



• encourages critical and scientific thinking • serves as an information resource on extraordinary claims • provides extraordinary evidence that skeptics are cool

Mysterious Delusions: Witchcraft in Salem

by Walter F. Rowe, Ph.D.
Professor, Department of Forensic Sciences
The George Washington University
Washington, DC

The Salem witchcraft trials are events that most Americans have heard of, but about which they actually know very little. For example, some people believe that witches were burnt in Salem. Actually, the prescribed punishment for witchcraft under English law was hanging. Another commonly held belief is that the witchcraft hysteria started when a group of young girls in Salem, under the tutelage of Tituba, an African slave, used magical spells to try to find out the occupations of the men that they would marry.

This cluster of beliefs now has the status of an academic urban legend. The notion that a group of girls was using magic to find out about their future husbands stems from a careless reading of a remark of Rev. John Hale, who wrote that one of the young accusers had confided to him her own use of magic in this way.

The idea that a group of girls in Salem Village could meet clandestinely to carry on magical séances represents a failure of the historical imagination. The girls lived on widely dispersed farms; many were domestic servants; and all lived in very cramped houses under constant adult supervision and surveillance. A perusal of the floor plan of any 17th century New England house shows that personal privacy simply did not exist.

Finally, the belief that the slave Tituba was African has been put about by academic activists eager to highlight African-American



1876 illustration of the courtroom; the central figure is usually Mary Walcott

contributions to American history (even if that contribution is the creation of a moral panic). This claim flies in the face of the clear, unambiguous statement of Rev. Samuel Parris, her owner, that she was an Indian.

After generations of shame over the witchcraft trials, the town of Salem has now decided to capitalize on it. Thus, Salem has its Salem Witchcraft Museum, its Salem Wax Museum (with tableaux of the trials) and the Witch House (actually the house of Justice of the Peace Jonathan Corwin.). Ironically, although the trials did, indeed, take place in Salem, the witchcraft hysteria in 1692 started in Salem Village (now the township of Danvers), and most of the accused witches resided in other townships. A 17th century inhabitant of

continued on page 8

coming events 2	
prez sez 2	2
The Amazing Meeting 4	4
So-called Intelligent Design is Not Science	24
Michael Servetus—Death by Fire	26
Origin of Modern Day Occult	30
about NCAS	32

http://en.wikipedia.org/wiki/Salem_witch_trials

coming events

- The 2005-2006 NCAS Lecture season ends in May. There will be a social for NCAS members in June—details forthcoming.
- The Board has decided to resume holding monthly NCAS events in Virginia as well as Maryland, true to the “Capital Area” part of our name and mission. In the coming 2006-2007 lecture season, talks will be

at the Tysons-Pimmit Library in Virginia on September 9, November 11, December 9, and February 10. Dates are being reserved for NCAS talks at the Bethesda Library in January, March, April, and May. The NCAS annual program will be held in October at a venue to be determined. ☒

prez sez

by Gary Stone

Dear NCAS Members:
As the annual NCAS board election arrives, it is a good time to take stock. Although the recent informal NCAS members questionnaire was not designed to produce robust statistical inferences about the entire NCAS membership, a simple tabulation of the responses does provide the following insights, which will be helpful in planning future NCAS activities. Thanks to all who participated. Keep your suggestions coming to ncas@ncas.org.

Current NCAS president, Gary Stone, has served in many capacities in NCAS over the years, most recently as vice president of the board of directors. Gary often will be seen videotaping the monthly NCAS presentations for posterity.



photo of Gary Stone by Helen Hester-Ossa

These five issues were ranked equally high by the most respondents:

- Creationism/Intelligent Design, Evolution, Religion vs. Reason, Separation of Church and State
- K-12 Science Education, Science Literacy, Critical Thinking, Political Correctness
- Unscientific/Alternative/Quack/Fringe Science/Health/Medicine/Psychology: *e.g.*, Herbal Medicines, Medical Charlatans, Medical Scams, False Memories
- Scientific ignorance, misuse of Science/Statistics/Data in media/politics/public policy/ government regulation; fads in management, health, and self-help
- Explanations/Debunking of Cold Readings, Hoaxes, Frauds, Scams, Psychics, Pseudoscience

As indications of NCAS members' wide-ranging interests, these other issues were mentioned by one respondent each:

- Anomalous science and technology
- Archeological controversies

National Capital Area Skeptical Eye (ISSN 1063-2077) is published by the National Capital Area Skeptics, PO Box 8428, Silver Spring, MD 20907.

Copyright © 2005 National Capital Area Skeptics. Signed articles are the opinions of the authors. Opinions expressed herein do not necessarily reflect the position of the editors, the Board of Directors, or the National Capital Area Skeptics.

24-hour phone number: 301-587-3827
e-mail: ncas@ncas.org
Skeptical Eye input: s_eye@ncas.org
Internet: <http://www.ncas.org>
NCAS discussion group: ncas-share@ncas.org

NCAS Board of Directors Executive Committee

Gary Stone, president
Jim Giglio, vice president
Marv Żelkowitz, secretary
Grace Denman, treasurer
Chip Denman, spokesperson

Other Board members

Sharlene Deskins
Herb M. Federhen
Neil Inglis
Curtis Haymore
Brian Morton
Eugene W. Ossa

Meredith Rode
Walter F. Rowe
Tim Scanlon
Scott Snell
Jamy Ian Swiss

Editor/Designer/ Photographer

Helen E. Hester-Ossa

Guest Editor

Sharlene Deskins



recycled paper

prez sez continued from previous page

- Astrology
- Biological sciences
- Conspiracy theories
- Cosmological controversies
- Government disinformation
- Low energy nuclear reactions
- Occult beliefs, how they affect culture
- Post Modernism
- Space
- Systems Biology
- Unconventional ideas in science, the value of
- UFOs

Respondents said they were able to attend weekend daytime NCAS events in Metro Montgomery County (94%), D.C. (77%), Metro VA (72%), and Metro PG County (61%). For evening events it was Montgomery County (72%), D.C. (50%), Metro VA (44%), and Metro PG (38%).

Regarding subway or bus transportation, half the respondents said that subway/bus transportation is “very important” (11%) or “somewhat important” (38%) for their attendance at NCAS events—correspondingly, the other half of respondents said that subway/bus transportation is “not at all important” (44%) or “not very important” (5%).

The percentage of respondents who were discouraged in attending high-interest NCAS events by each of these factors were: conflicting obligations (61%), day or time (27%), location (16%), too far (16%), didn’t see notice (11%), forgot (11%), don’t like gatherings (5%).

Shown below are the percentages of respondents who said they could attend NCAS events at these times:

The zip codes from which people come to attend weekend and week night NCAS events will take a little longer to analyze. Several dif-

Percentages of Respondents Who Said They Could Attend NCAS Events at These Times

	MON	TUE	WED	THU	FRI	SAT	SUN
First Week							
Morning						16.7	11.11
Afternoon						55.6	55.56
Evening	38	27	22	27	11	55.6	22.22
Second Week							
Morning						27.8	16.67
Afternoon						55.6	55.56
Evening	38	27	16	22	11	44.4	22.22
Third Week							
Morning						27.8	11.11
Afternoon						61.1	50
Evening	38	27	22	27	11	50	22.22
Fourth Week							
Morning						27.8	16.67
Afternoon						61.1	50
Evening	38	27	22	27	11	55.6	27.78

ferent inferences are possible from the data. If you are interested in helping with that analysis, please contact me.


We received many excellent comments, suggestions and specific offers to help NCAS—we’ll soon follow-up on each of those individually.

Gary Stone, garolds@yahoo.com

elections coming soon

Elections for the NCAS Board of Directors will be coming soon. The Board members up for election/reelection this year are:

- Sharlene Deskins
- Herb Federhen

- Bing Garthright
 - Curtis Haymore
 - Ron Levin
 - Walter Rowe
 - Scott Snell
 - Jamy Ian Swiss
- Be watching your mail! 

The Amazing Meeting 4, hosted by James "The Amazing Randi" and the James Randi Educational Foundation (JREF), was held at the soon-to-be-torn-down Stardust Hotel & Casino in Las Vegas from January 26-29, 2006. James Randi has an international reputation as a magician and escape artist, but today he is best known as the world's most tireless investigator and demystifier of paranormal and pseudoscientific claims.



All photos by Helen Hester-Ossa

Randi and NCAS' own Chip Denman and Eugene Ossa. Other NCAS members who attended were Grace Denman, Curtis Hayfield, Helen Hester-Ossa, Scott Snell, and Jamy Ian Swiss.



James "The Amazing" Randi, host of TAM4



Christopher Hitchens' trademark savage wit flattens hypocrisy inside the DC Beltway and around the world, laying bare the "permanent government" of entrenched powers and interests. He's the author of many bestsellers. From Mother Theresa to Michael Moore, no one is above scrutiny.

