To what extent was the Scientific Revolution the cause of the decline of witch-hunts in Western Europe in the period 1560-1700?

The witch-hunts, which had plagued Europe during the 16th and 17th centuries was on the decline in Western Europe by 1650, but the reason for this is difficult to identify. In taking the example of the United Provinces, where witch-trials saw their decline by 1610, it becomes obvious that many factors conspired to bring about the decline; intellectual development, the prominence of Erasmian philosophy over demonology, religious piety, and a cosmopolitan way of life. Traditionally, the decline of the witch-hunts have been seen as the result of the Scientific Revolution which argued the witch-trials “out of existence” but this argument is flawed by the non-alignment of the time periods; any development in philosophy and science occurred in the latter part of the 17th century, by which time the witch-hunts had already come to an end in Western Europe. The nature of the witch-trials must be studied to determine their decline. When the trials began to spiral out of control, accusing unsterotypical victims such as children, men and the middle-classes of acts of diabolism, there was a greater need for proof. Rich intellectuals intervened to protect themselves as well as innocents, and the subsequent reform of the systems of law made it more difficult for witch-trials to be brought and witches to be found guilty, bringing about the initial decline of the witch-hunts.

The argument that the Scientific Revolution brought about the end of the witch-hunts is the established approach to the decline. It sees witchcraft as a by-product of Early Modern Science whose end was the “first triumph of the spirit of rationalism in Europe”. This is supported by Levack's statement that the educated elite began to “reject dogma and inherited authority”, alluding to Descartes' natural philosophy which is based upon making original observations and looking to rationalise rather than solely accepting the authority of previous philosophers. This period is seen to contain the triumph of mechanical philosophy (the idea that the world is a machine with particles which interact in accordance with fixed natural laws) over Aristotelianism and Neoplatonic Theory. This relates to the witch-hunts in that the idea of the Devil possessing people was seen as impossible in a world ruled by nature. The actions of the witches began to have rational explanations and the development of medicine reduced the need to use 'witches' as scapegoats.

The period of the witch-hunts was the period of the Christian Reformation which saw the rise of Protestantism worship based on the Biblical study. This led certain sceptics to find no Biblical evidence of witches as Devil-worshippers because the magicians of the Old Testament were either frauds or committed harmful acts through potions. Furthermore, religious sceptics rejected the idea that these witches were capable of making a diabolical pact and that the Devil could physically possess them. Although they believed that the Devil existed, these sceptics also believed in an omnipotent God who would not allow Satan to exert any influence over humans; as Wrightson states, “you could not tamper with God's natural laws through using spells”. Reginald Scot's Discoverie of Witchcraft (1584) criticised the prosecution of witches as un-Christian, Muggletonians saw Satan as a symbol of evil rather than a physical being and Thomas Hobbes

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2 Elmer. P, 2007 p. 34
Megan Shore 13RG

rejected the idea of humans being physically infected by the Devil, stating that “as for Witches, I think not that their witchcraft has any real power”4.

However, Trevor-Roper’s 1967 revisionist research argued that the witch-hunts were caused by confessional conflict in Christianity. He found that these religious sceptics were the minority and some of the most threatening witch-hunts occurred in Protestant regions such as Brandenburg, Württemberg, Baden and Mecklenburg in the 1560s and Brunswick, Westphalia and Pomerania in the 1590s. Certain Protestants chose to emphasise the Bible's claim that “Thou shalt not suffer a witch to live” (Exodus 22:18) and followed Lutheran beliefs that witches were the “Devil's whores”5. Disagreements in interpretation of the Bible meant that witch-trials were present throughout Europe, making it difficult for the sceptics to gain ground and convert powerful leaders.

Two levels of religion existed at this time, according to Ruiz: one for the poor concerning superstition and one for the rich based on lofty doctrine. Despite the translation of the Bible being brought about by the Reformation, its study was dominated by the rich and therefore sceptical debates of what is and what is not in the Bible did not alter the beliefs of the poor. Not only were religious sceptics initially unable to gain ground within wealthy circles but they were also unable to influence the poor due to their ignorance of doctrine.

