WORLD INTO CALCULUS: THE REDUCTION OF REALITY IN THE ENGLISH DETECTIVE NOVEL OF THE 19TH CENTURY

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ABSTRACT

The idea of subjecting the whole material world to calculation as hatched in the work of Descartes and Bacon became the dominant scientific dogma in the 19th century. It was extended to the working of the mind by the logician George Boole and the inventor Charles Babbage. At the same time there arises a new literary genre: the detective novel. The prerequisite for its success is the absolutely deterministic construction of the world which permits the total reduction of every effect to its causes. The detective novel thus mirrors the efforts to completely control the world through calculus.

KEY WORDS: Science, calculus, detective novel.

RESUMEN

La idea de someter todo el mundo material al cálculo tal y como fue desarrollada en las obras de Descartes y Bacon se convirtió en el principio científico dominante durante el siglo XIX. El matemático George Boole y el inventor Charles Babbage extendieron dicho principio al funcionamiento de la mente. Al mismo tiempo empezaba a surgir un nuevo género literario: la novela de detectives. La condición de su éxito fue una construcción totalmente determinista del mundo que permitía la completa reducción de todo efecto a su causa. Por consiguiente la novela de detectives refleja las aspiraciones de dominar el mundo en su totalidad mediante el cálculo.

PALABRAS CLAVE: ciencia, cálculo, novela de detectives.

Arguably, the most important heritage of the Victorian novel is the literary detective —not only the famous figures of Dupin and Holmes, but also a great number of lesser known ones which appear in many novels of the time.[1] Although a preoccupation with crime can be traced back to 17th and 18th century broadsheets and the emergence of the Newgate novel in the early 19th century, the figure of the private detective is an invention of the Victorian age. The detection of crime and the conviction of the criminal had hitherto been quite unsystematic and had

often been ascribed to providence, but now it is based on scientific evidence and logical reasoning. It is with the first appearance of Edgar Allan Poe's detective Auguste Dupin in "The Murders in the Rue Morgue" (1841) that a whole new genre with distinctive features comes into being.

In this essay I want to trace the elements that gave such a powerful appeal to the figure of the detective —an appeal which he or she still holds for many readers today.[2] My claim is that the detective embodies better than any other figure the central believes of an age which Carlyle famously called a "mechanical" one (34). Mechanical, indeed, not only as regards the invention and employment of all kinds of machinery, but even more so in the way the world is interpreted: not only nature, but also society and the individual are seen as obeying unalterable laws which may be detected by science. It may appear surprising that not the scientist, but the figure of the detective has been able to capture the imagination as the embodiment of the scientific mind. Scientists, if figuring at all, are until today often portrayed as mad or evil —the detective, on the other hand, may be strange and a social misfit, but he is definitely on the side of good. What aligns him with the scientist is his method, what differentiates him is the end to which these methods are used, namely the fight against crime. The method, therefore, is not specific to the detective, but has a long history which is connected with a particular view of the world. I shall therefore sketch briefly the outline of the development of this method and its implications.

The most important problem of philosophy from Descartes onwards had been an epistemological one, namely how to account for the interaction of the material world and the mind of man, i.e. how man could gain knowledge of things outside his own mind. Descartes had separated mind (*res cogitans*) from matter (*res extensa*). He considered man's mind to partake of the divine, whereas he thought of the body as a mere machine. This had the unfortunate consequence that it was difficult to account for their evident coexistence and seeming cooperation. Descartes solved this problem by postulating that God looked after this side of the matter. Later philosophers were not quite satisfied with this solution and tended to think either that matter was somehow dependent upon mind (most radically Bishop Berkeley) or that the concept of mind was an hypothesis one could very well do without (most radically Julien Offroy de La Mettrie). Descartes, however, believed that mathematics provided an infallible model to arrive at sound conclusions about the world (45-46). He formulated some simple rules which he believed would invariably lead him to discover the truth:

> Le premier était de ne recevoir jamais aucune chose pour vraie que je ne la connusse évidemment être telle: c'est à dire d'éviter soigneusement la précipitation et la

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[1] Cf. Ronald R. Thomas (169-191).