Todd Robbins and the Human Pretzel, which included Adam Savage from Mythbusters



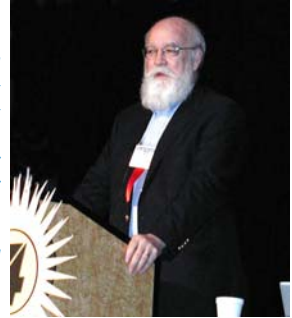


Grace & Chip Denman, National Capital Area Skeptics (NCAS). Daniel W. "Chip" Denman is a statistician at the University of Maryland. He teaches "Science and Pseudoscience" for the Honors Program, and recently created a graduate course in information visualization for the College of Information Studies. He is a past-president and co-founder of NCAS. Grace is also a co-founder and current treasurer of NCAS.

Award-winning magician, psychologist, and author, Dr. Richard Wiseman is frequently seen on British television and has given lectures in many different countries. He pays particular attention to the psychology behind belief in psychics and most recently, alleged hauntings.



Daniel Dennett's research centers on philosophy of mind and philosophy of science, particularly as those fields relate to evolutionary biology and cognitive science. He is currently the Austin B. Fletcher Professor of Philosophy and director of the Center for Cognitive Studies at Tufts University. (No, your eyes aren't fooling you, Dennett and Randi look very similar.)



Dr. Stanley Krippner has conducted workshops and seminars on personal mythology, dreams, hypnosis, and/or anomalous phenomena in over a dozen different countries. He is a Fellow of the Society for the Scientific Study of Religion, and has published cross-cultural studies on spiritual content in dreams.



Magician and comedian Mac King was named "Magician of the Year" by the Magic Castle in Hollywood, broke a Guinness World Record, just appeared on his special for NBC, was voted the 6th best show in Las Vegas, and his new book has just entered its 5th printing. King is shown here pulling a Fig Newton out of his pants

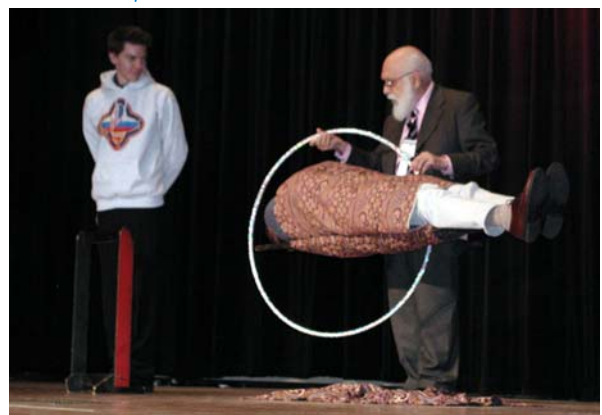
Lt Colonel Hal Bidlack, Ph.D., (left) is an Associate Professor of Political Science at the USAF Academy. He has a long history with the JREF, and has previously performed as Master of Ceremonies, speaker, and presenter. Dr. Michael Shermer (right) is the Director of the Skeptics Society, founding publisher of Skeptic Magazine, columnist for Scientific American, and producer of the TV series, Exploring the Unknown. His many books include: The Borderlands of Science, How We Believe, and Why People Believe Weird Things.



Randi and the Amazing Levitating Astronaut, Ed Lu. Since obtaining his Ph.D., Dr. Lu has been a research physicist working in the fields of solar physics and astrophysics. He's also spent 207 days in space aboard the Space Shuttle and ISS, and was a volunteer in "The First Card Trick in Space."



Mac King and his cloak of invisibility



continued on page 6



In 1969, Professor Murray Gell-Mann received the Nobel Prize in physics for his work on the theory of elementary particles and is author of the popular science book, *The Quark and the Jaguar*, *Adventures in the Simple and the Complex*.

Dr. Carolyn Porco is a leader in the exploration of the solar system. She wrote her thesis on *Voyager*, has worked on the *Mars Observer*, the *Lunar Explorer*, and *Cassini*. Her company produces space imagery in an artistic and educational manner.



Jamie Hyneman and Adam Savage are the *Mythbusters*, a couple of guys with lots of special effects experience who test urban legends and blow stuff up. Part science, part education, their hit show on the Discovery Channel shows that science can be fun as well as informative. Shown are Hyneman, Kari Byron (one of the *Mythbusters* team), Savage, and Penn Jillette.



Known to viewers from hit shows *Northern Exposure* and *Empty Nest*, Paul Provenza is on the cutting edge of comedy. Most recently, Paul directed the award winning documentary, *The Aristocrats*.

Carney showman Todd Robbins and Paul Harris, of "The Paul Harris Show" on News-Talk 1120 KMOX.



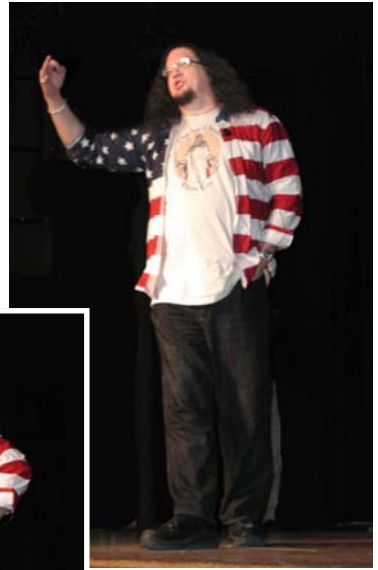
Adam Savage of *Mythbusters* speaks to Ovation Award winner Julia Sweeney, who is best known for her character Pat on *Saturday Night Live*, and her acclaimed Broadway show "God Said, Ha!". She has worked on the shows *Sex & the City* and *Desperate Housewives* and has written and performed 2 one-woman monologues. Julia won her Ovation Award for her current one-woman show, "Letting Go of God."

Ellen Johnson is the President of *American Atheists*, which defends the civil rights of nonbelievers, works for the separation of church and state, and addresses First Amendment issues. A second-generation Atheist herself, she organized the historic "Godless Americans March on Washington" in 2002.





Penn Jillette is half of the duo known as Penn & Teller. They defy labels, and, at times, good taste. They've performed together for more than 25 years; skewering the genre of magic, their sold-out audiences, and themselves — very often all at the same

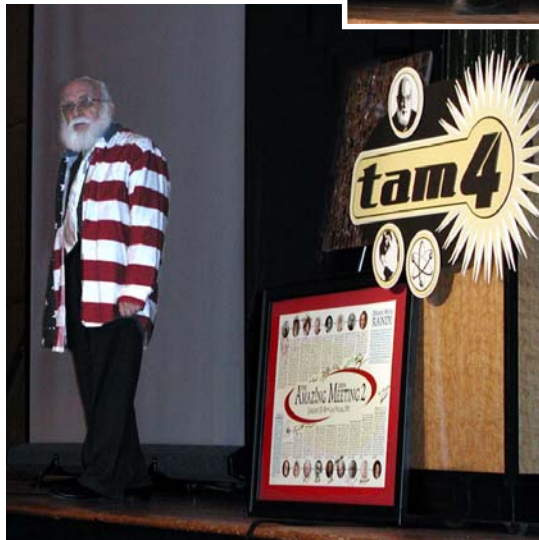


time, within one mind-boggling evening. Penn is shown here in his American flag shirt, which he later literally took off his back for the auction to benefit the James Randi Educational Foundation. Randi wears the shirt, below, during the auction.

Jamy Ian Swiss has performed internationally for corporate clients, lectured to magicians in 13 countries, and made numerous television appearances including CBS 48 Hours, PBS Nova, the PBS documentary The Art of Magic, and Comedy Central. He is a co-founder of the National Capital Area Skeptics and a contributor to Skeptic magazine.



Todd Robbins, above and above left, demonstrates his carney skill of sword swallowing. Todd Robbins is the world's foremost purveyor of reality at its most amazing—He is the classiest act to ever grace the stage of the American Sideshow. You may have seen him on one of the over 100 TV appearances he has done! These include multiple appearances on David Letterman, Jay Leno and Conan O'Brien; and the NBC special Extreme Variety.



Artist Jose Alvarez (aka "Carlos") donated to the JREF auction two pieces of quartz artwork that raised more than \$6,000 apiece.



Salem Village would nod knowingly at this modern example of Salem Town's getting over on Salem Village.

The 17th Century New England Mind

The Salem witchcraft trials occurred at the very beginning of the scientific revolution. Copernicus' heliocentric solar system was just becoming widely accepted. Robert Hooke's *Micrographia* (the first book on microscopy) was just off the presses. Isaac Newton had published his *Principia Mathematica* in 1687. In 1692 Rev. Richard Bentley presented the first popularization of the Newtonian world system when he delivered the first Boyle Lecture. Robert Boyle, the father of chemistry, discoverer of Boyles' Law of Gases, and author of the *Sceptical Chymist*, had died the previous year and left an endowment for lectures demonstrating the compatibility of science and Christianity.

