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Sir Isaac Newton and the Great Re-Coinage of 1696 in Philip Kerr's *Dark Matter*

Abstract. The aim of this paper is to show how in recent years a comparatively little-known period of Newton's life, his work as the Warden and then Master of the Royal Mint, has entered the popular imagination. Analyzing Philip Kerr's detective novel set in the 17th century, *Dark Matter: The Private Life of Sir Isaac Newton*, I discuss his depiction of the Great Re-Coinage and the criminal world of cockney counterfeiters and 'clippers' whom Newton so successfully prosecuted. Additionally, the paper demonstrates how the "Britishness" of Newton and of old London becomes commodified; Kerr sells the myth of British history, Britain's greatest minds, and British urban folklore for the global market.

Keywords: Sir Isaac Newton, alchemy, the Great Re-Coinage, Philip Kerr, the Royal Mint, Britishness

1. Sir Isaac Newton in Popular Culture

Contemporary popular culture discovered Sir Isaac Newton when the first long-suppressed evidence against his rationality and sobriety surfaced. In 1936 Sotheby's auction house released a catalogue of Newton's hand-written, evidently alchemical manuscripts labelled "not fit to be printed" (Murphy 2014) when Newton died in 1727. After this famous auction, Newton's life, scientific work, occult fascinations, and dabbling in alchemy became literary motifs and are often referred to in novels, whether detective fiction set in the 17th century, thrillers whose protagonists investigate four-century-old conspiracies, or popular biographies. The first of such biographies, Frank E. Manuel's *A Portrait of Isaac Newton* (1968), was published by Harvard University Press as early as the late 1960s. This now famous biography describes the life of Newton from a psychoanalytical perspective, stressing his childhood traumas and the resulting fixation that led to troubled psychosexual behaviour: lifelong sexual abstinence and latent homosexual inclinations. Frank Manuel elaborates on the subject of Newton's alleged esoteric beliefs. In his opinion, the

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young Newton carefully recorded all the instances of telepathy he heard of, trying to trace some strange affinities between bodies. God speaking through the mouths of the prophets, electromagnetism, telepathy, and gravity would be just diverse manifestations of ether. Manuel discusses Newton's studies of ether in the context of his psychological problems. He analyzes the scientist using Freudian theories, referring to Newton's notes, letters, private confessions written before Church holidays, and the memoirs of people who knew him. His diagnosis is that at a very tender age Newton missed his prematurely deceased father, and also his mother, who re-married, moved out, and left her son in her own mother's home. It is emotions such as longing, solitude, unrequited love, and the feeling of rejection that pushed Newton towards his search for the ultimate power: a God who loved him and, albeit from a distance, knew his every action and cared for him. The language of science in Newton's day, which for example described magnetic attraction as an affect, was literal for him, and Newton's juvenile traumas became sublimated into a mystic quest for knowledge and for God. Today, scholars calculate that Newton wrote at least 131 manuscripts, approximately one million words altogether, on the subject of alchemy. His discovery of the laws of gravity and of the nature of life resulted from this very quest. Manuel also makes much of Newton's hypochondria, claiming that the search for the Elixir of Life and the panacea was for Newton an attempt to secure health and immortality.

More popular books about Newton-the alchemist started to be published thirty years later. At the turn of the 21st century, Michael White wrote *Isaac Newton: The Last Sorcerer* (1997), a popular biography emphasizing Newton's occult and alchemical research, and soon Newton became the subject not only of such popular non-fiction books, but also of thrillers and fantasy novels. A character based on Newton plays the most important role in *The Age of Unreason* (1998–2001), a four-volume series of alternate histories by Gregory Keyes. Neal Stephenson's *The Baroque Cycle* (2003–2004), a series of quasi-fantasy novels concerned with the emergence of modern science, describes Newton's interest in alchemy, his work leading to writing *The Principia*, and his quarrel with Gottfried Leibniz over who first discovered calculus. Michael White's *Equinox* (2006) is a serial murder thriller set simultaneously in the 17th and 21st centuries: here we see Newton's attempts to stage a bloody occult ritual intended to summon some powerful evil spirits, and the contemporary re-staging of a similar rite performed by psycho killer alchemists. White's inspiration for the novel is threefold. Firstly, *Equinox* is a serial-murder thriller; secondly, it repeats Dan Brown's *The Da Vinci Code* formula of a novel exposing a centuries-old conspiracy; and thirdly, it makes use of White's own theses concerning Newton as described in detail some years previously in the already-mentioned *Isaac Newton: The Last Sorcerer*. Michael White in *Equinox* writes about Newton:

For almost a quarter of a century now he had been searching for the core secret of all existence, the *prima sapientia*. Science had been his first mistress and he had bled her dry

but he had known all along that there was more to the universe than nuts and bolts... [He] conducted elaborate alchemical experiments in smoky laboratories in his quest for the Philosopher's Stone, the legendary substance that would allow the alchemist to transmute any base metal into gold, the magical interface between the physical and the metaphysical that would also allow the adept to produce the *elixir vitae* and to find eternal youth. (2006: 38)

Such an image of Newton has entered the popular imagination and made its appearance in a number of popular novels, books for very young readers included. For example, Frederic Brounéus's *The Prince of Soul and the Lighthouse* (2012) is a young adult novel dealing with Newton's alchemical experiments.

Thus, the process of re-imagining Newton initiated by the editors of his alchemical papers sold in 1936 at the Sotheby auction remains ongoing, and early 21st-century culture has renegotiated the picture of Newton, making him a manic genius bent on learning the secrets of the Universe who nevertheless, thanks to his brilliance, manages to contribute enormously to official science. All these books (and many others as well) offer some secret windows into Newton's life and take advantage of the fact that contemporary readers have learned about this scientist at school. They are familiar with his major achievements and associate him with the 'boring' history of science rather than with the fascinating secrets that history textbooks are silent about. Recently written *New Age* papers on Newton, for example Brendan D. Murphy's "The Newton You Never Knew: Isaac Newton's Esotericism Revealed" (2014), emphasize that Newton's research in physics—which resulted in the creation of Newton's Laws and Newton's alchemy, his strong belief in ether being the invisible basis of all the Universe—should not be discussed separately, but as the two sides of one and the same research. Murphy claims that:

It was a collection of works found posthumously in Newton's library, papers and notebooks which revealed that Newton had spent more of his life immersed in studies of alchemy (as well as theology, Bible chronology and natural magic) than he had spent working on "pure science." In 1936 a collection of Newton's papers, amazingly regarded as of "no scientific value" when offered to Cambridge university some fifty years earlier, was purchased at Sotheby's by the respected economist and Newton scholar John Maynard Keynes. Originally left in a stack by Newton when he left his post as the director of the London mint in 1696, these documents had somehow fortuitously escaped the burning of Newton's personal writings arranged after his death—and were discovered two centuries later. (Murphy 2014)

Ironically, Newton thus believed in things that violate Newton's laws as WE understand them. His quest to transmute base metals into gold resulted from the very same idea of the ethereal spirit flowing in the Universe and radiating through all bodies. It would suffice to find the key to this second parallel reality in order to be able to alter the material

foundations of this world. Yet he clearly needed to hide his search for the Philosopher's Stone to stay on the legal side of his contemporary scientific life. Having studied the above-mentioned papers, Keynes gave a lecture to the Royal Society in which he famously stated: "Newton was not the first of the age of reason. He was the last of the magicians, the last of the Babylonians and Sumerians...[and] the last wonder-child to whom the Magi could do sincere and appropriate homage" (quoted in Murphy 2014).

2. Philip Kerr's *Dark Matter: The Private Life of Sir Isaac Newton*

Newton today is described and researched as a passionate man, as an inhibited and megalomaniacal genius who transcended the Cartesian Universe. His story is sold and made attractive to buyers, whereby Newton has been turning into some sort of merchandise. One very interesting and quite unknown episode in Newton's life (one lasting over 30 years between 1696 and 1727) is his work at the Royal Mint, where he was first the Warden and then the Master. His engagement with the development of the modern economy based on a stable currency and credit, along with his decisive actions against counterfeiters, are among the subplots of Neal Stephenson's *The Baroque Cycle*, but only Philip Kerr's *Dark Matter* (2002) deals exclusively with Newton's life at the Royal Mint in the days of the Great Re-Coinage.