[2] Since most of the Victorian detectives were male, I shall mainly use the masculine pronoun.

> prévention, et de ne comprendre rien de plus en mes jugements que ce qui se présenterait si clairement et si distinctement à mon esprit que je n'eusse aucune occasion de le mettre en doute.
> Le second, de diviser chacune des difficultés que j'examinerais en autant de parcelles qu'il se pourrait, et qu'il serait requis pour les mieux résoudre.
> Le troisième, de conduire par ordre mes pensées, en commençant par les objets les plus simples et les plus aisés à connaître, pour monter peu à peu comme par degrés jusques à la connaissance des plus composés: et supposant même de l'ordre entre ceux qui ne se précèdent point naturellement les uns les autres.
> Et le dernier, de faire partout des dénombrements si entiers et des revues si générales que je fusse assuré de ne rien omettre. (45)[3]

These are rules that any detective from Dupin and Holmes to their successors might subscribe to. However, Descartes was thinking mainly of abstract problems, whereas the detective is concerned with very concrete ones. Thus there is the need to connect observation of the material world with rigid logical thought. This is indeed what Sir Francis Bacon proposed, since he argued that science had to be founded on sensual experience (*Novum* 71, par. 97). He believed that this system was the only one that could lead to genuine knowledge, because it was based on unprejudiced observation (*Advancement* 121).[4] He thus became the father of the inductive method which heavily influenced the course of scientific discovery although it could not quite be applied the way that Bacon had thought.[5] The inductive method distinguishes Bacon quite clearly from Descartes who deemed Bacon to be naive because of his empirical bias. In turn, Bacon considered mathematics as a branch of metaphysics —useful for general speculations but a long way from the material reality which he wanted to make the object of his new science (*Advancement* 96). He believed that true knowledge of the world was possible and only depended on unbiased observation and the application of the right method. It was his secretary and follower Thomas Hobbes who problematized sense impressions as fallacious and saw the only way out in the logico-deductive method which was a form of computation:

[3] Translation: "The first was never to accept anything for true which I did not clearly know to be such; that is to say, carefully to avoid precipitancy and prejudice, and to comprise nothing more in my judgement than what was presented to my mind so clearly and distinctly as to exclude all ground of doubt. /The second, to divide each of the difficulties under examination into as many parts as possible, and as might be necessary for its adequate solution. /The third, to conduct my thoughts in such order that, by commencing with objects the simplest and easiest to know, I might ascend by little and little, and, as it were, step by step, to the knowledge of the more complex; assigning in thought a certain order even to those objects which in their own nature do not stand in a relation of antecedence and sequence. /And the last, in every case to make enumerations so complete, and reviews so general, that I might be assured that nothing was omitted."

[4] Cf. also Bacon, *Novum Organum* 71-72 (pars. 98-99).

[5] Cf. Bertrand Russell (527-30).

> When a man *Reasoneth*, hee does nothing else but conceive a summe totall, from *Addition* of parcels; or conceive a Remainder, from *Substraction* of one summe from another: which (if it be done by Words,) is conceiving of the consequence of the names of all the parts, to the name of the whole; or from the names of the whole and one part, to the name of the other part. [...] These operations are not incident to Numbers onely, but to all manner of things that can be added together, and taken one out of another. [...] In summe, in what matter soever there is place for *addition* and *substraction*, there is also place for *Reason*; and where these have no place, there *Reason* has nothing at all to do. (18)

For Hobbes rational thought is nothing but a form of calculus. Indeed, this is how Isaac Newton approached the physical world: for him, the whole world obeys the same deterministic mechanical laws and is therefore completely describable in mathematical terms. Famously for Newton, the whole universe is nothing but a gigantic machine, comparable to a clockwork which, once wound, will unerringly take its predictable course until it is unwound. Like Bacon he believes in unpremeditated observation which leads inevitably to the correct results and can therefore proudly assert: "hypotheses non fingo."