The Massachusetts Bay Colony was, in many ways, an intellectual backwater. There were no newspapers; books were rare and costly. In most households reading material was restricted to the *Bible* and the almanacs issued by Harvard College. At Harvard Col-

lege the principal scientific textbook, Charles Morton's *Compendium Physicae*, was never actually printed; generations of Harvard undergraduates laboriously copied its text by hand. New England was, however, unique in the history of colonization in the large number of college graduates who had immigrated. It has been estimated that during the first decades of the Bay Colony, one in forty men held a college degree—a far higher proportion than would have been found in the general population of Great Britain at that

time. In 1636 the Bay Colony had established Harvard College "To advance Learning and perpetuate it to Posterity; dreading to leave an illiterate Ministry to the Churches." Although the emphasis of the early curriculum of the College was on classical languages, the curriculum also included Aristotelian philosophy, logic, mathematics, physics, and astronomy. The quality of the education provided at Harvard was highly regarded: Oxford formally recognized a Harvard A.B. as equivalent to an Oxford A.B. Given that Harvard College was the only institution of higher learning in New England, it is not surprising that many of the major figures in the Salem witchcraft trials were Harvard graduates: William Stoughton, deputy governor and chief justice of the special court that tried the witches; Nathaniel Saltonstall and Samuel Sewell, members of the special court; Increase Mather, negotiator of the colony's new charter, President of Harvard College, pastor of Old North Church in Boston, and ultimately a harsh public critic of the special court; Cotton Mather, son of Increase Mather, pastor of Old South Church, prolific writer and the strongest public defender of the trials and the special court; John Hale, minister of Beverly, Massachusetts, witness at several of the witch trials, and author of one of the few contemporary books on the trials; George Burroughs, former minister of Salem Village and supposed leader of the New England witches; and Samuel Willard, minister of the Third Church in Boston and a harsh public critic of the special court. Samuel Parris, in whose home the witchcraft hysteria began, had attended Harvard but did not take a degree: he was forced to leave college upon the death of his father.

In the 17th century virtually everyone believed in witchcraft. Indeed, virtually every culture has accepted the reality of witchcraft. In pre-Christian belief systems, witches were persons with access to supernatural powers who committed acts of *maleficium* against their neighbors. Witches destroyed livestock and other property; they made adults and children sick. The *Golden Ass of Apuleius* provides a compendium of witchcraft belief in ancient Greece and Rome. Some of the testimony in the Salem witchcraft trials focused on

Giles and Martha Corey. He was pressed to death with stones; she was hung.



photo from: http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_BCOR.HTM

supposed acts of *maleficium* committed by the accused, but such testimony was clearly a garnish to the real case against the witches: their participation in a satanic conspiracy.

The New England Puritans added another level to this pre-existing belief system. According to the Puritan's Calvinist theology, an omnipotent God gave Satan the power to afflict Christians to test their allegiance to God. Satan was conceived as heading an antichurch that mirrored the Christian church in hierarchy and liturgy. Satan tempted or afflicted persons to gain their allegiance. The temptations and afflictions could come directly from Satan or through his emissaries (witches). Satan's recruits would sign his book and participate in the witches' sabbat. The sabbat included a mockery of the Eucharist: the witches would eat red bread and drink red wine, often reciting the Lord's Prayer backwards.

The New England Puritans saw the witches and their sabbats as part of a wide-ranging conspiracy against their colony and their church. Satan and his minions intended to overthrow all the churches and bring in the rule of Satan. Satan would supply his followers' material wants and his followers would all be equal. The size of the witch conspiracy was vast: one of the confessed witches told authorities that there were 307 witches in New England.

The idea that New England was uniquely targeted by Satan and his minions resonated with the New England Puritans' belief that the establishment of the Bay Colony was a religious event second in importance only to the original establishment of the Christian church. The New England Puritans were building a Godly commonwealth, purged of the accumulated corruptions of Catholicism and mainstream Anglicanism. Satan would, of course, attempt to destroy this effort to return to the purity of the early Church.

At a deeper level, many prominent New England Puritans (of which Cotton Mather is merely one example) were suffering a crisis of faith. The rapidly developing materialism of early modern science tried their faith in an omnipotent, omniscient God who was intimately involved in the day-to-day workings of the world. If it could be demonstrated that witches

existed, then the reality of a supernatural realm would have been demonstrated. Then God could exist. If there were no witches, there was no God.

During the Salem witchcraft trials various types of evidence were used to prove that an accused person was a witch. The most controversial evidence was what was called 'spectral evidence.' An afflicted person would claim to see a specter of the witch; the specter might pinch, scratch, or bite the afflicted person to force the victim to sign Satan's book. The accusers were often able to display bite marks on their arms, as well as pins or knife blades stuck in their flesh. As the Salem witchcraft hysteria progressed, the specters began also to confess to serious crimes, such as murder. In the 17th century Christian theologians were divided on the use of 'spectral evidence.' Some thought that it could be used in court because they believed that Satan could not send forth the specter of an innocent person. Other theologians thought that accepting 'spectral evidence' amounted to accepting the testimony of Satan. As will be seen, the issue of the admission of 'spectral evidence' ultimately provoked strong public criticism of the trials from the Puritan elite.

Other tests were also used. If the accused witch glanced at the accusers and the accusers then went into fits, this showed that the accused had 'overlooked' the victims. When accusers went into fits the 'touch' test would then be applied. The accused witch would be compelled to touch the afflicted; if the fits ceased, that was evidence that the accused was indeed a witch. The 'overlooking' and 'touch' tests figure significantly in accounts of the Salem witchcraft trials because the accused and accusers confronted one another in open court so that there was ample opportunity for the accusers to collapse in fits that would be quieted by the touch of the accused. These in-court attacks on the accusers also met the legal requirement for two witnesses to a single act of witchcraft.



Cotton Mather

http://www.spurgeon.org/~phil/mather.htm

Cover to John Hale's book

A Modest Enquiry Into the Nature of Witchcraft,

A N D

How Persons Guilty of that Crime may be Convicted: And the means used for their Discovery Discussed, both Negatively, and Affirmatively, according to SCRIPTURE and EXPERIENCE.

By John Hale,

Pastor of the Church of Christ in Beverly, Anno Domini 1697.

When they say unto you, seek unto them that have Familiar Spirits and unto Witches, do not hearken, &c. To the Law and to the Testimony; if they speak not according to this word, it is because there is no light in them, Isaiah VIII. 19, 20. That which I see not teach thou me, Job 34. 32.

BOSTON in N. E. Printed by B. Green, and J. Allen, for Benjamin Elliot under the Town House: 1702

photo from http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_PHO.HTM

continued on page 10

A Brief Chronology of the Salem Witchcraft Trials

- 1688: In Boston, Martha Goodwin is ‘bewitched’ by Goody Glover; Cotton Mather attempts to treat Goodwin; he publishes *Memorable Providences, Relating to Witchcrafts and Possessions*, describing Goodwin’s affliction.
- 1689: Samuel Parris becomes new minister of Salem Village and moves there from Boston.
- 1691: Some Salem villagers quarrel with Parris and stop paying his salary.
- January 1692: Abigail Williams, Elizabeth Parris, and other young girls begin acting strangely.
- February 1692: Doctor treating children suggests cause of their afflictions may be witchcraft; Tituba bakes a ‘witch cake;’ Elizabeth Parris accuses Tituba and later Sarah Good and Sarah Osborne of witchcraft; Tituba, Sarah Good, and Sarah Osborne are arrested.
- March 1692: Tituba confesses to practicing witchcraft and confirms that Good and Osborne are also witches; more young girls join accusers; more women are accused of witchcraft, including Martha Cory, Rebecca Nurse, Dorcas Good, and Elizabeth Proctor.
- April 1692: More villagers are accused, including Sarah Cloyse, John Proctor, and Giles Cory; Accuser Mary Warren attempts to recant accusations, then rejoins accusers; former Salem Village minister George Burroughs is accused; accusations spread to neighboring Andover, where Abigail Hobbs confesses and names other witches.
- May 1692: New Royal Governor Sir William Phips establishes Court of Oyer and Terminer under Lieutenant Governor William Stoughton with prominent judges such as John Hathorne, Nathaniel Saltonstall, and Samuel Sewall as members; Essex County grand jury and petit jury are summoned to hear cases.
- June 1692: Cotton Mather suggests that court not use spectral evidence; Bridget Bishop is convicted and sentenced to death; Rebecca Nurse is acquitted, then convicted and sentenced to death.
- July 1692: Rebecca Nurse, Susannah Martin, Elizabeth Howe, Sarah Good, and Sarah Wildes are hanged on Gallows Hill in Salem Town.
- August 1692: John and Elizabeth Proctor, George Burroughs, and others convicted and sentenced to death; George Jacobs Sr., Martha Carrier, George Burroughs, John Willard and John Proctor are hanged on Gallows Hill; Elizabeth Proctor is found to be pregnant.
- September 1692: Giles Cory is pressed to death in effort to force him to enter a plea; Martha Cory, Margaret Scott, Mary Easty, Alice Parker, Ann Pudeator, Willmott Redd, Samuel Wardwell, and Mary Parker are hanged.
- October 1692: Cotton Mather produces defense of trials; Increase Mather denounces the use of spectral evidence; Rev. Samuel Willard and Thomas Brattle produce critiques of the trials; Governor Phips blocks further use of spectral evidence, prohibits further arrests, releases many accused witches, and dissolves Court of Oyer and Terminer.
- November 1692: General Court establishes Superior Court to try remaining witches.
- January 1693: Superior Court orders execution of condemned whose hangings were postponed because of pregnancy; Governor Phips blocks order; most of the remaining accused are released from jail.
- May 1693: Governor Phips pardons those still in jail.

