.

Profiling narratives generically centre on the work of a profiler: an expert investigator with the ability to interpret the crime scene and the victim's body as clues that reveal information about the killer's psychological profile (i.e. his or her personality, background, behavioural and demographic characteristics, and sometimes even physical traits).[49] The popularity of profiling narratives is also closely tied to the long running cultural fascination with the figure of the serial killer, which is typically the type of criminal that the profiler attempts to catch. The figure of the profiler started growing in popularity in the 1980s, with the work of John Douglas and Robert Ressler at the FBI Behavioural Science Unit being publicised and fictionalised through Thomas

[46] Clough (2010), 223.
[47] Clough (2010), 223.
[48] The profiling narrative is interconnected with the forensic crime drama category: both grew popular in the nineties and share a similarly focus on expert investigators. See: Steenberg (2008), 119–157 and James S. Herndon, "The Image of Profiling: Media Treatment and General Impressions" in *Criminal Profiling: International Theory, Research an Practice*, Richard N. Kocsis, ed. (Humana Press Inc.: Torowa, NJ, 2007), 311.
[49] The expert knowledge in profiling narratives is usually defined as either 'criminal profiling' or 'behavioural science' in the US contexts, or as 'forensic psychology' in Britain. The terms are generally used synonymously within popular culture.

Harris's best-selling crime novels *Red Dragon* (1981) and *The Silence of the Lambs* (1988).[50] In the wake of Harris's novels being adapted into two critically acclaimed films, the American hype around the profiler reached something of a fever pitch in the early nineties.[51] The UK had its own profiling craze around the same time, with intense media attention being paid to the practices of clinical psychologist Paul Britton and the subsequent premiere of *Cracker* (ITV, 1993–1996, 2006), a gritty crime drama depicting the work of a criminal psychiatrist. Criminal profiling has since had a significant presence both in feature films and on television.[52] In 1996, two profiling shows premiered on US television. The first, *Profiler* (NBC, 1996–2000), was aimed at mainstream audiences and centred on Dr Sam Waters (Ally Walker), a forensic psychologist and single mother working for FBI's Violent Crimes Task Force. The second, *Millennium* (Fox, 1996–1999), was a big budget production created by Chris Carter after he had achieved auteur status with the success of *X-Files*, and starred Lance Henriksen as ex-FBI agent Frank Black.[53]

The crime genre's wider inclinations towards questions about the accountability of law enforcement during the nineties generally meant that the figure of the profiler often was placed under scrutiny. Much screen time was typically allotted to the portrayal of the profiler's character flaws and personal problems. Fitz from *Cracker* is perhaps the most apparent example of this: while able to be charming and empathic, he often displays strong tendencies towards selfish, destructive and cruel behaviour, and also battles

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[50] See: Thomas Harris, *Red Dragon* (New York: Dell Publishing, 2000 [1981]) and Thomas Harris, *The Silence of the Lambs* (New York: St. Martin's Press: 1988).

[51] These adaptations are: *Manhunter* (Michael Mann, 1986) and *The Silence of the Lambs* (Jonathan Demme, 1991). For a more detailed account on the fictional presence of profiling see: Herndon (2007) and Robert Cettl, *Serial Killer Cinema: Analytical Filmography with an Introduction* (Jefferson and London: McFarland & Company, 2003), 25–31.

[52] A selection of profiling films are: *Se7en* (David Fincher, 1995), *Copy Cat* (Jon Amiel, 1995), *Kiss the Girls* (Gary Fleder, 1997), *The Bone Collector* (Phillip Noyce, 1999), *Eye of the Beholder (*Stephan Elliott, 1999), *The Cell* (Tarsem Singh, 2000), *Along Came the Spider* (Lee Tamahori, 2001), and *Hannibal* (Ridley Scott, 2001).

[53] The 2000s have however seen several successful profiler series, including *Criminal Minds* (CBS, 2005–) and *Wire in the Blood* (ITV, 2002–2008), but the profiler has largely left the brightest spotlight. While many crime dramas now include recurring characters with profiling skills, profiling is rarely the main spectacle. Furthermore, the method is now portrayed as more systematic and logical. This is in line with the wider critique that has been voiced against the method in both popular and professional discourses. See: Steenberg (2008), 32, 121, 127–128, 136; Jon Ronson, "Whodunnit?", *The Guardian*, Sunday 15 May, 2010, http://www. guardian.co.uk/uk/2010/may/15/ criminal-profiling-jon-ronson (accessed October 4, 2012); Malcom Gladwell, "Dangerous Minds: Criminal Profiling Made Easy", *The New Yorker*, November 12, 2007, http://www.newyorker.com/reporting/2007/11/12/071112fa_fact_gladwell (accessed October 4, 2012); and Brent Snook, Josef Eastwood, Paul Gendreau, Claire Goggin and Richard M. Cullen, "Taking Stock of Criminal Profiling: A Narrative Review and Meta-Analysis", *Criminal Justice and Behaviour*, 34, 2007, 437–453.

with a severe alcohol and gambling addiction.[54] In turn, *Profiler* and *Millennium* portrayed their main characters as struggling to keep up a functional family life; both Dr Waters and Frank Black have been forced to move homes and place family members in hiding, in order to protect them from vindictive serial killers. James S. Herndon has, when discussing profiling narratives, rightly pointed out that the portrayal of the profiler as an imperfect individual also functioned to align this figure with the dangerous killers s/he is hunting: both figures were usually depicted as "obsessed, driven and troubled."[55] This alignment between the profiler and the killer is one of the central generic elements of the profiling narrative: the profiler is depicted as having the unique ability to 'enter the mind of the killer'.[56]

In other words, the profiler is portrayed as alone in being able to understand, and even emphasise with, the killer's motives, thoughts, fantasies, wishes, plans and emotions. This process is typically depicted as a 'journey into the darkness' whereby the profiler's identity becomes deconstructed and the boundaries between the two are blurred. Many of the profiling narratives open with the profiler being forced out of secluded retirement, which functions as a warning of just how psychologically draining the work of a profiler is.[57] Crucially, the profiling narratives often use re-enactment scenes to depict the process whereby the profiler enters the killer's mind. The similarities and differences between the re-enactment scenes in profiling narratives and *CSI* become particularly apparent through a comparison of the cult classic profiling film *Manhunter* (Michael Mann, 1986) and the *CSI* episode "Butterflied" (S04E12).