If everything is subject to this rigid calculus then man cannot be an exception. Philosophers like John Locke therefore attempted to explain the processes of thought according to the tenets of the natural sciences. These attempts, however, still presupposed a mind that was somehow distinct from the matter it was concerned with. The idea that this was an unnecessary hypothesis was first spoken out loud by Julien Offroy de La Mettrie in his books *Histoire naturelle de l'ame* (1745) and especially *L'Homme-machine* (1747). He thereby infuriated many of his contemporaries,[6] but it was probably more the manner than the matter that upset them, because some of them had already tried to put similar ideas into practice by devoting their energy to the invention of automata. Automata are machines which imitate the behaviour of animals or human beings and also look like them, often with astounding success. They were admirable pieces of workmanship, but their drawback was that they were limited to physical activities and that their behaviour was fully determined, i.e. they could not adapt to new situations and always had to go through the same motions. However, this did not seem to be true for the chess-playing "Turk" with which Wolfgang von Kempelen successfully toured Europe for many years and which he eventually sold to Johann Nepomuk Maelzel who took it with equal success to America in 1826. This contraption was an automaton in the figure of the upper half of a man in Turkish costume affixed to a box with a chess board on top. The figure was able to move the pieces on the board and could in most cases beat its opponent at a game of chess. It seemed to prove that a machine could indeed possess or at least imitate cognitive faculties —something akin to a mind. A few distrustful contemporaries, though, doubted whether the device really

[6] He had to take asylum with Frederick the Great in Berlin.

worked purely on mechanical principles —among them E.A. Poe, who in 1836 wrote the essay "Maelzel's Chess-Player" in which he demonstrated that there must be a man hidden inside the machine. It could be said that in this essay he already employs what should later become Dupin's method: after first explaining why a machine could not possibly be capable of playing a successful game of chess, he gives a detailed description of the exhibition itself and thence deduces an hypothesis (there is a man hidden inside the machine) by which he explains its functioning. Poe stresses the fact that no mere machine would be capable of solving the complex problems involved in playing a successful game of chess and that therefore man here shows himself superior to what appears to be a machine.

In his essay, Poe made mention of the "Difference Engine," which had been invented by Charles Babbage, and though extolling its accomplishments compared it unfavourably with the requirements of Maelzel's chess-player.[7] Babbage had been deeply impressed by automata in his youth and received life-long inspiration from them.[8] His great ambition was to build a machine which would be able to emulate or even surpass the human cognitive faculties. For many years he worked on the "Difference Engine" which was to carry out mainly statistical calculations. Although it turned out that for technical reasons the construction of this machine was not possible, Babbage was far from daunted and developed even more ambitious plans. To the end of his life he was working on the (also uncompleted) "Analytical Engine" which to all intents and purposes was a mechanical forerunner of today's electronic computer.[9] Of his contemporaries it was only Ada Lovelace, Lord Byron's daughter, who recognised the full potential of his invention. In 1843 she translated an article by the Italian mathematician Luigi Federico Menabrea on Babbage's Analytical Engine and added a number of extended annotations in which she pointed out that this machine, by using a formalised set of rules (i.e. a programme), would be able to carry out computations of any conceivable kind that were even beyond the reach of man.

It was the logician George Boole who seemed to provide the means for the realisation of such high-flown plans. Man's ability to draw conclusions from premises which did not explicitly contain these conclusions —a form of creativity— could be formalised if there were purely abstract symbols and methods of handling them which would automatically yield the desired results. In his book *The Laws of Thought* (1854) George Boole demonstrates the formal logic which makes this possible.[10] He believed, as the title of his book makes clear, that he had indeed described the working of the human mind, although he did not claim that this description in itself was already an explanation:

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[7] Poe did not foresee the increase in computing power which would enable IBM's supercomputer "Deep Blue" to beat the world chess champion.