Religious sceptics did not object to the existence of witches, meaning that developments in science and philosophy needed to occur for their arguments to be strengthened. Ruiz holds that the decline of the witch-hunts could not be achieved until the process of the “secularisation” of magic, science and religion had come to “a full crystallisation”7. Therefore, it was not until the decline had already begun, and a new scientific world-view was being developed, that these religious criticisms, undermining the existence of witches, gained ground. James I ordered the burning of Scot’s works and his ideas were not accepted due to a fear of atheism. Muggletonianism only began in 1651, and Hobbes, important from 1640, was heavily influenced by Cartesian philosophy. Religion alone could not cause the decline of the witch-hunts, there needed to be other changes in the attitudes of the powerful.

Historians have suggested that it cannot be merely coincidence that the Scientific Revolution occurred during the same period as the decline of witch-hunting. The 17th century is seen as the era in which superstition was replaced with reason due to the development of Mechanical Philosophy; this weakened the witchcraft belief and caused the decline of the witch-hunts. René Descartes' theory that the world is based upon mathematical rules of nature championed the need for perception, deduction, experimentation and reason in bringing clarity to the world. He introduced deductive reasoning which meant that one needs to formulate an educated hypothesis, then seek evidence to support or disprove the hypothesis – seeing being wrong as an important part of discovery. This new science was different to magic which “never learned from failure but simply explained it away”8, making it changeable, open to improvement and respected by intellectuals. Descartes controversially rejected the dogmatic microcosm theory which was the basis for contemporary astrology, alchemy and the belief in magic, stating instead that in a world which was

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subject to certain laws, it was impossible for miracles and physical spirits to exist. Thomas notes how “the Cartesian concept of matter relegated spirits...to the purely mental world”, meaning the Devil could not interfere with humans, and demonic possessions were a mental creation. Although Descartes' scientific claims were later disproved, he laid the foundation for other thinkers who believed that understanding of the world could be achieved through human thought. After the Restoration in England, Charles II “patronised the new experimental natural philosophy, chartering the Royal Society in 1662” 9 which was followed by the Académie Royale de Sciences in France and the Accademia del Cimento in Italy. This allowed scientific developments to be made, such as the understanding of the human anatomy, astrology and animals. However important these developments were on scientific theory, they did not produce any solid results. Scientists developed a new way of looking at the world, but they did not discover revolutionary, infallible theories and “the sixteenth and seventeenth centuries brought no revolution in medical services or treatments” 10 which could drastically alter the way of life. This meant they were not yet prestigious and their arguments had little weight in altering century-held witchcraft beliefs.

Historians who believe that the Scientific Revolution brought about the end of the witch-trials suggest that the new science enabled the powerful to accept the ideas of sceptics in regards to religion and the innocence of witches. Yet this ignores the misalignment of time. Descartes published the foundation of his theory, *Discourse on the Method*, in 1637, by which time the witch-trials were already declining. While there were important scientific works, such as those of Galileo Galilei, in the early 17th century, they had little relation to the witch-trials and were prohibited from sale as they were heretical. Andreas Libarius’, *Alchemie* was “outlawed by the hard-line Galenic Paris medical faculty” 11 in 1606 as it called for the removal of superstition from chemistry. It was not until the witch-trials had already declined that new science began to have a real impact, as it caused developments in medicine.

At this time, work in the field of medicine, particularly psychology, was growing. This effected the witch-hunts as the behaviour of the witches – body contortions, great feats of strength, loss of memory, loss of sight and speech, lesions on the skin, the “vomiting of nails” 12, the knowledge of unknown languages, strange voices and hallucinations – was explained by some as mental illness. The Dutch physician Johann Weyer was one of the first sceptics of the Devil's possession of witches, publishing *De Praestigiis Daemonum* (On the Deception of Devils) in 1563 as he believed that the women being killed in witch-trials were deluded rather than dangerous and that the hunters were missing the real magi infames such as Henry Corneluis Agrippa of Nettesheim and Theophrastus Bombatus von Hohenheim. 13 He rejected the claims made by both witch-hunters and witches that they had the spirit of the Devil within them, stating that their actions were “a fancy of the mind” 14 - psychological rather than supernatural in origin.