Manhunter opens with a sequence filmed with a shaky hand-held camera, depicting the killer's point of view during a murder. He moves up a set of stairs and through a dark house, his flashlight illuminating kids toys scattered here and there. This sequence is mirrored in a later re-enactment scene, where the former FBI agent Will Graham retraces the steps of the killer. Again, point-of-view shots are used to depict Graham's progression through the equally dark house. Graham's embodied experience of moving through the crime scene is depicted as being deeply moving. After having witnessed the destruction and blood-spatter, he enters the bathroom in a visible shaken state and attempts to calm himself by taking two pills and drinking some water. Jason Landrum has pointed out that the use of mirrored point-of-view

[54] For a more detailed analysis of Fitz, see: Mark Duguid, *TV Classics: Cracker* (London: BFI, Palgrave Macmillan, 2009), 30–47.
[55] Herndon (2007), 319.
[56] Cettl (2003), 26–27.
[57] The profiling process is not only portrayed as having dangerous effects on the profilers psyche, but also causing emotional harm to the profiler's family and friends, potentially putting them in harm's way. Again, this portrayal of the profiling method as potentially problematic can be understood as part of the crime genre's typically self-critical stance against the crime-solving practices depicted during the nineties.

shots in *Manhunter* visually conflates the investigator and the killer, at times leaving the audience guessing whose eyes we are actually looking through, thus literally blurring the boundaries between their identities.[58]

This re-enactment scene in *Manhunter* sports many similarities to an early sequence in "Butterflied" (S04E12), where Grissom retraces a killer's movements in a suburban home. This process is similarly depicted in a series of point-of-view shots, but they are frequently intercut with shots of Grissom's concentrated face as he moves through the dark house with a flashlight. The sequence reaches something close to an emotional crescendo as Grissom enters the bathroom, which is fully lit and harbours the victim's body. The music score reaches a fever pitch, which suggests that Grissom is perhaps feeling more than he shows, but unlike Graham he still appears composed as he studies the dead woman's face.

Both *Manhunter* and "Butterflied" (S04E12) use these re-enactment scenes to suggest that an emotional engagement has been established between the profiler/criminalist and the killer. The subsequent plotline in "Butterflied" (S04E12) continuously compares Grissom's complicated romantic feelings for his colleague Sara with the relationship between the killer and the victim in this case. Grissom's affective affiliation with the killer is, however, only allowed to surface momentarily.[59] Unlike Graham, whose tendency to identify closely with the killer is displayed by recurring outbursts of strong emotions and is continuously discussed throughout the film, Grissom is depicted as largely able to keep his emotions at bay.

These examples make for a particularly evocative comparison, as it is the same actor, William Petersen, who plays both Graham and Grissom. The apparent differences in Petersen's portrayals of these characters are, I would argue, indicative of the different degrees to which these two texts openly dramatize the idea that affective engagements can result in a loss of 'self'. Petersen's expressive and dynamic performance as Graham is in line with the profiling narratives' generic depiction of identity as unstable, while his more restrained portrayal of Grissom carefully constructs a subject with an essentially stable identity. Both the profiling narratives and *CSI* can be understood as working over or worrying at the notion that emotional engagement can destabilise the boundaries between the self and others, but do so in different ways. The profiling narratives explicitly acknowledge and discuss

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[58] Jason Landrum, *The Crime Scene of the Mind: Prohibition, Enjoyment, and the Criminal Profiler in Film and Television* (PhD thesis, Oklahoma State University, May 2007), 79.

[59] In a final interrogation scene, Grissom articulates his uncomfortable feelings of recognition for the killer's motives and actions, while Sara is watching from an adjacent room. He tells the killer: "It's sad isn't it, Doc? A couple of middle aged guys like us, how we never really touch people unless we're wearing latex gloves. We wake up one morning and realize that for 50 years we haven't really lived at all... But then one day, someone young and beautiful offers to share their life with you, someone you can care about. We have to give up everything we worked for to have them, I couldn't do it..."

this possibility, while the dramatization of identity loss is a structuring absence in *CSI* that suggests that its discourse on science is governed by a strong cultural fear of this possibility.

Point-of-view shots depicting the serial killer entering a house in Manhunter.

Graham later retraces the killers' movements at the crime scene in Manhunter.

Grissom retracing a killer's movements at a crime scene in "Butterflied" (S04E12).

(1) Graham is visibly affected by the experience of entering the killer's mind in Manhunter, *while (2) Grissom remains more composed in "Butterflied" (S04E12).*

Another element that indicates that this issue actually is surrounded by an increased unease in *CSI* is the series' tendency to dramatize affective transfers as only possible within the limits of certain corporeal boundaries, which circumscribe the more dynamic redefinitions engendered by the notion of affect. Namely, *CSI* often evokes ideas of bodily and psychosocial 'types' in its re-enactment scenes, which become a way to ensure that a stable sense of identity is retained even when inter-subjective affective engagements are depicted. Many of the re-enactments are presented as experiments aiming to

establish whether a certain type of body is able to perform a certain task. This calls for a basic matching of bodily characteristics between the investigated subject and the criminalist. For example, in "Fannysmackin'" (S07E04) Sara is enrolled to hit and kick a dummy because she is closest in physical size to the teenagers beating people to death and in "Fight Night" (S03E07) it is Warrick who re-enacts a boxer fighting with illegally enforced gloves, because he would fit in the same weight class.

Such cases of physical matching are usually presented as a necessary step to assure scientific rigour and as a way of replicating the exact circumstances of the original event. *CSI*'s depiction of physical matching is, however, also rooted in the series investment in a corporeal determinism that ultimately naturalises the idea that bodies and identities are inherently stable.[60] The notion that certain types of bodies will inherently react in the same way is extended to not only include sense perception and physical reactions, but also emotions and thoughts. Furthermore, what constitutes a certain 'body type' is in *CSI* heavily dependent on a naturalisation of social categories such as gender, class and race. Genetically rooted corporeal traits and social categories are often conflated, which results in the suggestion that affective engagements only can be established between individuals of the same gender, class, race, or social background.