[8] He acquired two of these automata and kept them in a prominent place in his house.

[9] Cf. Thomas M. Smith (316).

[10] J.S. Mill's *System of Logic* (1843), although treating methods of inductive logic, had been less formalised.

> It may, perhaps, be permitted to the mind to attain a knowledge of the laws to which it is itself subject, without its being also given to it to understand their ground and origin, or even, except in a very limited degree, to comprehend their fitness for their end, as compared with other and conceivable systems of law. (11)

Despite this disclaimer, what Boole had really done was to relegate the human mind to the status of a machine.[11] By definition, this machine works only along rational lines —anything irrational is outside its working sphere. This means that whatever appears to be irrational is either ignored or experienced as menacing and the best way of dealing with this is to show that it can be reduced to logic after all. As a matter of fact, this is just what the detective does: the apparently irrational and unexplainable and definitely menacing (crime) is shown to be rationally explainable after all and therefore the source of the menace (the criminal) is removed. Furthermore, the detective does this in just the way that a machine would go about it, i.e. he follows a set procedure consisting of observation of facts, applying the logico-deductive method and finding the predetermined result —predetermined because it cannot be otherwise: once the "facts" are there they lead to an inexorable conclusion. This done, the case is closed, the next one will be tackled —until then the machine runs idle.

Given that what the detective works on is something that happened in the "real" i.e. material world, it seems paradoxical that his work consists less in painstaking observation of details (although this and the knowledge of other facts and circumstances plays an important role), but rather in physical withdrawal from this world. The "real" work of ratiocination usually takes place in a secluded place: Poe's Dupin lives in a solitary house where he never receives visitors and where the blinds are drawn during the day (Poe, "Murders" 318). The decisive clue for the solution of "The Murders in the Rue Morgue" is taken from the newspapers so that the visit to the scene of the crime only serves to confirm what is already suspected and to secure the evidence. Dupin's method consists in rigidly using logic in order to infer causes from results.[12] He repeatedly insists that even the most improbable conclusions must be accepted without reservation, because his method does not permit mistakes:

> Now, brought to this conclusion in so unequivocal a manner as we are, it is not our part, as reasoners, to reject it on account of apparent impossibilities. It is only for us to prove that these apparent 'impossibilities' are, in reality, not such. ("Murders" 330)

Dupin is not to be deterred in his analysis by contingent details like the search for a motive, for this —if indeed there is one and it is necessary to know it in order to explain the deed— would also inevitably be detected by his method ("Mur-

[11] Today's computers work with Boolean logic.

[12] This is just what Poe did himself in order to unmask Maelzel's chess-player.

ders" 333). This, of course, is nothing else but the inductive method propagated by Sir Francis Bacon, which supposedly invariably yields the correct results if the rules are strictly followed. As a matter of fact, the inductive method is based on implicit assumptions which determine the choice of the factors deemed relevant. This in turn means nothing else but that it is not a method for detection but for *post hoc* rationalisation. In this respect it is comparable to a computer program which processes data according to a set algorithm, but which cannot assert the adequacy and correctness of this algorithm because it does not possess the necessary self-reflexivity. Dupin's procedure is similar to that of a machine which first receives some input, then processes this input according to some algorithm and finally outputs the result. This similarity is reinforced by the change that overcomes him when he presents his analytical conclusions: "His manner at these moments was frigid and abstract; his eyes were vacant in expression; while his voice, usually a rich tenor, rose into a treble which would have sounded petulantly but for the deliberateness and entire distinctness of the enunciation" ("Murders," 318).