The bodies of accused witches were also searched for the Devil’s Mark: any unnatural excrescence on the skin. In Europe, it was believed that Satan placed two types of marks on witches. The first was a sort of brand that was placed on witches to identify Satan’s own. Such marks could be identified by their lack of

sensation. Hence, the standard test for this type of mark was to prick it with a needle and observe the accused witch’s reaction. The other type of mark was a preternatural teat with which the witch suckled his or her familiar, a supernatural companion capable of taking a variety of forms, including cats and



birds. Puritans, both in Britain and in New England, seem to have conflated the two kinds of marks. Accused witch Rebecca Nurse was examined at least twice by a jury of women: the first examination found a witches teat near her private parts; it was gone when the second examination was conducted. As might be imagined, given 17th century standards of hygiene and medical care, it would not have been difficult to find all sorts of ‘preternatural’ excrescences on the bodies of the accused.

Satan Unleashed in Salem

A detailed chronology of the Salem witchcraft outbreak is given in the sidebar. The witchcraft hysteria began in February 1692 when the daughter and niece of Rev. Samuel Parris, the minister in Salem Village, began to display strange and disturbing behavior. Rev. Deodat Lawson, a former minister in Salem Village who came to deliver a sermon in March 1692, has left a vivid account of the antics of Parris’ niece, Abigail Williams. She fluttered about the parsonage on tiptoe, waving her arms and crying ‘whish, whish.’ (This bizarre behavior would have brought a chill to anyone familiar with the testimony in the Bury St. Edmunds witchcraft trial: one of the afflicted children in that case had fluttered about murmuring ‘hush, hush.’) Abigail then climbed into the fireplace and threw burning logs out into the room. The next day in church Abigail repeatedly interjected loud comments on Lawson’s sermon. A doctor who examined the afflicted girls could find no medical reason for their behavior and suggested that the girls were being bewitched. When prayer and fasting failed to ameliorate the children’s condition and the children began to accuse neighbors of being witches, the matter was turned over to local justices of the peace Jonathan Corwin and John Hathorne for investigation. Corwin and Hathorne conducted their inquiries in the worst possible way: they examined the afflicted girls and the accused together in public. The afflicted girls now began to suffer fits when confronted with the accused witches. By April a number of accused witches had been arrested and the hysteria had spread to the neighboring township of Andover. Abigail Hobbs, one of the accused

Andover witches, readily confessed to being a witch and named other members of the witch conspiracy. In May Sir William Phips, the newly appointed Royal Governor, arrived from England with the new colonial charter.

To deal with the witchcraft crisis Phips created a special Court of Oyer and Terminer to try the accused witches. A special court was needed because the abrogation of the old colonial charter and its replacement with a new one had left Massachusetts without any legal system. Some historians have asserted that the witchcraft trials were, therefore, technically illegal. The court would be headed by the deputy governor William Stoughton and would include a number of noted magistrates. A grand jury and a petit jury were also summoned for Essex County (which included Salem Village, Salem Town, and Andover). The Court of Oyer and Terminer and the Essex County juries acted with commendable zeal and efficiency. An accused witch could be indicted, tried, convicted, and condemned to death, all in the same day. By October 19 witches had been hanged, one accused witch had been pressed to death for refusing to plead to the charges, dozens of witches had confessed, and over a hundred accused witches languished in jail.

The proceedings of the Court of Oyer and Terminer now came under public attack. A convocation of Puritan ministers convened by Increase Mather in Cambridge harshly criticized the court’s use of spectral evidence.

Examination of a Witch



photo from http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_PHO.HTM

Mather published *Cases of Conscience*, in which he presented a detailed critique of the court's handling of the cases. More liberal Puritans, such as the Rev. Samuel Willard and Thomas Brattle provided their own public condemnations of the court's faulty logic and faulty application of English law.

In 1692 Samuel Willard was minister of the Third Church in Boston. Although he was one of those accused of being a witch, he refused to mute his criticism of the special court. He wrote the preface to Increase Mather's *Cases of Conscience*. Willard also published his own short pamphlet *Some Miscellany Observations on Our Present Debates Respecting Witchcrafts, in a Dialogue Between S. & B.*, despite Governor Phips' prohibition of further publications relating to the witchcraft trials. The pamphlet reiterated Increase Mather's criticisms, but with a more biting tone. The S and B in the title refer to Salem and Boston. Willard framed his critique as gentlemen of Boston (i.e., *the Bay Colony's intellectual elite*) trying to correct the logical and legal errors of the gentlemen of Salem (i.e., *hayseed rubes*). Willard's condemnation of the court would have carried special weight among literate New England Puritans. Some years before the Salem witchcraft outbreak, Willard had been confronted with the demonic possession of his servant girl, Elizabeth Knap. Knap had displayed many of the symptoms of the afflicted girls in Salem. She also accused some

of the residents of Groton (where Willard was then living) of being witches. Unlike Samuel Parris, Willard refused to allow the names of the accused to be made public (even in his written account of this episode, he suppressed their names). Willard believed that Knap was possessed by Satan and that her accusations were prompted by Satan. Eventually Knap's afflictions abated (although she apparently did not return to normal). Willard wrote a very detailed account of the episode, which he passed on to Increase Mather, who published an abbreviated account of Knap's possession in his book *Memorable Providences*.

Early in October 1692, Thomas Brattle, one of the members of Rev. Samuel Willard's Third Church in Boston, wrote a circular letter criticizing the trials. Brattle is usually described in books about the Salem witchcraft trials as a rich merchant. His father had made his fortune as a merchant, but Brattle himself was given to more intellectual endeavors. He was probably the only empirical scientist working in the British colonies in 1692. Brattle had received both his A.B. and A.M. from Harvard College. He had made telescopic observations of the Comet of 1680-81 that were used by Isaac Newton in the *Principia* to calculate the orbital elements for the comet. Newton refers to Brattle in the *Principia* as 'our observer in New England.' Brattle had spent a number of years in London, where he became a friend of chemist Robert Boyle, architect Sir Christopher Wren and Astronomer Royal John Flamsteed. Brattle even had two papers published in the *Philosophical Transactions of the Royal Society*: "Eclipse of the Sun and Moon observed in New England," (1704) and "Lunar Eclipse, New England" (1707). Brattle is frequently described as a Fellow of the Royal Society. However, my search of the list of Fellows of the Royal Society on the Royal Society's website failed to confirm this claim. He has evidently been confused with his brother, William, who was elected Fellow in 1714.

Nicholas Noyes, the second minister at the Salem Town church, had provided a "scientific" explanation for "overlooking" and the "touch" test. According to Noyes, when a witch looked at one of the afflicted, poisonous

"The Trial of George Jacobs, August 5, 1692." By T. H. Matteson, 1855.



photo from http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_PHO.HTM

particles streamed out of the witch’s eyes and accumulated in the body of the afflicted. When the witch touched the afflicted victim, the malignant particles flowed back to the witch’s body. Noyes was attempting to provide a “scientific” basis for the touch test using the Cartesian concept of effluvia. Brattle’s letter refuted this theory as being based on a misunderstanding of the Cartesian theory. He also pointed out that the accusers’ claims to see specters when their eyes were shut were false, because humans cannot see with their eyes shut. Noyes’ theory of the touch test harked back to the ancient theory of vision according to which streams of particles leave the eye and interact with the object seen. Brattle uses the more modern theory that vision is caused by light rays entering the eye.

Governor Phips’ response to this storm of protest was to abolish the Court of Oyer and Terminer. He then had the accused witches released on bail. When these accused witches were brought to trial in early 1693, the prohibition of the use of spectral evidence resulted in all but three being acquitted. Phips threw out the three convictions and also blocked the executions of witches (such as the pregnant Elizabeth Proctor) who had been convicted and sentenced to death before the abolition of the Court of Oyer and Terminer. By the late summer the surviving accused witches were out of jail and beginning to pick up the pieces of their lives.