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12 B. Levack, 2004, p. 231


While Weyer was one of the first sceptics, and his writings were not generally accepted until the late 17th century. Trials such as that of Jean Colombain in 1624, whose facial disfiguration left him a social outcast who resorted to threats and “claims of supernatural experiences and powers”\textsuperscript{15}, which Briggs sees as having a psychological explanation, were common and it was not until the end of the 17th century, long after the beginning of the decline of the witch-hunts, that medical explanations were being used to disprove witchcraft accusations. That Hans Neuwille was acquitted of the murder of two brothers in Ban de la Roche in 1674 as their cause of death was ruled to be hereditary illness rather than a curse demonstrates that Weyer's writings only became influential in the latter stages of the decline.

Furthermore, Weyer provided no solutions to determining the cause of evil-doing or how to prevent the “bloodbath of innocents”\textsuperscript{16} and had no weight in influencing the accusations by rural communities. It is true that medical developments influenced the speed of the decline after 1630. Midwives were trained from 1631 in Paris and 1679 in Amsterdam, causing the deterioration of accusations that midwives had used magic for the purpose of infanticide. Thomas Sydenham's works on the hysteria of patients in 1682 were influenced by Weyer's ideas of psychology and he developed therapies to benefit patients with fevers, meaning they were less likely to die. However, as these advancements post-date the initial decline, it cannot be said that medical developments were initially causal.

Some historians have claimed that in intellectual, wealthy communities beliefs in ancient magic declined as they were discredited as the foolish ideas of the poor. The beliefs that stones had magical properties and powers, in spirits and in sea-monsters lost their prestige as the revolution in scientific discovery disproved them, rendering them old-fashioned. Briggs suggests that at this time there was a new generation of educated people who were distancing themselves from such old extremism and “skepticism, in other words, became fashionable”\textsuperscript{17}. In the comedies of the French playwright Molière, which were targeted at the rich, such as \textit{Le Médecin malgré lui} (The Doctor in Spite of Himself) of 1666 and \textit{Le malade imaginaire} (The Imaginary Invalid) of 1673, traditional medicine was ridiculed, demonstrating the changing attitudes of the wealthy.

Here, as before, the non-alignment of time period can be seen to undermine the argument that the changing attitudes of the intellectual and wealthy in relation to science had a direct effect on the initial decline of the witch-hunts. It is true that once the decline had begun, the attitudes of the rich towards magic, witchcraft and science allowed it to rapidly spread and continue. Yet the achievements of the early Scientific Revolution have been exaggerated, specifically by Lecky, due to the triumphalist approach to history popular in the Late Modern period. In fact, the sceptics were ignored and censored, their ideas made no crucial discoveries and their theories “did not obtain a firm basis in educated consciousness until the age of witch trials was past”\textsuperscript{18}. To bring about the decline, it was necessary for those overseeing the law courts to realise that the trials were becoming uncontrollable.

While the change of intellectuals' ideas cannot be seen as the basis of the decline of the witch-trials, the change in their views regarding the law courts can. High-profile chain-trials, accusing unstereotypical witches, brought the attention of the witch-trials to the elite who were controlled the legal system. Trials reliant on the evidence gained from torture began to be disreputed. The impact

\textsuperscript{15} R. Briggs, 20002, p. 39


\textsuperscript{17} Levack. B, 2006, p. 269

\textsuperscript{18} G. Scarre, J. Callow, 2001, p. 66
of this can be seen in Denmark, a country with an inherent belief in the demonic pact, where laws forbidding the use of testimony from “those convicted of...theft, treason and sorcery”\(^{19}\) and stating that “no person shall be interrogated under torture before he is sentenced”\(^{20}\), which were passed in 1547, severely reduced the number of executions to fewer than 1,000 witches.

Midelfort suggests that the inclusion of children in trials, such as in the Basque hunts of 1610-14, caused witch-trials to become discredited as the evidence of children was deemed to be unreliable. The panic that gripped Scandinavia at the end of the 17\(^{th}\) century ended when the child witnesses in a Stockholm trial admitted that their stories were false. In the Pendle witch-trials of 1612, the nine-year-old Janet Device was forced to identify Alice Nutter in an identity parade and was asked whether 'Jonah Noke', a name used in law to represent a non-existent person, was a witch. This shows how even in viscous witch-trials, the evidence given by children against unlikely witches was subject to some scrutiny.