This impression of the machine-like is the more striking as the solution of the case consists in differentiating man from animal. The characteristics of the latter are described as follows: "[...] an agility astounding, a strength superhuman, a ferocity brutal, [...] and a voice foreign in tone to the ears of men of many nations, and devoid of all distinct or intelligible syllabification" ("Murders," 334). The contrastive descriptions of the analytic thinker and the beast correspond almost point for point leading to the strong suspicion that human beings are not animals because they are machines. Curiously, though, Dupin is somewhat critical of "pure" mathematical thought:

> The mathematics are the science of form and quantity; mathematical reasoning is merely logic applied to observation upon form and quantity. The great error lies in supposing that even the truths of what is called pure algebra, are abstract or general truths. […] Mathematical axioms are not axioms of general truth. What is true of *relation* —of form and quantity— is often grossly false in regard to morals, for example. In this latter science it is very usually *un*true that the aggregated parts are equal to the whole. (Poe, "The Purloined Letter" 603)

Dupin's conviction here corresponds to Poe's argument in "Maelzel's Chessplayer" that mere computation is not enough to account for complex cognitive processes and seems to imply a criticism of the whole idea, which, however, was apparently not taken up by other authors. Dupin may have shunned the company of men, but he soon found himself in the company of a good number of other literary detectives. Dickens had popularised the figure of the detective by publishing several articles on the subject in *Household Words*,[13] based on his personal acquaintance with the

[13] "The Detective Police" (1850), "Three Detective Anecdotes" (1850), "On Duty with Inspector Field" (1851), "Down with the Tide" (1853).

former Inspector Charles Field of Scotland Yard who became the model for both the detective officer Mr Bucket in Dickens' *Bleak House* (1852-53) and Sergeant Cuff in Wilkie Collins' *The Moonstone* (1868). By the time of the latter's publication in book form, the reviewer in *The Times* already complained of "Cuff [...] the inevitable detective" and thought that this fashion was on the way out (Sutherland xxix). Sergeant Cuff was to suggest to Conan Doyle a number of exterior characteristics which he would use for Sherlock Holmes and he also uses similar methods, but he is more human, which is especially demonstrated by his fallibility. Being a detective is his profession, not his destiny: after he has been dismissed from service, his whole interest is centered on the cultivation of roses. So the decisive work which leads to the unravelling of the mystery is done by the amateur detective Franklin Blake, who exhibits a similar cast of mind as Dupin —he also knows that after careful examination of the facts whatever is the outcome must be accepted: "Do I set my mind to analyse the abominable impossibility which, nevertheless, confronts me as an undeniable fact?" (Collins 308). Blake may be modeled in part on the unwilling amateur detective Robert Audley in Elizabeth Braddon's novel *Lady Audley's Secret* (1862) who exhibits some of the traits shared by both Dupin and Holmes. At the beginning he is described as drifting through life without a care and without commitments. An indolent person who hates exertion of any kind, he is roused, finally, by the mysterious disappearance of his best friend which he decides to clear up. The method he uses is of course the one of observation, gathering data, drawing conclusions and finally hitting upon the correct solution. At one point he even asks the unlikely question of the suspect he wants to convict: "Lady Audley, did you ever study the theory of circumstantial evidence?" (Braddon 119). Although the figure of Lady Audley may have had as much —if not more— share in the success of the novel, the fact that Mrs Braddon made use of the by now familiar traits of the detective and his methods shows that there must have been a strong topical interest. This can in part be accounted for by the fact that in "real life" detectives were also increasingly employed, but the reasons for the proliferation of the literary detective surely must be sought in the demands of the readership —not only in Victorian times, but lasting until today. These demands Sir Arthur Conan Doyle fulfilled admirably when he invented the archetypal detective Sherlock Holmes who first appeared upon the scene in 1887.

Sherlock Holmes bears great similarity to Poe's Dupin, although he calls the latter "a very inferior fellow" (Doyle, "Study" 24). Like Dupin, Holmes lives in a secluded place, although as a "consulting detective" he does receive visitors. But when not engaged on a case he retires from the world even to the degree of dosing himself with cocaine until the time when his special capabilities are called for again. He, too, combines minute observation with already known facts, applies the rules of logic and invariably comes up with the correct solution to the puzzle.[14] As with

[14] Famously, Sir Conan Doyle identified his Edinburgh teacher Dr. Bell as the model for Holmes.