Philip Kerr is best known for his noir crime fiction books featuring the Berlin private detective Bernie Gunther and set in the city after the Nazis' rise to power. Apart from fourteen "Bernie Gunther" books, he also wrote standalone novels which combine detective storylines and historical allusions. For example, the critically acclaimed *A Philosophical Investigation* (1992) is the tale of a serial killer full of references to the philosophy of Ludwig Wittgenstein. Kerr's *Dark Matter* is especially interesting because, apart from 'selling' the history of Newton, it also sells the myth of Britishness, which for American readers is associated with the Great Fire of London, Bonfire Night, Guy Fawkes, London counterfeiters, criminals and prostitutes of the *Beggar's Opera* kind, Sherlock Holmes, and the Royal Family. On top of this, Kerr describes in detail the days of severe economic and political crisis in late 17th-century Britain and how the Great Re-coinage directed by Newton was to ameliorate the economy of the country. Thus, *Dark Matter: The Private Life of Sir Isaac Newton* is a perfect example of how Newton has become a prime British export article, for his story is a British story sold on the global market. My aim in this paper is twofold: firstly, by analyzing Kerr's novel I hope to show an unknown face of Isaac Newton, the Warden of the Royal Mint in the days of the Great Re-coinage; secondly, I shall demonstrate the 'Buy British Past' agenda of popular-fiction authors who depict Newton in their novels.

Kerr's novel is, as far as genre goes, a detective story set in England just after the Restoration. In the late 17th century the country had a bi-metallic monetary system based on

silver and gold. The government, or the Royal Mint, arbitrarily fixed the price-relation between the two. For example, it could determine that one unit (an ounce, a pound) of gold could be exchanged for one hundred units of silver. Such a monetary system works smoothly only when the mint and the people of the country are both willing to exchange one hundred silver coins for one gold piece and the other way round. In the early 1690s in England the economic situation was, however, different:

The market price of silver began to rise at the time when the mint price of gold was higher than the market price. Thus gold bullion was flowing to the mint while silver coins were flowing to the commodity market. By 1695 nearly half of the silver was missing from circulation...as coins were clipped (shaved) with the result that their face value no longer reflected the metal content. (Narron & Skeie 2013)

As a result, England faced very serious problems: the economy was grinding to a halt, and the lack of good money led to enormous unemployment, poverty, and social unrest. In fact, the only available currency remaining on the market was the golden guinea, the smallest gold piece, and various kinds of credit issued by the government. In those days, just before Cambridge's Professor Isaac Newton was made the Warden of the Royal Mint, the mint could not cope with its modest task of producing £15,000 in diverse coins a week, while the total supply of silver coins was about 7 million.

Newton accepted the job at the mint at the beginning of 1696. England was engaged in the Nine Years War with France, and because of clipping and counterfeiting, its currency was steadily weakening. Newton took his post very seriously and his personal intervention soon resulted in the rapid improvement of the production of coins. By late summer the mint boasted a then European record of £100,000 minted in a six-day week. The major problem was that of the counterfeiters and clippers, who despite severe punishments for these offences—hanging, burning at the stake, and quartering—were very active. The Royal Mint Newton inherited was on the verge of collapse, as there was not enough silver in the country to mint the coins England needed, and there were not enough small-denomination coins in circulation to make everyday purchases possible. Moreover, the silver necessary to produce a given coin denomination was worth more than the official value of the coin, and therefore huge profits were waiting for those brave enough to melt coins down and smuggle the silver to the continent. Forgery at that time was technically simple. In any forge fake coins from low-silver mixed alloy could be produced. To make things worse, England was then engaged in an expensive war with France in Flanders and the crown lacked good money to pay its soldiers and thereby ran the risk of desertions, something that would leave the British Isles open to invasion. The National Debt created in 1689 was huge. Philip Kerr's narrator, a hot-blooded young gentleman named Christopher Ellis, is appointed Newton's helper and secretary at the

mint. In accepting the post, he reflects on the economic situation of the country, and it is from him that the readers learn about the real events:

With the army still in Flanders and King William still unpopular in the country at large, his son the Duke of Gloucester so frail, and Princess Anne—who was second in the line of succession—childless ... there was great fear of national insurrection at home. And nothing was perceived to inflame discontent as much as the continued debasement and scarcity of the coin. (2002: 177)