In most areas of Europe, accused witches were old, lonely, poor and defenceless women. This meant that only when un stereotypeal victims were accused did they become scandalous. Johannes Junius, the Mayor of Bamburg, was one of the last victims of the aggressive chain-trial which lasted four years in the late 1620s. The escalation of the hunts from petty disputes in rural villages to accusations of prominent citizens in towns resulted in an increase in attention from those who controlled the law courts. The accusations became unbelievable and the ruling classes intervened to protect their own kind.

Fraudulent accusations of the involvement of certain wealthy people in witchcraft made the witch-trials decline as their basis was undermined. The Earl of Bothwell was accused of witchcraft and forced to flee by James I because he was a political rival. Such strategic allegations reduced the credibility of the trials, caused punishment to be brought against those who made false allegations and created a fear of accusing others. This was particularly dominant in England, where there were remains of the old accusational law system in which it was easier to be acquitted and if the defendant was found innocent, then the prosecutor was liable to litigation according to *lex talonis*. This happened in 1606 when Anne and Brian Gunter were convicted by the Star Chamber for “conspiracy to indict two innocent women for witchcraft”\(^{21}\) after the accused witches were acquitted and brought slander suits against their neighbours. Such cases meant that accusations of witchcraft “were no longer seriously entertained by the courts”\(^{22}\), as can be seen in Dorchester in 1634 when two women of opposing families accused each other of bewitchment but were simply ordered by the Justices of the Peace “to not abuse each other any more”\(^{23}\). The unwillingness of the magistrates to acknowledge accusations is due to their lack of credibility and “there is no good reason to suppose that the ideas of Descartes or Newton influenced their decision in any substantial way”\(^{24}\). Communities resorted to violence and isolation for vindication – such as the attacks on Joan Guppy which caused her to flee “in terror”\(^{25}\) - during the decline of the witch-hunts and this

\(^{19}\) Midelfort, 1981, p. 23

\(^{20}\) Midelfort, 1981, p.23


\(^{22}\) Thomas. K, 1999, p. 694


\(^{24}\) G. Scarre, J. Callow, 2001, p. 66

demonstrates that the law courts were removing the ability to bring “these completely false denunciations”\(^{26}\) and prosecuting villagers for these murders.

Yet on the continent, inquisitional law ruled the land – *lex talonis* no longer existed, legal professionals took cases to prosecution (meaning there were lower acquittal rates) and a poor reputation could bring a person to court. The intervention of God was not employed as evidence, as in the accusational system, and the trials were variable as they relied upon the rationalism of the judge and called for a greater degree of proof. For the witch-hunts to decline in these areas, it was necessary that the legal professionals intervened, regulating the use of torture, bringing an end to the view of witchcraft as a *crimen exceptum* and scrutinising cases more closely. In 1621, the Paris Parlement decreed that all witchcraft cases in lower courts were to be referred to them and in 1640, all accusations were rejected, with lower court judges punished for using torture. The use of torture was “grossly abused”\(^{27}\) in Europe but when it was restricted the witch-trials deteriorated. In Spain in the 1620s, Cardinal Desiderio Scagli’s call for restraint in the use of torture and the careful evaluation of witches’ confessions, as well as Alonso de Salazar Frías' reports on torture, “virtually ended executions of witchcraft by the Spanish Inquisition”\(^{28}\) because without successful prosecutions, witchcraft accusations was powerless.

When the view of witchcraft developed into the idea of a diabolical compact taking place between the witch and the Devil, it became impossible to produce infallible evidence of the event’s occurrence. In Elizabethan England, all that was necessary to prove that witchcraft had occurred was evidence of *maleficium*, but the Witchcraft Act of 1604, which focused on the diabolical compact, meant that the focus for trials was a free confession of involvement with the Devil. Yet even this proof was unsatisfactory as a ‘familiar’ could be a pet, a confession could be due to mental illness and a ‘sabbat’ could be merely a social gathering. In England, it was the attempt at instigating the view of witchcraft as devil-worship that caused the rise in the acquittal rate. The problem of proving that “something was caused by witchcraft rather than natural causes”\(^{29}\), demonstrated by the French Parlements’ ending of French witch-trials because it was “impossible to distinguish possession from nature in disorder”\(^{30}\), illustrates the power of the law, especially over diabolism in western European states, on the decline.