Dupin, it is always a case which cannot be solved by anyone who does not apply this method. Holmes' success also lies in the fact that he exclusively follows his own perception to which he applies strict logic and accepts even the most unlikely results because they have been arrived at in the correct manner: "Eliminate all other factors, and the one which remains must be the truth" (Doyle, "Sign" 92). He calls this "the Science of Deduction and Analysis" ("Study" 23).[15] Its success is dependent upon the completely deterministic construction of the world which allows him to trace all effects to their causes ("Sign" 90). In his essay, "The Book of Life," Holmes describes this in the following way:

> From a drop of water [...], a logician could infer the possibility of an Atlantic or a Niagara without having seen or heard of one or the other. So all life is a great chain, the nature of which is known whenever we are shown a single link of it. ("Study" 23)

What Holmes believes to be "life" is quite unilaterally and eclectically what is the object of study of the natural sciences as Watson records in tabular form at the beginning of their acquaintance: his knowledge of literature, philosophy and even astronomy is practically non-existent,[16] his knowledge of botany, geology and anatomy confined to special areas, his knowledge of chemistry on the other hand is "profound" ("Study" 22). Holmes is surprised to learn from Watson of the Copernican system, since he had believed the sun and stars to turn around the Earth ("Study" 21). He dismisses this new knowledge at once as useless for his purposes, in which he shows agreement with Bacon who also thought that from a philosophical point of view the Copernican and the Ptolemaic system amounted to the same thing (Bacon *Advancement*, 101). Though Watson is shocked by this and other lacunae in Holmes's knowledge, the latter insists that anything he does not need for his work is not only superfluous but might even be detrimental to his purpose:

> I consider that a man's brain originally is like a little empty attic, and you have to stock it with such furniture as you choose. [...] Now the skilful workman is very careful indeed as to what he takes into his brain-attic. [...] It is a mistake to think that that little room has elastic walls and can distend to any extent. [...] It is of the highest importance, therefore, not to have useless facts elbowing out the useful ones. ("Study" 21)

This astoundingly mechanistic idea of the brain's capacity has a parallel in Babbage's plans for providing his "Analytical Engine" with a "memory," which in

[15] The word "deduction" is used by Holmes not in the strict philosophical sense, but rather as an equivalent to "inference."

[16] In later stories, however, Holmes shows an astoundingly wide learning: He can quote Shakespeare (489), Goethe (115, 158) and Jean Paul (121), and is an expert on Miracle Plays, mediaeval pottery and other recondite topics (134).

turn is similar to today's computer "memories." But this is not the only similarity between Holmes and a calculating machine, but rather his complete devotion to a single purpose of being: the exercise of his analytical faculties. The times in which these are not in demand he can only survive in a stupor induced by the famous "seven-percent solution" ("Sign" 89). For his existence which is completely determined by logical calculus he pays the price of being cut off from feelings, emotions and normal human intercourse. Even Watson, who knows him best, cannot refrain from exclaiming: "You really are an automaton —a calculating machine [...]. There is something positively inhuman in you at times" ("Sign" 96).

The similarity between the detective and the machine is taken to even further stages with Sherlock's brother Mycroft to whom the former turns whenever he is at his wits' ends. Mycroft is always to be found at his club, where he indulges in ratiocination for its own sake (Doyle, "The Greek"). The resemblance of this character to a "thinking machine" is commented upon in Robert Heinlein's *The Moon is a Harsh Mistress*, where the biggest computer on Luna is christened Mike by his engineer Manuel:

> Mike was not official name; I had nicknamed him for Mycroft Holmes, in a story written by Dr. Watson before he founded IBM. This story character would just sit and think —and that's what Mike did. Mike was a fair dinkum thinkum, sharpest computer you'll ever meet. (Heinlein 9)

Although Manuel is historically and ontologically confused here and mixes up his facts, his confusion reveals a deeper truth, namely that man and machine have indeed grown more like each other at least since the 19th century. Manuel's mixing up of Conan Doyle's fictive narrator with Thomas John Watson (1914-1993), the man who turned IBM into the world's biggest computer company, emphasises the close relationship between logical-deductive thought and the development of computers.