(1) Warrick embodies a suspect in "Fight Night" (S03E07) and the whole team stages a re-enactment in "Unfriendly Skies" (S01E09).

This tendency is particularly visible in the episode "Unfriendly Skies" (S01E09) where the whole team participates in a re-enactment of the events leading up to the death of a passenger on a commercial airplane. Confounded

[60] A genetic framework of explanation is sometimes called upon to validate this practice. For example in the episode "Let the Seller Beware" (S03E03), where Greg is subjected to an experiment because of his Norwegian heritage means that he has the same genetic disposition as the Scandinavian born suspect Peter Berglund to have an allergic reaction from exposure to mildew. Berglund is found with a rash on one foot, which Grissom suspect he has gotten from mildew growing at the crime scene. To prove that the rash is has indeed been induced by the mildew he infuses a sock with the plant and has Greg wear it, and when he does get a rash this is presented as proof that mildew indeed produces this type of rash in people of Scandinavian descent.

by the fact that most of the witnesses seem to be lying, the criminalists board the plane carrying their trusted dummies to work out what events match the physical evidence. The dummies are staged to represent the victim and the witnesses least likely to be suspects, while each criminalist is assigned with a likely suspect to impersonate. This matching process is based on similarities in both physicality and psychosocial personality: grumpy police officer Brass plays an "angry businessman"; single mom Catherine plays a single mom; the nerdy intellectual Grissom plays a "computer geek", and so on. The insights and reflections offered by each investigator throughout the re-enactment is depicted as based on their personal experience of belonging to the same bodily and psychosocial type as the person they are impersonating. The practice thus results in a naturalisation of bodily identities, which also provides limits for the affective engagements possible. In establishing such essentialist boundaries for affective engagements, *CSI*'s perspective on this issue stands in stark opposition with the understanding of inter-subjective affective flows as having the potential to precisely erase such socially constructed boundaries.

The parapsychological roots of affect: scientific criminalists vs. telepathic profilers

The tension that surrounds the notion of affect in *CSI* can also partly be explained by another set of associations tied to this concept; namely, its strong historic roots in the pseudo-scientific discourse of parapsychology.[61] The concept of affect has only fairly recently been incorporated within the more 'reputable' framework of molecular science. Many of the affective phenomena that are now being explained as having a molecular materiality were previously understood to be paranormal, and distinctly immaterial, occurrences. Again, this is a set of associations that are explicitly dramatized and discussed in the profiling narratives, but that *CSI* largely suppresses by portraying its re-enactments as strictly scientific experiments.

In addition to depicting re-enactments as resulting in a dangerous loss of identity, many of the profiling narratives also suggest that the insights produced by this practice could not be explained by sensory perception alone. Any potentially uncanny aspects of the profiler's ability to swiftly produce highly detailed insights about the killer are usually played up, particularly in the profiling television shows *Profiler* and *Millennium*. Not only do they convey the idea that the profiler must rely heavily on intuition (rather than on rational logic), these series also suggests that there might be a psychic

[61] See: Lisa Blackman, "Affect, Relationality and the 'Problem of Personality'", *Theory, Culture & Society*, Vol 25(1), 2008, 23–47 and Blackman (2010), 163–192.

component to the profiler's abilities.[62] Both Dr Sam Waters and Frank Black are fairly explicitly depicted as having abilities bordering on the supernatural. In the first episode of *Profiler*, aptly titled "Insight" (S01E01), Dr Sam Waters describes her method as "[thinking] in images" or "sort of picture it happening", while her closest colleague calls it her "hocus pocus thing". Similarly, in the first episode of *Millennium*, Frank Black has the following ambiguous exchange with a colleague:

> **Frank:** I see what the killer sees.
> **Bletcher:** What, like a psychic?
> **Frank:** No. I put myself in his head. I become the thing we fear the most.
> **Bletcher:** How?
> **Frank:** I become capability. I become the horror, what we know we can become only in our heart of darkness. It's my gift. It's my curse. That's why I retired.[63]

The mystical nature of the profiling 'gift' is also suggested by the series' frequent portrayal of the profilers being physically overcome by 'visions' when they visit crime scenes or study evidence. Both Dr Waters and Frank Black frequently stumble, close their eyes in agony, cry or become nauseous when experiencing these insights into the killer's mind. Furthermore, both series use highly stylised inserts to illustrate these insights. The expressionistic camera angles, play with colour and frequent special effects used in the inserts can indeed be understood as blurring the distinction between subjective flashbacks and fantastic visions.[64] Furthermore, these inserts are often so

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[62] Richard Dyer has pointed out that this is equally the case in specialist literature on profiling: John Douglas has for example conceded that he would not shy away from any potentially psychic components. See: Richard Dyer, "Kill and Kill Again" in *Action/Spectacle Cinema: A Sight and Sound Reader*, José Arroyo, ed. (London: BFI Publishing, 2000), 149, and John Douglas, *Mindhunter: Inside the FBI's Elite Serial Crime Unit* (New York, Scribner, 1995), 150–151.

[63] The exact nature of Black's "gift", as it is frequently referred to, was a matter of conflict amongst the series producers. On the one hand, the documentary short "Order in Chaos: The Making of Season One" (2004) on the *Millennium* DVD includes several people involved in the production who are adamant that they never intended to depict Black as a psychic. However, on the other hand, the new writer and producer team that took over from the second season allegedly intended to more explicitly cast Black's ability as supernatural. Either way, this was throughout a common assumption made by audiences and critics alike. See: Paula Vitaris, "TV's Best Kept Secret Improves In Its Sophomore Season", *Cinefantistique Magazine*, 30, 1998, 19.

[64] During the first season of *Profiler* the iconography of the inserts evoked crime scene photography, not only through the flash-cuts, but also by using colour effects that made the insert look like black-and-white or negative photographs. This factual connotation did however not endure the aesthetic shift in season 2 whereby the inserts became more expressionistic in nature. Now in vibrant colour, and using plenty of distortion and tilted angles, the inserts main function is to convey the twisted nature of the killers' emotions as experienced by Sam. Simi-

short that their exact content is hard for the viewer to fully register, which dramatizes the profiler's ability as an unconscious type of perception by evoking the concept of subliminal images.