In his memoirs, written 30 years after the Re-Coinage, Ellis remembers his service at the Mint and his cooperation with Newton, who was obliged to be the principal agent of the coin's protection. Ellis is aware that the coin was indeed in need of protection, as the money was debased. In 1695 the Regency Council commissioned essays on the amendment of English coins, and the greatest intellectuals of the epoch, Doctor Newton, Doctor Wallis, Mister John Locke, and Sir Christopher Wren wrote about diverse issues connected with the re-coinage. The Lords Justices of the country, who ruled when the king was engaged in the war in France, were forced to improve the situation, and in June 1696 the Re-coinage Act passed through Parliament, but before Newton took over, things got even worse. Ellis remembers:

... the Parliament having been imprudent enough to damn the old money before ensuring that there existed sufficient supplies of the new...money had remained in such short supply that tumults every day were feared. For without good money how were men to be paid, and how was bread to be bought? ... The fraud of the bankers and the goldsmiths who, having got immense treasures by extortion, hoarded their bullion in expectation of its advancing in value... Indeed, there was such a want of public spirit everywhere that the Nation seemed to sink under so many calamities. (2002: 9–10)

This passage of Kerr's novel does sound like non-fiction. Ellis narrates the real historical events preceding the Great Re-Coinage and thus prepares the stage for his fictional story.

3. The Great Re-Coinage of 1696

The Great Re-Coinage is now considered to be one of the greatest monetary events in British history. And during the debates on how to end the money crisis many solutions were prepared: the Treasure Secretary proposed devaluation, the Treasury Adviser was for expansion of credit, and “Royal Mint Master, Sir Isaac Newton sought to achieve gold and silver price parity” (Narron & Skeie 2013). Finally, John Locke advocated that the Mint demonetize the clipped coins and issue new and good money. This plan was approved, but the Royal Mint was unprepared to replace so many coins in such a short

time. It only produced about 15% of the coins it should, and because the clipped money was de-legalized there was no currency available and the Bank of England had to borrow money in Denmark. To make things worse, forgers and smelters undermined Britain's money supply. This is when Newton took over the Mint. As a former alchemist he proved perfectly prepared for the post as he knew and understood all things connected with working metal. In his "elaboratory" in Cambridge he had once built his own furnace and "melted down plenty of substances, weighed, combined, assayed— all the skills one could hope for in a mint official" (Levenson 2009: 3).

Thomas Levenson, the author of *Newton and the Counterfeiter* (2009), a popular-science book on the Great Re-Coinage, emphasizes that Newton was also one of the most rigorous observers of his day who could watch the flow of precious metal from the melting houses to the final coin presses, and whose accounts at the end of the Great Re-Coinage demonstrate that he managed the passage of millions of pounds' worth of silver through the Mint with scrupulous honesty. As already mentioned, Newton's expertise in alchemy proved very helpful. Just before taking over the Mint Newton suffered what scientists now describe as mercury poisoning (tremor, severe insomnia, delusions of persecution or paranoid ideas, lapses of memory, and mental confusion).

It is worth remembering that Newton had performed alchemical experiments since 1678. For instance, he analyzed the taste of mercury, calling it: "strong, sourish, ungrateful" (Narron & Skeie 2013), along with arsenic, gold and lead. In his notebook he recorded experimenting with chemicals in 1693. Then, 18 months after a breakdown of nervous functioning and physical ailments he was appointed the Warden of the Mint. His friends wanted to help him start a new life in London, while his support of the winning side of the Glorious Revolution helped to secure him this post, as well as the fact that he had already been consulted concerning the re-coinage. With his new position he obtained living quarters near the Mint in the Tower of London. And at 55 his sole purpose in life became overseeing the Great Re-Coinage. Newton worked 15 hours a day, sleeping in his noisy rooms alongside the Mint. He introduced the gold standard, advocated paper money, and investigated, judged and sent to the gallows clippers and counterfeiters. He also became an economic theorist: "as a result of a report written by Newton on 21 September 1717 to the Lords Commissioners of His Majesty's Treasury the bimetallic relationship between gold coins and silver coins was changed by Royal Proclamation" (Narron & Skeie 2013). Overall, he took to his new duties with a breathtaking intensity, and the success of the Great Re-Coinage was his personal achievement. Similarly, Kerr's narrator depicts Newton's life at the Mint in precise detail:

The Mint was within the Tower since 1299, and by 1696 it was as big as many a sizable town. Two rows of aged wooden buildings, pinned together with clamps of iron, lay between the inner and outer ramparts beginning at the Byward and Bell Towers, extended

some five hundred yards along and around the foot of each wall to finish up at the Salt Tower. A narrow cobbled road... patrolled by sentries... houses, offices, barracks, stables, wash-houses, smithies, melting-houses, mill rooms, storehouses, taverns and a sutters selling all kinds of victuals... metalworking... cannons... iron wheels... Bedlam could not have seemed more noisy than the Royal Mint. (2002: 16)

Kerr makes the story of the Great Re-coinage a fascinating historical account decorated with period details. The history of Britain here becomes merchandise, and the Re-Coinage a fascinating event, just like, say, the Gold Rush in America. Yet Ellis, Newton's helper, is capable of judging the process with a professional eye, and he even criticizes the crown and governmental policy: "Bags [of silver coins] were sold at the Mint and their dissemination among the people at large left to chance, for there was no public expenditure available for the money's distribution... a great fault of the re-coinage." (2002: 253)

Moreover, Ellis records cases of criminals buying the coins, melting them illegally, and using the alloy to produce tableware of solid silver which, coated with some baser metal, was then smuggled across the Channel to France, where silver fetched high prices. For silver worth 60 shillings in England the equivalent of 75 shillings could be got in France or Amsterdam. Other offenders were faking golden guineas. They used printing presses or cider presses to do so, as all the coining presses were surrendered to the Royal Mint under the Plate Act.

4. Newton the Detective

Yet the greatest problem Newton had to face was an enormous criminal world parallel to the official one flourishing in London at this time. Such a milieu is the setting of the famous *Beggar's Opera* by John Gay, "a Newgate pastoral among the thieves and whores there", as Jonathan Swift called it in a letter to Alexander Pope on 30 August 1716. *The Beggar's Opera* is more of a satire than a pastoral opera. It consists of three acts and many short songs, and its action takes place in London just after the Great Re-Coinage. One of the major characters is Matt of the Mint, a petty criminal who in act II justifies his trade as a means to redistribute wealth among the nation. The comedy shows the complicated love life of the highwayman, Captain Macheath, who is sentenced to death, locked in Newgate prison and is involved in Peachum's gang of thieves, prostitutes and highwaymen. Everybody drinks, impeaches, and spends time in taverns, prison cells, stolen goods warehouses and brothels. *The Beggar's Opera* was a huge success in the early 18th-century theatre and entered the canon, becoming an influential piece of class satire. The stereotypical picture of petty Cockney criminals derives from there, and it seems far from being an accident that Philip Kerr's *Dark Matter* is set in the very same institutions some 30 years before the action of *The Beggar's Opera* is set: the Bedlam asylum, Newgate prison, the Mint, the taverns in the neighbourhood of the Mint, suburban brothels, and

counterfeiters' workshops. The common influence on both literary works is the case against William Chaloner, whom Newton investigated as the King's attorney and whom he had executed at Tyburn gallows. Newton and Ellis in the novel talk to Chaloner's accomplice, "a gentleman lately condemned to death for coining, who sought to bilk the hangman." (Kerr 2002: 27)

Newton the master lectures Ellis the apprentice on the necessity of punishing counterfeiters in the same way as murderers guilty of planning to kill the king: "One is just as disruptive to the smooth governing of the realm as the other... a king might be killed with little disruption to the country at large... But if the money is bad, then so the country lacks a true measure of prosperity and by that same sickness shall it quickly perish" (2002: 30). It is Newton who says this, but Ellis is aware that as an ex-chemist or 'multiplier' (as these alchemists were called) who tried to produce silver and gold, Newton himself used to break the law. Before 1689 multiplying had been "a felony and therefore, a capital offence" (2002: 37). Following the same logic, spoiling money is weakening the state and thus punishable by death. His sad experience with mercury poisoning enables Newton to identify those who have been acquainted with mercury for a long time: the blackened teeth, the tremulous hands, the great thirst and the unsteadiness of mind give them away when Ellis and Newton survey the inmates of Bedlam. All this expertise allows them to capture a gang of money-spoilers who were "forging golden guineas and exporting silver bullion to advantage the cause of King Lewis of France in particular and Roman Catholicism in general" (2002: 262), which adds political and religious contexts to the economy of the Great Re-Coinage.