The argument that an improvement in the economic situation caused the decline in witch-trials is based on the view that the trials were caused by the rural communities' need to find scapegoats for their problems. Climate historians claim that the decline was brought about by the end of the ‘little ice-age’ that they have found to exist between 1560 and 1630 as the peaks of witch persecution in Europe coincide with the “critical points of climatic deterioration”\(^{31}\). Many witch-trials in these periods stemmed from accusations that witches had created 'unnatural weather' which had caused crops to fail and increased the price of grain. In the *Gesta Trevorum* (Deeds of the Treven),


\(^{29}\) Wrightson. K, 2011

\(^{30}\) Thomas, 1991, p. 686

Linden notes that during the reign of Archbishop Johannes VII von Schönemberg (1581-99), Trier experienced just two years of fertility from nineteen and that “the whole country stood up for [the witches’ eradication]”. Similarly, a storm of hailstones followed by a bitter frost on 26th May 1626 in the Rhine basin caused crop failures, cattle deaths and price-rises, forming the basis of accusations in the following years.

Wilson states that “magic is dominant when control of the environment is weak” and Thomas recognises that accusing a witch of magic “makes the practitioner feels that he is doing something positive towards the solution of his problem”, alluding to the reasons for rural witchcraft accusations. However, the witch-trials declined in Germany in the 1630s despite disease, famine, economic hardship and the destruction of the 30 Years’ War. While tragedies worsened stressed socially circumstances, there is insufficient evidence to claim that the dominant response to this was blaming witches – “survival rather than scapegoating” was more important to the peasants. The fragility of life was prevalent throughout this period and its improvement did not correlate with the decline of the witch-trials; therefore the end of the ‘little ice-age’ cannot be the cause of the decline.

The argument that urbanisation was a key factor in the decline of the witch-trials has been put forward by Davis. He notes how urbanisation ameliorated communication, meaning messages could transmit coherently within a community and intellectual ideas were able to permeate the lives of the poor, eliminating isolation. There was greater job security in towns due to trade, a greater concentration of wealthy people and less reliance upon the land. Studies have shown that literacy rates improved: in the period before the English Civil War, while in the English countryside had a male literacy rate of only 30%, 80% of men in cities could read.

Yet these arguments exaggerate the impact of the benefits of urbanisation on the witch-trials. It cannot be claimed that there was mass-migration to European towns before the Industrial Revolution, the pamphlets which circulated in towns were mainly propaganda not intellectual theories and life in towns was still fragile due to uncleanliness and disease. However it does demonstrate that changes in the quality and way of life, facilitated by the ruling class, made accusations of witchcraft by the poor less necessary.

In relation to the decline of the witch-hunts, the Scientific Revolution cannot be seen to be the catalyst for the initial decline as the periods do not align chronologically. Historians who support the argument that it had an impact on the decline do, however, identify the importance of the changing ideas of the wealthy on the decline. The medical advancements as well as the changes in philosophy and the beliefs of the wealthy, which were brought about by Cartesian theories, undermined the belief in witches and allowed the deterioration of trials in the late 17th century. The argument that economic changes made the witch-hunts decline because of the needlessness of accusations ignores the ‘top-down’ nature of the decline of the witch-trials; it was changes made by the powerful rich that brought about the decline. The fundamental change that brought about the decline was mental not technological and therefore the primary reason for the decline of the witch-hunts was the reform of the law as this meant it was more difficult for trials to be conducted and witches to be found guilty. This change was called for by the early sceptics, and adopted by the powerful for various reasons including self-protection, religion and disbelief in the diabolical compact. It meant that absurd convictions of children, chain-trials, false accusations, the murder of


33 Thomas. K, 1991, Chapter 18

34 Thomas. , 1991, Chapter 18

innocents, allegations to solve familial disputes, scapegoating and accusations for personal gain were no longer possible. The witch-trials did not begin to decline until judges realised they were condemning innocents and initiated important legal reforms.

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