Profiler and *Millennium's* tendency to evoke the cultural history of spiritualist practices when depicting re-enactment scenes articulates an interesting engagement with the parapsychological background of concepts now associated with material affects. Lisa Blackman has pointed out that the notion of affective transfers is currently discussed in ways that involve ideas about contagion, suggestibility, and subliminal/supraliminal consciousness; all ideas that share genealogical roots with ideas about telepathy, hypnosis and spirit transfer.[65] The current scientific and scholarly discourses around affect are, however, largely characterised by a conscious forgetfulness about this background."[66] As Papoulias and Callard have put it, the notion of affect is increasingly placed within a framework borrowed from mainstream neuroscience because it provides a "language of evidence and verification".[67]

This wider tendency to legitimise concepts of affect by placing them within a strictly scientific framework is mirrored by *CSI*'s suppression of any previous paranormal associations tied either to the concept of affect or the generic history of the re-enactment scenes. In the wake of the profiling narratives' depiction of re-enactments as intuitive and mystical, *CSI* is conversely careful to assert that the criminalists' re-enactments follow a strict rationalist tradition. The method is formally presented as an old-fashioned and highly conventional scientific practice.[68] Furthermore, by highlighting elements of repetitiveness, and portraying the criminalists as adopting a measured and serene demeanour, the re-enactment scenes are depicted as systematic, factual and decidedly 'down to earth'. However, *CSI*'s use of expressionistic flashbacks is still clearly reminiscent of the affective vision-line flash-cuts in *Profiler* and *Millennium*, both in terms of style and function. This might mean that the paranormal backdrop of the affective re-enactments still "remains as a ghostly presence", inadvertently surfacing through *CSI*'s visual language.[69]

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larly, the fantastic nature of the inserts used in *Millennium* make clear that Black has access to the killer's inner fantasies and emotions.

[65] Blackman (2010), 173–174, 180–183, 187 and also Blackman (2008), 23–47.

[66] Blackman (2010), 167–168, 186–187.

[67] Papoulias and Callard argue that a number of influential cultural theories on affect borrow from neuroscientific research to cast their arguments in a "language of evidence and verification" that legitimate and authorise their claims. See: Papoulias and Callard (2010), 36–37.

[68] For example, in an early re-enactment scene where Grissom and Nick throw dummies of a casino roof in the episode "Cool Change" (S01E02) the dialogue presents re-enactments as scientific experiments with roots in Enlightenment-era positivist science.

[69] In other words, *CSI*'s discourse on science can be understood as comparable to the wider discourses around affect. As Blackman has argued, the parapsychological background of affect "remains as a ghostly presence" within the wider scholarly discourse around affect. See: Blackman (2010), 186–187.

Expressionistic inserts depicting how the profilers enter the minds of the killers in (1) the Profiler episode "Insight" (S01E01) and (2) the Millennium episode "Covenant" (S01E16).

(1) A systematic re-enactment performed in the scientific laboratory is (2) interjected with ghostly depictions of a murder in the CSI episode "Compulsion" (S05E17).

To conclude, the programme thus functions as a cultural forum voicing multiple different issues and perspectives tied to the post-genomic redefinition of the objectivity/subjectivity dialectic.[70] *On the one hand*, it reconfigures the generic dialectic between objectivity and subjectivity by depicting forensic science as an embodied practice and engaging with contemporary ideas about affect that materialise emotions and empathic engagements. *CSI* thus provides traditionally subjective insights with a molecular framework that renders them scientifically viable forms of knowledge. Furthermore, this can be understood as implicitly calling on contemporary understandings of affectivity as a marker of humanity and authenticity at a moment when medico-scientific discoveries are thought to render bodies increasingly artefactual and non-human. *On the other hand*, the programme's depiction of re-enactment scenes is also influenced by a number of cultural anxieties circulating around the idea of material affects, which function as a kind of structuring absence only surfacing implicitly through generic linkages to the nineties profiling narratives. Firstly, there is a worry that the materiality of affective engagements will potentially erase the body's stable boundaries and result in a loss of identity. Secondly, there is an unease felt for the historic roots that different concepts of affect have in the less reputable discourses of

[70] Newcomb and Hirsch (1983).

the paranormal. Both these sets of associations are largely repressed within *CSI*'s discourse on science, as they stand in opposition with the series dominant depiction of forensic science as a highly reliable scientific practice invested in essentialist genetics. However, they still surface momentarily, as part of the series' articulation of the post-genomic structure of feeling.

Concluding Remarks: The Multiplicity of *CSI*'s Discourse on Science

In this thesis I have adopted a textual-historical approach, examining how the first 10 seasons of the forensic crime drama *CSI* engage with discourses on science. In short, I have performed close readings of how certain thematic tropes, narrative devices and visual imagery are used by the series to articulate, evoke, dramatize and discuss a number of different – and often contradictory – scientific ideas, perspectives and discursive shifts.[1] In order to account for the specificity of the series' discourse on science, considering its cultural contexts and genre linkages as well as its audio-visual form, I have also executed comparative analyses of earlier forensic crime dramas and other relevant audio-visual material. By studying *CSI*'s discourse on science in such an exhaustive manner, I have explicitly attempted to look beyond the generic assumption that it simply celebrates science.

When I first started watching the programme, I was intrigued by how its obvious attempts to instil trust in the scientific tools and practices of the criminalists clashed with its regular depiction of crimes where scientific discoveries had been utilised for dubious deeds. This tension is explicitly vocalised in a dialogue between head criminalist Grissom and medical examiner Dr Robbins during the episode "Hunger Artist" (S02E23). They are just about to start an autopsy of a dead woman who has been found with a face gravely disfigured face and high levels of the neurotoxin botulinum in her blood. Dr Robbins is presenting a theory about these initial findings:

> **Dr Robbins**: Educated guess: Beautification. She was injected with pig botulism. Botox: the ultimate wrinkle cream.
> **Grissom**: How did it get into her bloodstream?
> **Dr Robbins**: Bad doctor. Missed the muscle. Shot directly into her supratrochlear vein.
> **Grissom**: Amazing, the advances we make in science and the primitive uses we find for them.