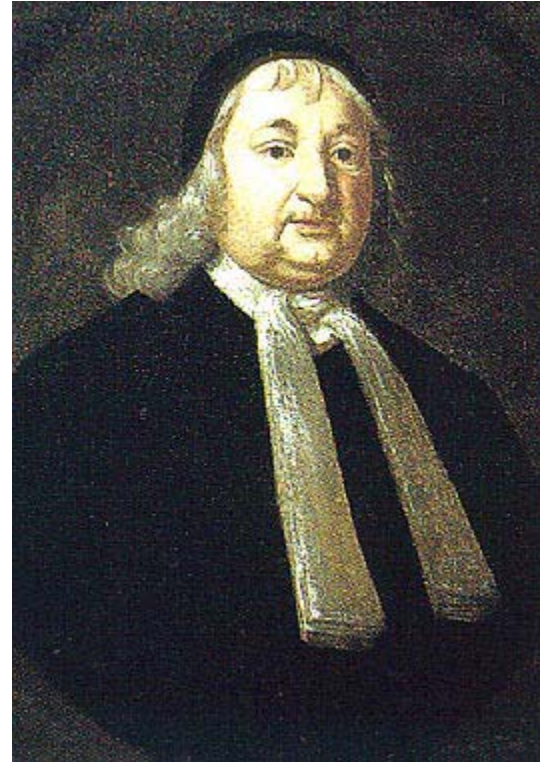
Any explanation of the Salem witchcraft trials must deal with certain key facts. First, the accusers in Salem and Andover (the other venue of witchcraft accusations) were overwhelmingly female (17 women versus 2 men) and mostly young. The ‘core’ accusers (*i.e.* those who appeared most frequently as witnesses) consisted of

- Abigail Williams (11 or 12)
- Ann Putnam, Jr. (12)
- Betty Hubbard (17) servant
- Mercy Lewis (19) servant, leader of the group
- Mary Walcott (17) servant
- Mary Warren (20) servant
- Susannah Sheldon (18) servant

The fits of the afflicted at first involved spasmodic movements of the head and limbs; feelings of being pinched, scratched, or bitten; temporary paralysis; inability to breathe, accompanied by sensations of choking and hallucinations. As time passed the hallucinations became more specific: the afflicted saw specters of the accused and specters of the

“black man;” these specters attempted to get the afflicted to sign Satan’s book and partake of the wine and bread of the sabbat; in addition to biting or pinching the afflicted, the specters threatened to tear the afflicted to pieces; and eventually specters of victims of the accused witches also appeared, crying out for vengeance. During examinations before magistrates and at trial, the afflicted suffered fits in which they complained of being bitten or scratched. The fits were precipitated by the glance of the accuser or by the specter of the accused. The afflicted might be rendered mute or caused to mimic the speech and movement of the accused. The examination of John Proctor (the protagonist of Arthur Miller’s *The Crucible*) conveys a picture of what occurred during many of the examinations and trials:

- *Q. What do you say Goodman Proctor to these things?*
- *I know not, I am innocent.*
Abigail Williams cried out, there is Goodman Proctor going to Mrs. Pope, and immediately, said Pope fell into a fit.-



Samuel Sewall, Trial Judge

photo from http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_PHO.HTM

continued on page 14

photo from http://www.law.umkc.edu/faculty/projects/ftria/salem/SAL_PHO.HTM



Trial of an Accused Witch in Salem

- *[The Court] You see the devil will deceive you; the children could see what you was going to do before the woman was hurt. I would advise you to repentance, for the devil is bringing you out.*

Abigail Williams cried out again, there is Goodman Procter going to hurt Goody Bibber; and immediately Goody Bibber fell into a fit.

The accused were initially the “usual suspects:” low status, middle-aged women who had had previous brushes with authority—including previous accusations of witchcraft. Accused men were initially relatives (husbands, brothers, or sons) of accused women; however, as the witch hunt intensified, men were charged in their own right (e.g. George Burroughs, who came to be regarded as the head of the satanic conspiracy against New England). Increasing numbers of high-status individuals were accused (such as the wife of Governor Phips, Captain John Alden, and Rev. Samuel Willard).

Searches for Explanations

Over the years since 1692 a variety of explanations for the outbreak of the witchcraft hysteria in Salem have been advanced. The explanation of the accusers and the members of the Court of Oyer and Terminer—that there

really were witches engaged in a conspiracy to overthrow the Christian churches and institute the rule of Satan—was quickly rejected. During the Enlightenment, the sympathies of historians shifted from the afflicted children to the accused witches. The accusers came to be viewed as liars who faked their fits and maliciously accused innocent neighbors. This view is still held by some modern historians. One recent historian has even gone so far as to describe the accusers as a group of girl juvenile delinquents. Arthur Miller’s *The Crucible* is, of course, based on the fraud explanation. There is some evidence to support the charge that the afflicted girls were faking—at least in some instances. Robert Calef, an outspoken critic of the Salem witchcraft trials, describes an interesting episode of the trial of Sara Good:

At the trial of Sarah Good one of the afflicted fell in a Fit, and after coming out of it, she cried out of the Prisoner, for stabbing her in the breast with a Knife, and that she had broken the Knife in stabbing her, accordingly a piece of the blade of a knife was found about her.

A young man present in the courtroom recognized the piece of the blade as being from a knife that he had broken the day before, in the presence of the afflicted witness. The Court merely admonished the witness not to tell lies and permitted her to testify in the Good case and others.

To modern skeptics the bite marks, pins, and knife blades displayed by the afflicted accusers fairly scream fraud. However, the majority of modern historians accept both the innocence of the accused and the reality of the afflictions. The afflictions seem too severe and lasted too long to be wholly due to fraud. In the 1940s the old Enlightenment view of the afflicted girls as frauds began to be replaced with greater sympathy for the afflicted. If there were no witches and the girls were not malicious liars, then some naturalistic explanation for the girl’s sufferings and for their accusations had to be found. These naturalistic explanations have included toxins, pathogens, mass hysteria, and a variety of psychological stressors.



Jimson Weed

The Jimson weed theory is the oldest toxin theory. Marion Starkey credits this theory to reporter Donald Willard of the *Boston Globe*. Willard's two young children had suffered convulsive seizures, falling fits, and painful spasms. The children also experienced twitching and burning sensations in their arms and legs. The children's physician traced their ailment to contact with the stalks and burrs of Jimson weed, a member of the nightshade family. Jimson weed was brought to New England from the West Indies in the 1600s. Willard speculated that Tituba may have dosed the Parris children with infusions of Jimson weed. Needless to say, there is no evidence that Tituba dosed the children with Jimson weed or any other herbal remedy. This theory leaves unanswered the question of why the accusers' fits continued long after Tituba was imprisoned (Tituba was among the first witches to be jailed and one of the last to be released from jail, because it proved to be difficult to find a buyer for her). The Jimson weed theory does not account for the fits in court; nor does it account for the content of the hallucinations.

Ergotism

In 1976 psychology graduate student Linnda R. Caporael published an article in the journal *Science* in which she proposed that consumption of foodstuffs contaminated with ergot fungus could account for the symptoms exhibited by the supposed victims of witchcraft. The family of Thomas Putnam could have been exposed to ergot-contaminated rye from their fields along the Ipswich River. Putnam, as a major supporter of Samuel Parris in Salem Village, would have inadvertently contributed contaminated rye to Parris's pantry. Abigail Williams and Elizabeth Parris would have ingested the ergot fungus in their food.

Ergot develops more abundantly during wet seasons. The summer of 1691 had been notably hot and humid, so that the growth of ergot would have been favored. As it grows, ergot fungus produces a number of alkaloids with chemical structures related to LSD (lysergic acid diethyl amide): ergotamine (and

other ergopeptines), ergonovine, and methylergonovine. The use of moldy rye in the Middle Ages was responsible for St.

Anthony's Fire (ergotism), which was characterized by gangrene of the limbs and hallucinations. The cause of the gangrenous form of the disease was the lack of blood flow in the extremities caused by the powerful α -agonist effects of the ergot alkaloids, and their associated CNS stimulatory effects. There is, however, no evidence of the gangrenous form of ergotism in Salem. Dr. Nicholas Spanos and his Ph.D. student Jack Gottlieb have pointed out that the convulsive or hallucinatory form of ergotism (as opposed to the gangrenous form) occurs only when there is a severe deficiency of Vitamin A in the diet. Vitamin A occurs in fish and dairy products, both of which would have been readily available to Salem villagers. In any case, the ergot theory does not account for the content of the victim's hallucinations.

Encephalitis

Researcher Laurie Winn Carlson has proposed an outbreak of *encephalitis lethargica* as an explanation for the Salem witchcraft outbreak. There was a major outbreak of this disease in Europe in 1916-1930. Its symptoms included restlessness, de-



The June 10, 1692
Hanging of Bridget
Bishop

William Stoughton, Judge



continued on page 16

lirium, hallucinations and delusions, lethargy, stupor, and muscular rigidity. Mortality rates in the 1916-1930 pandemic were high: 20-40% of affected patients in London and 40% in Austria. Many survivors later developed parkinsonism. Oliver Sacks' book *Awakenings* describes the author's attempts to treat survivors of the *encephalitis lethargica* pandemic. The cause of the *encephalitis lethargica* epidemic remains unknown, but an arbovirus is a possibility. There is no evidence of any extraordinary morbidity among the accusers during the Salem witchcraft trials. So far as I can determine, none of the core group of accusers died during the trials; many seemed to have lived normal life spans.