Despite a number of changes, innovations and diversifications, the detective novel is still recognisably the same to this day as it was in Victorian times: a mystery, usually a crime, has to be solved through the application of the methods of observation and induction. What is expected of the detective is the assurance that the world does not really contain mysteries after all, but that everything can be explained by a chain of cause and effect. This connection can only be detected by a mind which works on analogous lines, i.e. which fed with the correct input will yield the correct output —and only this. This is done by constructing an irrefutable causal chain which permits inferring a previous situation from a given one with absolute certainty. A tiny clue may suffice and the inexorable programme in the detective's head will come up with the correct solution. Failures to do so are seen as hitches in the machine's working or can be traced to insufficient input. The similarity with a machine is reinforced by the personal characteristics of the detective: he is often an isolated individual who does not seem to have many interests in life besides detection (classical cases are Dupin and Holmes, but even Robert Audley only comes alive through his detective work). When not involved in a "case," they

even retire further from the world. This mirrors the utilitarian ideal of man as engaged in useful occupations —useful only in the sense that there is a clear aim and outcome. The detective is more or less perfectly fitted for his task, everything else is subordinate to this end. He is more like an instrument of detection than a human being, although many authors try to give him some human traits. Perhaps this is even part of the detective's appeal: he may not be an engaging character, but he is effective despite his shortcomings.

The detective thus fulfills Descartes' dream even beyond his keenest hopes by extending the principle of calculation to the human mind. If everything is subject to calculation then man wonderfully becomes one with creation again: there is no need to separate mind from matter, because man's nature is shown to be one with nature at large. The seemingly unbridgeable gulf between the world of matter and the mind is miraculously shown to be non-existent. If we want to account for the popularity of the detective figure in the Victorian novel (and until today), we are therefore driven to the conclusion that it derives from the fact that the detective is the perfect combination of man and machine: a cyborg. He incorporates the principle of rationality and turns disorder into order. The detective novel solves the problem of the existence of the irrational by finding a rational explanation for it. Through the use of induction seemingly meaningless details become the premises of far-reaching conclusions which turn the previously unexplainable into the trivial.

It should not be forgotten, however, that this intense need to find a rational causal explanation for everything presupposes that the (seemingly) irrational and incalculable exists (Belsey 239). A strong indicator of this is the vogue for Gothic fiction which came into being towards the end of the 18th century, was well represented in the 19th and still has its various descendants today. It seems that behind the wish for rational explanations there lies the fear of the irrational —or rather the fear that the world might after all not be reducible to calculation. That there is a close tie between the rational and the irrational is also shown by the fact that both E.A. Poe and Conan Doyle wrote stories about the supernatural and the fantastic.[17] Poe is certainly even better known for these than for his detective stories, whereas Doyle repeatedly tried to get rid of Holmes in order to write about what increasingly interested him, namely spiritualism and the paranormal. It is as if both authors felt the need to show that the world is not just some kind of clockwork and humans are not just machines. Indeed, seen in this light, their detective stories might even be considered as an implicit criticism of just these ideas, since neither Dupin nor Holmes are very creditable as human beings. So their defects could be construed as saying that there is more to life than calculation.

[17] Another case in point would be G.K. Chesterton, who wrote both detective stories relating the adventures of Father Brown and also fantastic novels like *The Napoleon of Notting Hill* (1904) and *The Man Who Was Thursday* (1908).

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