[1] These include tropes, devices and imagery such as: visual knowledge, physical evidence, disguise, self-transformations, familial relationships, sexual behaviours, scientific experiments and empathy, temporal jumps, expressionistic inserts and re-enactment scenes, and scientific iconography, microscopic imagery, deep focus effects, makeover iconography, imagery of the human reproduction process, the iconography of family trees, family photos, blood, sexual imagery, fetish objects, and the figure of the bodies acting in affect.

A microscopic 'CSI shot' accompanies the dialogue, showing a needle being inserted into the woman's forehead and botox being injected directly into her bloodstream. This flashback of a failed medical intervention seemingly replaces the actual depiction of the autopsy procedure, which similarly would have included acts of penetrating the woman's skin with medico-scientific tools. While this implies that the woman's plastic surgeon and the criminalists actually instrumentalise similar medico-scientific advances, the scene clearly differentiates between these practices, asserting that there are good and bad doctors. However, what began as an interest in scenes such as this, depicting the criminalist as needed to weed out unskilled and unethical scientific practitioners, has in the end resulted in an analysis that reveals the series' discourse on science to be even more multifaceted and ambiguous. In addition to simply juxtaposing primitive and innovative uses of science, *CSI* articulates oppositional scientific ideas and poses important questions of how shifting scientific discourses change the way we understand the world.

In wanting to understand the series' contradictory treatment of science, I have turned to Newcomb and Hirsch's classic writings on the television medium. Their conception of television as a cultural forum is founded in the conviction that programmes perform an important function by precisely not expressing one monolithic meaning:

> [Television] presents a multiplicity of meanings rather than a monolithic dominant point of view. It often focuses on our most prevalent concerns, our deepest dilemmas. Our most traditional views, those that are repressive and reactionary, as well as those that are subversive and emancipatory, are upheld, examined, maintained and transformed. The emphasis is on process rather than product, on discussion rather than indoctrination, on contradiction and confusion rather than coherence.[2]

While the cultural roles of the medium have changed significantly since this theory was first presented, with different technologies, production and distribution practices impacting the relationship between the programmes and the audiences, I have in this thesis built on the work of Amanda Lotz and asserted that certain programmes of the post-network era still retain the social importance of cultural forums on our most prevalent concerns and dilemmas.[3]

CSI operates as a cultural forum on science at a moment when the discourse around biomedical science is in the process of going through a significant shift. The series articulates different perspectives on four issues central to this current shift: the complexity of molecular life; the plasticity of bodily identity; the artefactuality of kinship; and finally, the redefinition of the objectivity/subjectivity dialectic. These issues are all concerned with the wider

[2] Newcomb and Hirsch (1983), 48.
[3] See: Lotz (2004), 38, 426–429.

cultural implications of recent developments in molecular science, genetics and biotechnology, which are treated as both problems and solutions that are "worked over and worried at" in an open-ended discussion.[4] In the case of kinship issues, this entails the use of a narrative device consciously constructing the series as what television producer Ann Donahue has called "a First Amendment show": the characters are made to voice oppositional opinions on controversial subject matters, allowing audiences with different affiliations to all find points of identification or agreement.[5] However, the general multiplicity of meanings in *CSI*'s discourse on science is also engendered by the inherent tendency of cultural texts to express the dynamic interplay between what Raymond Williams has titled dominant, residual and emergent experiences.[6]

In other words, the series' discourse on science is contradictory because it articulates ideas and viewpoints associated with several different scientific discourses, both of the present moment and with older historical roots. Specifically, *CSI*'s cultural forum results from intricate interactions between: *firstly*, a residual presence of ideas central to the traditional framework of biology, such as the knowledge/power structure of the medical gaze, the ideal of transparency and the Darwinist understanding of genealogy; *secondly*, a dominant investment in essentialist and determinist genetics, which constructs life as firmly determined by the information or code hiding inside our genes; and *thirdly*, an emergent shift whereby molecular science is becoming increasingly instrumentalised and seemingly offers more advanced possibilities for human intervention into biological processes.[7]

On the one hand, *CSI*'s discourse on science is characterised by a general investment in the more traditional frameworks of traditional biology and essentialist genetics. The series' visual language and depiction of scientific imaging technologies depicts forensic science as a visual practice, which dramatizes the ideal of transparency by suggesting that criminalists' solve crimes by rendering the invisible visible. Its spectacular use of microscopic imagery when depicting physical evidence specifically locates 'the truth' as hiding at the molecular level. This dramatization of the molecularization of science works in tandem with the series' narrative investment in DNA evidence and its frequent inclusion of plotlines that presents biological entities, bodies and processes as essentially bounded and determinate, which together constructs genes as blueprints of inherent identities and certain information about the past, present and future. Similarly, the programme's symbolic use of blood and family trees, its many plotlines depicting biological kinship

[4] In arguing this I build on: Brunsdon (1998), Wheatley (2005) and Wheatley (2006).
[5] Donahue quoted in: Thompson (1996), 171.
[6] Williams (1977), 121–127.
[7] See: Foucault (2002 [1970]); Foucault, (2008 [1963]); Canguilhem (2000 [1966]); Franklin (2000), 192–194, 215–222; and Rose (2007), 15–27.

relationships as significant and the narrative importance placed on DNA as proof of kinship, together construct genetic kinship bonds as substantial and traceable across vast spaces of time. Furthermore, *CSI*'s depiction of the criminalists as attempting to adopt an objective scientific approach means that it treats the knowledge base of subjective experiences with suspicion, but the series' re-enactment scenes also engage with the idea that sensations, feelings and emotions could function as reliable sources of scientific information if understood as having a molecular materiality. In addition to expressing such traditional ideas, *CSI* also dramatizes notions about gendered bodies, familial codes of conducts and psychosocial 'types' in ways that reaffirm a conventional understanding of normative concepts, roles and bodies as 'natural': i.e. as material, biological and genetic in kind.