The story of the Great Re-Coinage and Newton's involvement in it is for Kerr a piece of Early Modern Period English folklore which can easily get commodified and sold on the global book market. Elizabeth Outka, in *Consuming Traditions: Modernity, Modernism, and the Commodified Authentic*, uses the term "commodified nostalgia" (2009: 231) to describe such narrative strategies. This 'Buy British Past' attitude can be seen in the way Kerr employs stereotypical associations with Britishness, and at the same time in how he defamiliarizes them. The prime example is Newton himself. Everybody knows he was the greatest scientist of the British Enlightenment, yet few people are aware of his involvement with alchemy and banking. Newton in Kerr's novel makes the re-coinage his personal crusade. As a scientist he both cherishes pure knowledge and succeeds in applying it to concrete cases. His assistant, Ellis, hopes that by helping Newton he will gain some education. In depicting him Kerr uses clichéd anecdotes and quotes usually associated with Sir Isaac Newton, the great scientist. "The most important thing I have learned is how little I do know. I seem to myself to have been only like a little boy playing on the seashore, diverting myself with smooth pebbles or pretty shells while a great ocean of truth lies undiscovered before me" (2002: 121), he famously remarks. Another time he shows Ellis how prisms work, lecturing him on the nature of light waves, which

is the subject of his most renowned paper. He also tries to teach his assistant how gravity works on small and gigantic scales alike: “the fall of this dagger is the same as the fall of the moon” (2002: 201). He predictably recounts the story of the falling apple and tells Ellis in confidence that the fruit in question had in fact been a fig, but an apple seemed more becoming when he told the anecdote for the first time. The lifelong chastity of Newton made famous by his psychoanalyst biographers (Frank Manuel and others) is also mentioned: “By being forcibly restrained lust is always inflamed... the best way to be chaste is not to struggle with unchaste thoughts, but to decline them, and to keep the mind employed about other things. That has always been my own experience” (2002: 198).

Moreover, *Dark Matter*, a novel set in London in the days of the Nine Years war, is definitely and emphatically British, and yet its Britishness is also composed of commonplaces recognizable by the global market’s literary agents and non-British readers. Jeremy Rifkin in *The Age of Access: The New Culture of Hypercapitalism* notes that in the days of global culture “local cultural resources” are mined and repackaged “as cultural commodities and entertainments” (2000: 5), and this is what happens in *Dark Matter*. On the very first page Ellis fights a duel on November 5, the Gunpowder Plot Day, when all London celebrates the anniversary of King James’s deliverance from a Roman Catholic plot to blow up Parliament, and the day “the Prince of Orange had landed at Torbay to deliver the Church of England from... the Catholic King James II” (2002: 7), thus initiating the Glorious Revolution. The fact that Ellis gets into trouble on November 5 of all days is of no consequence; the choice of this date is just a period detail inserted to set the right mood. There are many such details in the text: when Ellis and Newton are in the Tower inspecting the torture chambers they happen to find “the instruments ... from the wreck of a Spanish Armada ship intended to help in the work of reconverting the people of England to Roman Catholicism... captured by Sir Francis Drake” (2002: 46). The only reason the characters enter the chamber at all is that Kerr’s readers would probably associate the Spanish Armada, Drake, and the Inquisition with the English Reformation. By the same token Newton and Ellis meet in London Daniel Defoe and Samuel Pepys, and talk about Guy Fawkes and Sir Walter Raleigh, all of whom are very loosely connected to the action of the book.