The Jimson weed, ergotism, and encephalitis theories cannot account satisfactorily for the demographics of the accusers, virtually all of whom were young women. Carlson supposes that young women would have been more exposed to the insect vectors (mosquitoes) that spread arboviruses because they would have had the chore of milking and feeding their families' cows. However, in a period when almost everyone worked out of doors and when there were no window screens, the entire population would have been exposed to mosquito-borne illnesses. Carlson attempts to show a similarity between the hallucinations produced by *encephalitis lethargica* and those experienced by the afflicted girls in Salem by citing an auditory hallucination in which an *encephalitis lethargica* victim heard the clack-

ing of skeletal bones. Unfortunately, this type of auditory hallucination was never reported in Salem.

Mass Hysteria

Marion Starkey and Chadwick Hansen have advanced the theory that the accusers were victims of mass hysteria. The latest version of the *American Psychiatric Association's Diagnostic and Statistical Manual (DSM IV)* replaces the term 'mass hysteria' with the terms 'Mass Sociogenic Illness' and 'Mass Sociogenic Illness by Proxy.' Both Starkey and Hansen rely on the early work of Charcot and Freud on hysteria. Hansen elaborates the theory to a greater degree than does Starkey and adds the suggestion that some of the accused were really practicing witches. Practicing witchcraft in a culture that believes in it can induce serious, even life-threatening hysterical symptoms in the targets of the spells. Both Starkey and Hansen place the origin of the hysteria in the theocratic culture of the Puritan New England, with minimal concern about political and military conditions in the years leading up to the witchcraft outbreak.

Village Factionalism

Paul Boyer and Stephen Nissenbaum have made an exhaustive study of the bitter feuds that existed in Salem Village. The Salem Villagers fought over property boundaries, inheritances, debts, and the Salem Village church. Unlike other Massachusetts communities, Salem Village lacked internal mechanisms for resolving these disputes. Whenever the farmers of Salem Village went to court, they had to go to Salem Town and appear before town magistrates. Even their church fell under the authority of the ministers in Salem Town. Boyer and Nissenbaum interpret the witchcraft trials as a fight between the Putnams (conservative farmers at the western end of the village) and the Porters (wealthy landowners and merchants in the eastern end of the village and in Salem Town). They see many of the accused as surrogates for Porter family members or associates too powerful to be accused directly. Thus, Rebecca Nurse was a surrogate for Elizabeth Verens Putnam, the daughter of Israel Porter, the head of the Porter family. Elizabeth Putnam was the stepmother of Tho-

The Hanging of George Burroughs



photo from http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_PHO.HTM

mysterious delusions continued from previous page

mas Putnam, whose wife and daughter were prominent accusers and who signed many of the formal complaints against accused witches. On the death of Thomas's father, she had managed to get herself and her eighteen-year-old son Joseph Putnam (Thomas's half brother) named as administrators of her late husband's estate. Thomas was largely disinherited and Joseph instantly became one of the wealthiest citizens of Salem.

Although Boyer and Nissenbaum's *Salem Possessed* has been hailed as a classic and been used as a text for many years in courses in American Studies, their theory has a disturbing *ad hoc* quality. A commonsense reading of their theory of village factionalism would lead one to predict that the accused witches would be the leaders of the hated and feared Porter clan of mercantile capitalists. Instead the accusers focused on minor Porter allies (when the accused had any connection to the Porters at all). The idea of surrogacy is required to avoid having the theory fail the most obvious empirical test. By rendering their theory unfalsifiable by empirical tests, Boyer and Nissenbaum have also made it unscientific.

'Uppity Women'

Historian Carol Karlsen has proposed that the accused women were those who had challenged the normally subordinate position of women in Puritan culture. Many had laid claim to money and/or property in their own right; many were outspoken about the inequities of New England society. However, Karlsen did not compare the accused with comparable non-accused women. Were non-accused women docile quietists? This theory also fails to account satisfactorily for the fact that the accusers were overwhelmingly other women. The accusers as a group definitely turned the hierarchy of Puritan New England on its head: young women had made themselves the center of attention.

Gender and age issues in New England witchcraft cases have been studied by historian John Putnam Demos. He looked at the whole body of witchcraft accusations in New England. He has advanced the theory that witchcraft accusations arose out of an implicit conflict between young women about to enter



Repentance of
Judge Sewall in
1692

photo from http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_PHO.HTM

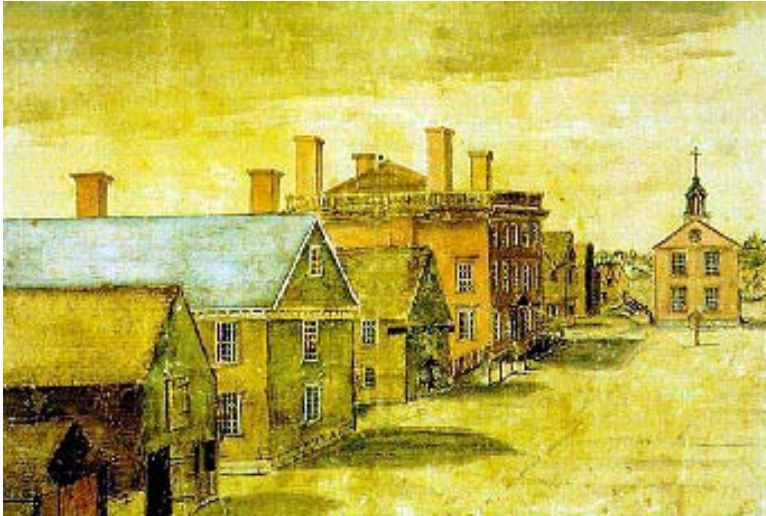
adulthood (accusers) and older post-menopausal women who had failed to acquire wealth, status, and/or a large number of offspring (accused). The young women were resisting being recruited into the fellowship of the downwardly mobile. Demos theory is attractive and may fit what might be called normal witchcraft accusations. Demos acknowledges that his theory does not fit the Salem witchcraft trials, which involved more accusations spread over a larger geographical area than normal witchcraft trials.

Politics and War

Historians Charles Upham (former minister and mayor of Salem Town) and Mary Beth Norton have emphasized the political and military context of the Salem witchcraft trials as providing at least a partial explanation for the 1692 outbreak of witchcraft accusations. In the 1680s the government of King James II had abrogated the original charter of the Bay Colony, replaced it with a new royal charter, and appointed Sir Edmund Andros as royal governor. Governor Andros declared all legal actions under the old charter to be null and void. All land titles were declared to be invalid; valid titles could, of course, be obtained from the new colonial government for a fee. Andros also forced Congregational churches in Boston to share their meeting houses with Anglican congregations, despite the fact that the meeting houses were private property. Finally, Increase Mather slipped out of Massachusetts on a mission to London to renegotiate the colonial charter. While he was gone, Andros was overthrown in an armed insurrection: he and

continued on page 18 ➔

photo from http://www.law.umkc.edu/faculty/projects/firials/salem/SAL_PHO.HTM



Salem in the 1700s (School Street)

his cronies were seized and thrown into prison. The committee leading the rebellion issued manifestos demanding that the citizens of Massachusetts be accorded the 'rights of Englishmen.' Fortunately for the Massachusetts, James II was himself overthrown in 1688 in the Glorious Revolution. His successors, William and Mary, might be more sympathetic to the plight of the New England Puritans or might view with alarm the arrest of a duly appointed royal governor. During 1692 Massachusetts waited anxiously for a new charter and a new governor.

Many historians of the Salem witchcraft trials have failed to note that in 1692 Massachusetts had been at war for nearly three years. One of the first acts of King William after he ascended the throne was a declaration of war against France. For Massachusetts, the war began with Indian attacks on frontier settlements instigated by Count Frontenac, the French governor of Canada. One of the first was an attack on Dover, New Hampshire, in which Major Richard Waldron was put to death with frightful tortures, the town was burned to the ground, about half the people were massacred, and the remainder were carried away and sold into slavery. Further attacks struck Pemaquid and York, Maine; Durham, New Hampshire; Groton, Massachusetts; and Schenectady, New York.

The attacks on frontier settlements resulted in an influx of displaced settlers into Salem Village and other Massachusetts towns,

particularly those in Essex County. Salem Village and Essex County were by no means safe havens: between 1689 and 1692 three residents of Salem Village were killed by Indians within the boundaries of the village. Just six months before the outbreak of witchcraft in Salem, Essex County was ordered to organize mounted patrols of the roads of the county to detect Indian war parties. During the Salem witchcraft trials there was an Indian attack on Billerica, home of one of the confessed witches (one who confessed that she had covenanted with Satan for his protection against the Indians). In 1697 both Andover and Haverhill (just across the Merrimac River from Andover) suffered heavy attacks. The level of violence in these attacks is exemplified by the ordeal of Hannah Dustin, the wife of a farmer near Haverhill. She saw her home burned by Indians and her newborn child dashed to death against a tree. She, her neighbor, Mary Neff, and an English boy named Samuel Lennardeen were carried away as captives. En route to their village the Indian raiders made camp in the snow. While the Indians slept Hannah killed ten with a hatchet (an injured Indian woman and an Indian boy escaped). At dawn Hannah scalped the dead Indians and carried the scalps back to Massachusetts, where she received a bounty of £50 for them. Dustin is reputed to be the first woman in what is now the United States to have a statue erected in her honor. She has two: one in Haverhill and one in New Hampshire. The one in Haverhill shows Hannah firmly gripping her hatchet.