On the other hand, the programme's scientific discourse engages with recent scientific discoveries and biomedical instrumentalisations that seemingly question some of these older assumptions. The programme's reconfiguration of the microscopic aesthetic, its use of fragmenting narrative devices and its many plotlines that depict crimes as non-linear suggest that science has not only become increasingly perceptive, but now reveals the molecular world to be more complex and indeterminate than previously thought. *CSI* frequently features self-transformation narratives where characters use recent medico-scientific discoveries to change their bodies and many of its plotlines depict human interventions into different types of biological processes, which results in a general construction of bodies and identities as having become plastic and kinship relationships as having becoming artefactual within the current scientific discourse. Finally, the series' visual language, soundtrack and depiction of the scientific labour of the criminalists also present forensic science as a multi-sensory embodied practice, and the possibility that the new molecular understanding of emotions have resulted in a fundamentally different understanding of inter-subjective engagements becomes a structuring absence for the series' depiction of the re-enactment scenes.

In discussing these possibilities, *CSI* articulates a post-genomic structure of feeling that is beginning to express the wider cultural implications of the latest discursive shift on science, specifically suggesting that it results in a redefinition of foundational concepts such as truth, identity, body, kinship and emotions.[8] Specifically, it is the materiality and corporeality of different entities and concepts that are in the process of being reconfigured: physical evidence is turned complexly molecular, which alters the 'truth' it is presumed to harbour; bodies are tuned malleable, which changes their status as unique and essential; kinship bonds are redefined as artefactual, which questions their assumed substance; and emotions are given a molecular materiality, which ultimately changes the bounded and individual corporeality of

[8] See: Williams (1961), 64–65; Williams (1977), 126–127; Franklin (2000), 188–191; and Rose (2007), 9–40.

individual bodies, turning them into interconnected affective networks. Such processes of redefinition all hold the potential for a greater sense of complexity, uncertainty or malleability, creating an emergent experience that moves beyond the frameworks of traditional biology and essentialist genetics. No matter if its plotlines present this new experience as problematic and its narrative structure dramatizes the world as ultimately explicable and controllable by science, *CSI*'s cultural forum on science still inaugurates a redefinition that constructs the world as more indeterminate than before.

Furthermore, as a cultural forum on science, the programme also stages bioethical debates about the type of practices that new scientific developments enable and the power that they place in the hands of medico-scientific practitioners. Plotlines about unskilled criminal doctors that damage the bodies of their subjects, or about medico-scientific self-transformations that deceive other people, are used to discuss the bioethical implications of the possibility that science subjects individuals to new experimental forms of invasive medicine and control. In asking who should have the right to practice science and what scientific practices are ethically sound, *CSI* engages with wider cultural anxieties that new scientific developments will place whole populations under the control of a molecular biopower.[9] The series' discourse on science is influenced by the fact that the fields of genetics and biotechnology currently are suffering something of a "legitimation crisis" and that a range of different agents are voicing concerns about the possibility of new eugenics and other forms of state-sanctioned biopower.[10] However, rather than undermining the trust placed in forensic science (as precisely a medico-scientific institution of surveillance and policing), *CSI*'s bioethical debates conversely function as a legitimation device for the series' discourse on science. They deflect the cultural anxieties about biopower away from the criminalists and onto the figure of the criminal doctor, rendering the power structures and troping exercises of the series partially invisible.[11]

The general ambivalence of *CSI*'s discourse on science is not simply a result of the wider cultural contexts that the series engages with; it is also created by the multitude of genre linkages that the series' visual language, narrative structure and plotlines activate. My analysis thus identifies the programme as part of a generic cluster of television series all depicting the work of criminalists, which can all be tied to the genre category now called the forensic crime drama. Comparative analysis of programmes such as *Craig Kennedy: Criminologist*, *Silent Evidence*, *Thorndyke*, *Quincy M.E*, *The Expert*, *McCallum* and *Silent Witness* shows that *CSI* circulates meanings that, on the one hand, are engendered by generic traditions that are continued or

[9] See: Rose (2007), 3–4.
[10] See: Salter and Jones (2002); Salter and Jones (2005); McWorther (2009); and Rabinow and Rose (2006).
[11] See: Rose (2007), 30 and Haraway (1997), 134–136.

even intensified. For example, the depiction of forensic science as a visual practice, the spectacular display of scientific imaging technologies, the use of the motif of disguise to discuss issues about identity, the normative investment in the ideal of the nuclear family and the dramatization of the objectivity/subjectivity dialectic are all generic elements already established in earlier forensic crime dramas. On the other hand, *CSI* also reconfigures and rejects the use of generic elements in ways that change the meanings they are associated with. Such points of departure in relation to earlier forensic crime dramas include a reconfiguration of scientific imagery that creates a new wholehearted investment in molecular science and an increased sense of complexity, a new use of the motif of disguise to specifically depict self-transformation narratives, a increased focus on topics about non-normative familial structures and non-reproductive sexual practices, and a reconfiguration of the objectivity/subjectivity dialectic that results in depictions of a new affective approach. Understanding *CSI*'s discourse on science as part of such a wider genre history has been crucial for establishing its specificity.

However, the series is not only a site of association, discontinuation and re-articulation of generic meanings tied to the forensic crime drama category, but also of generic elements associated with other types of media texts. It has been necessary to adopt an extended understanding of the genre concept to fully understand how aspects of genre play into the programme's discourse on science. Comparisons between *CSI*'s depiction of self-transformation narratives and makeover reality television have produced a more detailed understanding of how the series' visual language constructs bodily identity as an essential concept. A juxtaposition of *CSI* and *X-Files* has provided important insights on the role that the figure of the criminal doctor plays in the series' discourse on science. Discussions of such diverse generic linkages as Lennart Nilsson science documentaries, 'quirky' television dramas from the 1990s and series depicting 'work families', provides important insights on how *CSI* deals with the concept of kinship. Finally, analyses of earlier uses of re-enactment scenes in real crime television shows and profiling narratives from the nineties have provided more in-depth understandings of the cultural tensions that implicitly structure this series' specific depiction of re-enactments as scientific experiments. *CSI* is thus an example of the "multiplicity of genres" that according to Jason Mittell are characteristic of contemporary television material, and the series' extended genre linkages produces a more multifaceted understanding of the meanings circulating within its discourse on science.[12]

Similarly, it is also the case that certain aspects of television production in the contemporary moment have significant impacts on the series' style, and in extension, on the meanings it articulates. Namely, the programme's depiction of forensic science and physical evidence is influenced by its utilisation

[12] See: Mittell (2004), xiii.

of a cinematic form of televisuality.[13] In other words, *CSI* adheres to the notion that a continuous reinvention of its style will attract audience attention in the competitive television landscape of the post-network era. This produces a highly stylised and ever-innovative visual portrayal of scientific imaging technologies, digitally produced scientific imagery and a general aesthetic of magnification, all of which in addition to offering an spectacular viewing experience also have ramifications for *CSI*'s discourse on science. Not only does this construct forensic science as innovatively using the latest scientific discoveries, but it also results in imagery offering a heightened experience of depth and movement, creating an increased sense of complexity. The basic incentive of televisuality – to produce a series that stands out from its peers as a stylistically innovative – has thus both helped attract a wide and heterogeneous audience and produce a more multifaceted discourse on science specific to *CSI*.