Yet the major ‘British’ feature of *Dark Matter* is the systematic and consistent modeling of Newton’s investigations based on the structure of Sherlock Holmes’ narratives. Despite the anachronism of this approach, Kerr’s protagonists resemble those of Conan Doyle in nearly everything: Ellis accompanies Newton, witnesses his investigations and is dazzled by his ingenious deductive skills: “so much of me was plain to him, as if he could see into my mind and read my thoughts” (2002: 14), he reflects on the day he meets Newton and is scrutinized by him. Newton, a lone genius with but one helper, investigates the murders committed within the Mint, and yet, theoretically, the Mint is situated in the Tower, and thus the Tower Ordinance, the garrison of soldiers and their

dim-witted officers, should deal with the criminal offences committed there. Ellis and Newton versus the Ordinance is, narratively, Watson and Holmes versus Scotland Yard. “The constable’s man Mister Osborne” (2002: 32) stands for Lestrade and plays a similar role. What Kerr in fact does when he describes Newton’s scientific mind is to depict an Enlightenment-inspired way of thinking about reality, a simplified version of the scientific method: “make sure you observe nature’s obvious laws and processes... all the intermediate degrees of quality can be induced” (2002: 36), Newton says when the body of a murdered counterfeiter is found. By experiments and deduction, he formulates a hypothesis which is then checked. Producing from his pocket a typical Sherlock Holmes device, a magnifying glass, he “proceeded to examine the black metal surface of the machine most closely... ‘If I am not mistaken this is dried blood’” (2002: 47). To make sure, he takes the specimen to his microscope, and together with Ellis he compares the cells from the sample to those from a drop of fresh blood. Another time he uses a telescope (he had himself made it years previously to observe the moon) to survey the environs of the Tower. He also confiscates a false guinea and takes it to his own old alchemical lab to determine the ingredients used to make it—just as Sherlock Holmes conducts his own chemical tests of evidence.

Moreover, Newton, again in Holmes-like manner, breaks codes looking for numerical patterns in seemingly random samples of letters they found in a letter. And, just like in Conan Doyle, he has his own pet theories concerning people’s handwriting and how it reflects a person’s age and temper. Even his method of decoding—by determining frequencies of vowels, and consonants’ appearance in a given language—reflects one of Sherlock Holmes’. Additionally, in an early attempt at forensic science he studies what he calls the “geometry of punishment” (2002: 209), i.e., the marks left on a dead body which help disclose the time and kind of its death. Newton is competent enough to say that the man who apparently hanged himself was in fact strangled and hung only later by some second party. Kerr’s Newton shares some of Holmes’s peculiarities. While thinking about a very difficult problem he sometimes enters a strange coma-like trance: “excursion from my physical body” (2002: 273), and he is extremely vain, especially as far as his priority over ingenious adversaries is concerned. It is only after he learns who had devised a very difficult code he broke that Newton feels really happy: “my triumph is complete... I would have defeated Monsieur Descartes above all men” (2002: 326). These intertextual hints pointing at Conan Doyle serve the same purpose as references to British icons, and thus Kerr makes *Dark Matter* an emphatically British narrative about Newton, the nation’s pride and joy, who is both a theorist of science and a practical investigator.

5. Conclusion

Setting the novel in the days of the Great Re-Coinage, Kerr reminds the readers of old England’s glory:

Newton's success was astonishing. When he took over the Mint its estimated peak capacity (never fully achieved) was £15,000 worth of silver per week. By the time the re-coinage was completed, three years later, it was running consistently at £100,000 of silver per week. In all, Newton oversaw the minting during this period of £6,840,719 at a cost of £2,700,000. And all this from an academic and politician who had never had a 'real job' before. (Narron & Skeie 2013)

Newton modernized the English financial system, creating a gold standard and introducing the idea of paper money. In recognition of his merits, Queen Anne knighted him and Newton remained Master of the Mint for thirty years, till his death in 1727 when he was in his 80s. Throughout this time he was pursuing fakers, taking depositions from witnesses, and maintaining a network of informers. He sent men and women to the gallows and acquired the reputation of being incorruptible. Therefore, the myth of the Cockney criminal world, spread, for instance, by the success of Gay's *The Bagger's Opera*, is partly influenced by his investigations and severity. All these contexts make *Dark Matter* sell 'commodities': the Britishness of Newton, the Great Re-coinage, and figures such as Sherlock Holmes and Guy Fawkes.

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