Many New Englanders thought there was a conspiracy against them involving the French, the Wabanaki Indians, and some of their own English leaders. The 'black man' claimed to be seen by so many of the afflicted accusers and confessed witches was presumably an Indian sachem or shaman. It is important to remember that for New Englanders 'black' equaled 'Indian.' Very significantly, confessed witch Abigail Hobbs first encountered the 'black man' in the woods in Maine. 'King of the Witches' George Burroughs lived most of his adult life on the Maine frontier and was a protégé of Joshua Scottow, a frontier leader particularly reviled for his failure to



come to the aid of a beleaguered band of militiamen. Mercy Lewis, the leader of the core group of accusers, had lived on the Maine frontier—at one time in the same house with Burroughs.

As attractive as Mary Beth Norton's theory that the Salem witchcraft trials arose from the stresses of protracted warfare is, it fails to explain why King Philip's War in the 1670s did not result in a similar outbreak of witchcraft hysteria. During King Philip's War the Maine frontier was also attacked. Much of the intense fighting in King Philip's War also occurred within the boundaries of the New England colonies. For example, The Great Swamp Fight, the most significant engagement of the war, took place near what is now West-erly, Rhode Island.

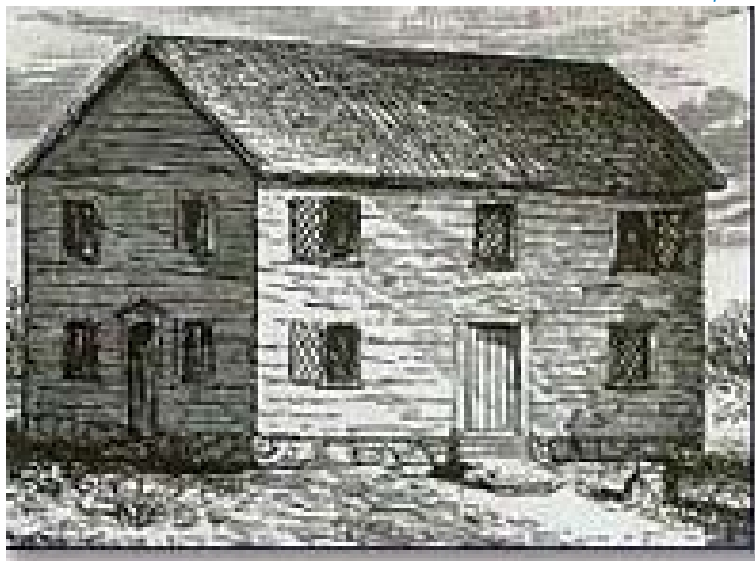
The Witches of Andover

Almost all accounts of the Salem witchcraft trials focus on the witches of Salem Village. There were thirty-nine accused witches in Salem Village and Salem Town. However, there were forty-three accused witches in the neighboring township of Andover. More than thirty of the accused witches confessed. Chadwick Hansen has proposed that historians should speak of the Andover witchcraft trials or perhaps the Essex County witchcraft trials. Compared to the Salem witches, very little is known about the Andover witches. The Andover witches by and large confessed and were held in jail until Governor Phips granted the imprisoned witches bail. Because they were never brought to trial, the documentary record of the accusations against them is sparse. The Andover Historical Society has an ongoing project to collect information about the Andover witches. Nevertheless, what little is known about the Andover witches seems to contradict both the ergotism theory and the village conflict theory put forward by Boyer and Nissenbaum. Andover is geographically different from Salem Village and lacks the low-lying swampy areas. While there is some evidence of village factionalism in Andover, the Andover witchcraft accusations seem to have involved much intra-family conflict.

Aftermath

In 1697 the Massachusetts Bay Colony proclaimed a fast day, seeking to avert the anger of God, which had manifested itself in the conviction of innocents and the shedding of their blood. William Stoughton signed the proclamation as acting governor. Samuel Sewall, one of the justices of the Court of Oyer and Terminer, had a statement seeking pardon for his role in the Salem witchcraft trials read by his minister Samuel Willard to the congregation of his church. Thomas Fiske, foreman of the petit jury, and eleven of his fellow jurymen recanted their verdicts; they blamed the convictions of innocents to the 'mysterious delusions' of Satan. In 1711 the Massachusetts Bay Colony paid restitution to the surviving accused and to the families of those executed. This restitution covered actual financial losses (property of convicted witches seized, outlays for the maintenance of jailed persons, and so forth) rather than pain and suffering. During the first quarter of the 18th century, on a case-by-case basis, Massachusetts reversed the attainders of the surviving convicted witches and restored their civil rights. No European government ever admitted that it had made any errors during its witchcraft trials. Nor did any European government ever pay any financial compensation to the families of convicted witches.

The Salem Village Meeting House where the trials took place



<http://www.eyewitnesshistory.com/salem.htm>

photo from http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_PHO.HTM



The Salem Witch House

Samuel Parris did not long retain his pulpit in Salem Village. After much wrangling, he agreed to sign over the deed to the parsonage and its outbuildings to the village in return for his unpaid back wages. Parris was replaced by Joseph Green, a Harvard graduate who was a friend of Thomas Brattle. Green embarked on a program of reconciliation within the Salem Village church: he persuaded the church to rescind its excommunication of executed witch Martha Cory and re-seated the church so that Putnams and Nurses occupied the same benches.

Increase Mather did not fare as well as might be expected in the aftermath of the Salem witchcraft trials. He was soon maneuvered out of the presidency of Harvard College. His political enemies in the General Court passed a law that required the President of Harvard to reside in Cambridge. Mather endured six months in squalid rented living quarters before he threw over the presidency and went back to Boston. This left a group of theological liberals in control of the College. Rev. Samuel Willard, the Vice President of the College, became acting president. Thomas Brattle became a Fellow of the College, its treasurer and the *de facto* professor of mathematics and science. He and his brother William educated a genera-

tion of Harvard graduates in the fundamentals of Enlightenment science.

The more humble figures in the Salem witchcraft drama faded into the obscurity from which they had briefly emerged. Abigail Hobbs, who confessed to being a witch and was convicted of witchcraft, married and raised a family. Mercy Lewis had a child out of wedlock on the Maine frontier; she married the child's father and moved to Boston. Susannah Sheldon was warned out of Providence, Rhode Island, as a person of evil fame. She died some time before 1697. Mary Beth Norton believes Sheldon to have been the girl who experimented with fortune telling. Abigail Williams and Mary Warren cannot be traced. Williams' cousin Elizabeth Parris married and had five children. Thomas Putnam and his wife Ann died in 1699; the Putnam estate was heavily encumbered with debt so that their children received only modest inheritances. Ann Putnam, Junior, died unmarried in 1715. When she joined the Salem Village church in 1706 she had had Rev. Joseph Green read the following statement to the congregation:

I desire to be humbled before God for yt sad and humbling providence that befell my fathers family in the year about 92, yt I then being in my childhood should by such a providence of God be made an instrument for yt accuseing of severall persons of a grievous crime wherby their lives were taken away from them, whom now I have just grounds and good reason to believe they were innocent persons, and yt it was a great delusion of Satan yt deceived me in that sad time, whereby I justly fear I have been instrumental with others tho' ignorantly and unwittingly to bring upon myself & this land the guilt of innocent blood Though what was said or done by me against any person I can truly and uprightly say before God & man I did it not out of any anger, malice, or illwill to any person for I had no such thing against one of them; but what I did was ignorantly being deluded by Satan. And particularly as I was a chief instrument of accuseing of Goodwife Nurse and her two sisters I desire to lye in the dust & to be humbled for it in that I was a cause with others of so sad a calamity to them & their

Walter F. Rowe, Ph.D., has been a Professor of Forensic Sciences at the George Washington University since 1990. He is a frequent contributor to and speaker at scientific and skeptical conferences.



familys, for which cause I desire to lye in ye dust & earnestly begg fforgiveness of God & from all those unto whom have given just cause of sorrow & offence, whose relations were taken away or accused. (Signed) Anne Putnam.

This is the sole statement made by any of the accusers about the events of 1692 and its text may have been crafted by Joseph Green as a part of his program of reconciliation within the Salem Village church.

By the 19th century Salem had become the most prominent negative lesson drawn from American history. It was supposed to show the perils of fanaticism, particularly religious fanaticism. Before the Civil War Southern political leaders used Salem as an *ad hominem* argument against the New England abolitionists. During the Civil War similar arguments were used in the North to marginalize the radical abolitionists. It was during the antebellum controversy over slavery that Southern politicians started the calumny that the Puritans burned witches. There seem to have been no large-scale witch hunts in the South during the colonial period. However, large numbers of legal documents in the South were destroyed during the Civil War, so it is impossible to determine how many witchcraft accusations there were in the southern colonies.