Ultimately, it is the multitude of ambivalent meanings, perspectives and experiences that characterise the specificity of the programme's discourse on science. This becomes apparent when comparing it to other historic and contemporary television texts, particularly those tied to the crime drama category. Whereas Charlotte Brunsdon argued that a number of crime dramas worried at particular structures of anxieties of British society in the nineties, I argue that *CSI* functions as a transnational cultural forum on science, which not only articulates the emergent post-genomic structure of feeling, but engages with a number of different discursive shifts around science.[14] It is likely that the ambiguities and oppositions characteristic of the series' discourse on science are the very thing that allows the series to have such a wide audience appeal. By voicing a wide range of issues, perspectives and opinions, *CSI* provides points of interest and identification for its large, heterogeneous and global audience.

[13] See: Caldwell (1995).
[14] Brunsdon (1998).

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100% English (Channel 4, 2006)
African American Lives (PBS, 2006–2008)
All my Children (ABC, 1990–2002)
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Ancestors in the Attic (History Television, 2006–2008)
Angel (The WB, 1999–2004)
Between the Lines (BBC, 1992–1994)
Bliss (ITV, 1995,1997)
Body Farm (BBC, 2011–)
Bones (Fox, 2005–)
Brand New You (Channel 5/BBC America, 2005)
Cold Case (CBS, 2003–2010)
Cracker (ITV, 1993–1996, 2006)
Craig Kennedy: Criminologist (Weiss Productions, 1952)
- "Indian Giver" (S01E10)
- "The False Claimant" (S01E04)
- "The Lonely Hearts Club" (S01E13)

Criminal Minds (CBS, 2005–)
Crimewatch (BBC, 1984–)
Crossing Jordan (NBC, 2001–2007)
CSI: Crime Scene Investigation (CBS, 2000–)
- "4x4" (S05E19)
- "A la Cart" (S08E02)
- "A Little Murder" (S03E04)
- "A Space Oddity" (S09E20)

- “And Then There Were None” (S02E09)
- “Bang-Bang” (S06E23)
- “Better of Dead” (S10E10)
- “Big Middle” (S05E16)
- “Bite Me” (S06E03)
- “Blood Drops” (S01E07)
- “Bloodlines” (S04E23)
- “Built to Kill, Part 1” (S07E01)
- “Built to Kill, Part 2” (S07E02)
- “Bully for you” (S02E04)
- “Butterflied” (S04E12)
- “Ch-Ch-Changes” (S05E08)
- “Chaos Theory” (S02E02)
- “Coming of Rage” (S04E10)
- “Committed” (S05E21)
- “Compulsion” (S05E17)
- “Cool Change” (S01E02)
- “Crate ‘n Burial” (S01E03)
- “Crow’s Feet” (S05E04)
- “Daddy’s Little Girl” (S06E12)
- “Dead Doll” (S08E01)
- “Dead Ringer” (S04E20)
- “Death and The Maiden” (S10E06)
- “Deep Fried and Minty Fresh” (S09E13)
- “Doctor Who” (S10E22)
- “Eleven Angry Jurors” (S04E11)
- “Ellie” (S02E10)
- “Ending Happy” (S07E21)
- “Family Affairs” (S10E01)
- “Fannysmackin’” (S07E04)
- “Feeling the Heat” (S04E04)
- “Fight Night” (S03E07)
- “For Gedda” (S08E17)
- “Friends and Lovers” (S01E05)
- “Fur and Loathing” (S04E05)
- “Genetic Disorder” (S12E10)
- “Gentle, Gentle” (S01E19)
- “Happenstance” (S07E08)
- “Harvest” (S05E03)
- “Hog Heaven” (S09E23)
- “I Like to Watch” (S06E17)
- “Iced” (S05E23)
- “Identity Crisis” (S02E13)
- “Irradiator” (S10E17)
- “Justice is Served” (S01E21)
- “Kill Me If You Can” (S09E15)
- “King Baby” (S05E15)
- “Lab Rats” (S07E20)
- “Lady Heather’s Box” (S03E15)
- “Leave Out All the Rest (S09E05)
- “Leaving Las Vegas” (S07E11)
- “Let it Bleed” (S09E04)

- “Let the Seller Beware” (S03E03)
- “Living Doll” (S07E24)
- “Living Legend” (S07E09)
- “Loco Motives” (S07E10)
- “Lucky Strike” (S10E08)
- “Mascara” (S09E18)
- “Meat Jekyll” (S10E23)
- “Meet Market” (S07E14)
- “Monsters in the Box” (S07E16)
- “Organ Grinder” (S02E11)
- “Pilot” (S01E01)
- “Pirates of the Third Reich” (S06E15)
- “Pledging Mr Johnson” (S01E04)
- “Pool Shark” (S11E02)
- “Post Mortem” (S07E07)
- “Random Acts of Violence” (S03E13)
- “Rashomama” (S06E21)
- “Revenge is Best Served Cold” (S03E01)
- “Say Uncle” (S09E06)
- “Secrets and Flies” (S06E06)
- “Sin City Blue”(S10E11)
- “Slaves of Las Vegas” (S02E08)
- “Spark of Life” (S05E18)
- “Still Life” (S06E10)
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- “Who Shot Sherlock?” (S05E11)
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CSI: Miami (CBS, 2002–)
- “Golden Parachute” (S01E01)

CSI: NY (CBS, 2004–)
Dangerfield (BBC, 1995–1999)
DaVinci Inquest (CBC, 1998–2005)
Detective (BBC, 1964)

- “Dr Thorndyke: The Case of Oscar Brodski” (06/06/1964)

*Diagnosis Murder (*ABC, 1993–2001)
- “Blood Ties” (S06E21)

Diagnosis: Unknown (CBS, 1960)
Dr 90210 (E!, 2004–2008)
Dragnet (NBC, 1951–1959, 1967–1979)
Extreme Makeover (ABC, 2002–2007)
Faces of America (PBS, 2010)
Father Knows Best (CBS, 1954–1960)
Finding Your Roots With Henry Louis Gates, Jr. (PBS, 2012)
Forensic Heroes (TVB Jade, 2006–2011)
Fringe (Fox, 2008–)
Gunsmoke (CBS, 1955–1975)
House M.D. (Fox, 2004–)
Identity (ITV, 2010)
- “Reparation” (S01E04)

In Living Color (Fox, 1990–1994)
Inspector Morse (ITV, 1987–2000)
Kasouken no Onna (*Women of the Crime Lab*, TV Asahi, 1999–2002)
Law & Order: Criminal Intent (NBC/USA Network 2001–)
Life’s Greatest Miracle (Nova/PBS, 2001)
Lost (ABC, 2004–2010)
Maury (NBC, 1991–)
McCallum (ITV, 1995–1998)
- “The Key to My Heart” (S01E01)
- “Sacrifice” (S01E01)

Millennium (Fox, 1996–1999)
- “Covenant” (S01E16)
- “Order in Chaos: The Making of Season One” (DVD extra)

Navy NCIS: Naval Criminal Investigative Service (CBS, 2003–)
Northern Exposure (CBS, 1990–1995)
Numb3rs (CBS, 2005–2010)
- “Harvest” (S02E14)

Picket Fences (CBS, 1992–1996)
- “Frank the Potato” (S01E05)
- “My Left Shoe” (S02E20)
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Plastic Surgery: Before and After (Discovery Channel, 2002–2006)
Prime Suspect (ITV, 1991–1996)
Profiler (NBC, 1996–2000)
- “Insight” (S01E01)

Queer Eye for the Straight Guy (Bravo, 2003–2007)
Quincy M.E (Glen A. Larson Productions, 1976–1983)
- “Go Fight City Hall” (S01E01)
- “Hit and Run at Danny’s” (S02E06)
- “The Thigh Bone’s Connected to the Knee Bone…” (S02E03)

R.I.S - Delitti imperfetti (Canale 5, 2005–)
R.I.S Científica (Telecinco, 2007)
R.I.S Die Sprache der Toten (Sat. 1, 2007–2008)
R.I.S Police scientifique (TF1, 2006–)
R.I.S Roma - Delitti imperfetti (Canale 5, 2010–)

Ricki Lake (Syndication, 1993–2004)
Searching For… (OWN, 2011)
Sherlock (BBC, 2010–)
- “The Hounds of Baskerville” (S02E02)
Shin Kasouken no Onna (*New Women of the Crime Lab*, TV Asahi, 2004–)
Shin-ui Quiz (*God’s Quiz*, OCN, 2010)
Silent Evidence (BBC, 1962)
Silent Witness (BBC, 1996–)
- “Buried Lies” (S01E01)
- “Divided Loyalties” (S03E05)
- “Long Days, Short Nights” (S01E03)
Six Feet Under (HBO, 2001–2005)
Special Squad (STAR One, 2005–2006)
The Arsenio Hall Show (Syndication, 1989–1994)
The Biggest Loser (NBC, 2004–)
The Expert (BBC, 1968–1976)
- “And so Say All of Us” (27/09/1968)
- “Flesh and Blood” (19/09/1969)
- “Prejudice” (15/10/1976)
- “Second Appeal” (27/09/1976)
- “The Unknown Factor” (05/07/1968)
- “Whose Child? Part 1: The Wife” (31/01/1971)
- “Whose Child? Part 2: The Husband” (07/02/1971)
The Fantastic Voyage: *Fantastic Voyage* (ABC, 1968–1970)
The Generations Project (BYU Television, 2010)
The Human Body (BBC, 1998)
The Mind/The Brain (PBS, 1992)
The Miracle of Life (Nova/PBS, 1983)
The Miracle of Love (SVT/PBS, 2000)
The Simpsons (Fox, 1989–)
The Sopranos (HBO, 1999–2007)
The Swan (Fox, 2004)
The Today Show (NBS, 1952–)
Thorndyke (BBC, 1964)
Trisha Goddard Show (ITV, 1998–2010)
Twin Peaks (ABC, 1990–1991)
Upstairs Downstairs (ITV, 1971–1975)
Waking the Dead (BBC, 2000–2011)
Watching the Dead (John Moulson, BBC, 2009)
Who Do You Think You Are? (BBC, 2004–)
Who Do You Think You Are? (NBC, 2010–2012)
Wire in the Blood (ITV, 2002–2008)
Witness to a Prosecution (TVB Jade, 1999–2003)
Wojeck (CBC, 1966–1968)
X-Files (Fox, 1993–2002)
- “A Post-modern Prometheus” (S05E06)
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Films

A Clockwork Orange (Stanley Kubrick, 1971)
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Alien Resurrection (Jean-Pierre Jeunet, 1997)
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Bone Collector, The (Phillip Noyce, 1999)
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Copy Cat (Jon Amiel, 1995)
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Departed, The (Martin Scorsese, 2006)
Donnie Brasco (Mike Newell, 1997)
*Eye of the Beholder (*Stephan Elliott, 1999)
Fantastic Voyage, The (Richard Fleischer, 1966)
Fight Club (David Fincher, 1999)
Gattaca (Andrew Niccol, 1997)
Hannibal (Ridley Scott, 2001)
Jurassic Park (Steven Spielberg, 1993)
Kiss the Girls (Gary Fleder, 1997)
Manhunter (Michael Mann, 1986)
Mr and Mrs Smith (Doug Liman, 2005)
My Fair Lady (George Cukor, 1964)
Se7en (David Fincher, 1995)
Silence of the Lambs, The (Jonathan Demme, 1991)
Some Like it Hot (Billy Wilder, 1959)
Strangers on a Train (Alfred Hitchcock, 1951)
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