Arthur Miller's *The Crucible* is the best known modern evocation of the Salem witchcraft trials. The play takes significant liberties with the facts: Miller makes Abigail Williams older and creates a love affair between her and John Proctor. This affair provides a motive for Williams to falsely accuse Elizabeth Proctor of witchcraft. Miller wrote *The Crucible* as a response to Senator Joseph McCarthy and the House Un-American Activities Committee's crusade against supposed communist sympathizers within and without the United States government. When the play debuted in 1953, some of Miller's friends objected that Miller was presenting a false analogy. The play seemed to be saying that just as there were no witches in Salem, there were no communists in the government. Miller continued to defend this analogy until his recent death. However, in the 1980s the National Security Agency re-

picture of Phips from http://www.law.umkc.edu/faculty/projects/ftrials/salem/SAL_IPHI.HTM

Dramatis Personae

Sir William Phips (1651-1695)



Sir William Phips was born at Kennebec, Maine. He worked as a shepherd in Maine and then moved to Boston, where he became a ship's carpenter and ship captain. While living in Boston he married a wealthy widow (a custom still kept alive among Massachusetts politicians). He went to England where he gathered financial support for a

salvage expedition to the Caribbean. In 1687 Phips was successful in salvaging treasure from sixteen sunken Spanish treasure galleons. Ten percent of the salvaged treasure went to the British Crown. In 1690 Phips led a successful attack on the French stronghold at Port Royal in Acadia. His subsequent attempt to take Quebec, however, was an embarrassing failure that left the Massachusetts Bay Colony saddled with a £40,000 debt. Phip's success as a treasure hunter and Increase Mather's politicking in London led to Phip's appointment as the new Royal Governor. Phips returned with Increase Mather to Boston to confront the crises of the Salem witchcraft trials and the Second Indian War. During the Salem witchcraft trials, Phips' wife was accused of being a witch. This may have influenced Phips' decision to shut down the Court of Oyer and Terminer. In his letters to the home government, Phips attempted to whitewash his role in the witchcraft trials: he grossly exaggerated the threat posed by the witches and then lied about the extent of his knowledge of the activities of the Court of Oyer and Terminer. Phips traveled to London to defend his actions as Royal Governor and died there in 1695.

leased decrypted Soviet cables from the 1930s and 1940s that show that the United States government was infested at the highest levels by Soviet agents. Miller was in a position to have direct knowledge of communist infiltration of a variety of nongovernmental organizations: he himself had a long history as a communist fellow traveler. Whatever else *The Crucible* may be, it is definitely a piece of agitprop.

continued on page 22

photo from http://www.law.umkc.edu/faculty/projects/trials/salem/SAL_PHO.HTM



Trial of Rebecca Nurse

Contingent Events

In his book, *Wonderful Life*, Stephen Jay Gould argued that the course of evolution involved a number of contingent, unpredictable events. The course of history likewise may be influenced by contingent events. Even in mass upheavals like the Salem witchcraft trials many crucial decisions are made by one person or by a small group of men or women. Had certain positions of authority been occupied by other persons the course of events might have been different: there might have been no witchcraft trials at all or the number of trials might have been very limited. Some of the accused (e.g., Rebecca Nurse) might even have been acquitted. Here is a partial list of contingent events (and the principal actors) where different actions could well have

changed the course of events:

- Treating the accused as guilty (Hathorne and Corwin)
- Conducting examinations in public (Hathorne and Corwin)
- Appointing Stoughton as head of special court (Phips and the Mathers)
- Relying on spectral evidence (Stoughton and other members of the Special Court)
- Resubmitting Rebecca Nurse’s case to the petit jury after her initial acquittal (Stoughton)
- Not executing confessed witches (Phips, Stoughton, and other members of the Special Court)

To understand how individual actors can shape the course of history, consider events in western Massachusetts in 1734. A number of residents of Northampton began to experience extreme anxiety. The young were particularly afflicted, one 4-year-old girl hiding weeping and moaning in a closet for many hours each day. Some of the townspeople even talked about the afflictions being caused by witchcraft. Unlike Samuel Parris, the local minister, Jonathan Edwards, chose to view the afflictions in Northampton as evidence of an outpouring of God’s grace. The events in Northampton were the beginning of a religious revival known as the Little Awakening. The Little Awakening led to the Great Awakening, a religious revival that swept the British colonies before the American Revolution.

Further Reading

There are many websites related to the Salem witchcraft trials, I have found the following to be the most useful:

Salem Witch Trials Documentary Archive
<http://www.iath.virginia.edu/salem/home.html>

This is website has a wealth of primary source material: The complete *Salem Witchcraft Papers*, the WPA transcription of the surviving legal documents (arrest warrants, summaries of examinations of witnesses, testimony before the examining magistrates and the like), as well as the contemporary accounts of the witchcraft

Susannah Martin portrayed reading her Bible in the Salem jail.
Source Mabel Martin. By John Greenleaf Whittier, Boston: Houghton, Mifflin & Co. 1876, p. 43. Artist, Mary A. Hallock.



- Quarreling with parishoners over salary and status (Parris)
- Calling in the magistrates, rather than relying on prayer and fasting (Parris)
- Preaching a sermon on Christ summoning the 12 disciples and calling one of them a devil (Parris)

<http://jefferson.village.virginia.edu:8090/saxon/servlet/SaxonServlet?source=salem/texts/pics.xml&style=salem/xsl/dynaxml.xsl&chunk.id=p6&clear-sty/esheet-cache=yes>

outbreak by Increase Mather, Cotton Mather, John Hale, Deodat Lawson, Samuel Willard, Thomas Brattle and Robert Calef . The website is a research project of the University of Virginia's law school.

Hawthorne in Salem

<http://www.hawthorneinsalem.org/Introduction.html>

This website focuses on Nathaniel Hawthorne and his associations with Salem; however, there are many interesting images of sites associated with the trials.

There is a vast literature on the Salem witchcraft trials. The books listed below are some of the more interesting works in this field.

Mary Beth Norton, *In the Devil's Snare : The Salem Witchcraft Crisis of 1692*, 2002.

This book explores the relationship between the accusers, accused, and the Maine frontier.

Laurie Winn Carlson, *A Fever in Salem: A New Interpretation of the New England Witch Trials*, 1999.

Carlson defends the thesis that the afflicted suffered from *encephalitis lethargica*. She makes tendentious use of documents and offers up much unsupported speculation.

Carol F. Karlsen, *The Devil in the Shape of a Woman: Witchcraft in Colonial New England*, 1987.

Karlsen explores the gender issues in the trials. She defends the thesis that the accused women didn't know their place in Puritan society; in particular, they were


women who controlled or attempted to control money and/or property.

John Putnam Demos, *Entertaining Satan: Witchcraft and the Culture of Early New England*, 1982.

Demos examines all the New England witchcraft accusations outside the Salem witchcraft trials. He tries to provide a psychological explanation of witchcraft accusations in terms of an implicit conflict between accusers (young women on the verge of adulthood) and the accused (postmenopausal women who had failed in life).

Paul Boyer and Stephan Nissenbaum, *Salem Possessed: The Social Origins of Witchcraft*, 1974.

Chadwick Hansen, *Witchcraft at Salem*, 1969

Marion L. Starkey, *The Devil in Massachusetts: A Modern Enquiry into the Salem Witch Trials*, 1949 



<http://www.law.umkc.edu/faculty/projects/ftrials/salem/parris.jpg>

Rev. Samuel Parris



This scene, set in the Salem Village meeting house, shows Judge John Hathorne and the Rev. Cotton Mather interrogating Martha Corey, who stands in the dock with her hands raised in prayer, with Mary Walcott, her accuser, sitting in a chair.
Source Henry Wadsworth Longfellow, in *The Poetical Works of Longfellow*. Houghton Mifflin Boston, 1902. Artist, S. S. Kilburn, 1880, p. 747.

<http://jefferson.village.virginia.edu:8090/saxon/servelet/SaxonServlet?source=salem/texts/pics.xml&style=salem/xs/dynaxml.xsl&chunk.id=p5&clear-styl/esheet-cache=yes>

So-called Intelligent Design is Not Science

On Dec. 20, 2005, the U.S. District Court for the Middle District of Pa. ruled against the Dover, Pa., Area School District policy of teaching so-called Intelligent Design in public school science classes and trying to discredit the scientific validity of evolution theory—for religious reasons.

by Gary Stone

Ours is a pluralistic society, with wise constitutional protections against government-sponsored establishment of religion—and for freedom of individual expression of belief.

It is, therefore, an egregiously evil breach of mutual respect, civility, and the law for any one religious group (majority or minority) to try to force its own religious views (mainstream or extreme) on the rest of society by trying to take control of government institutions or government-sponsored activities, such as public schools, that serve all Americans of all religious and non-religious beliefs. Such behavior is just plain selfish.

On December 20, 2005, the United States District Court for the Middle District of Pennsylvania issued a ruling against the Dover, Pennsylvania, Area School District policy of teaching so-called Intelligent Design in public school science classes and trying to discredit the scientific validity of evolution theory—for religious reasons.

That ruling is a benchmark in our understanding and practice of the constitutionally mandated separation of church and state.

The court's Memorandum Opinion establishes legal precedent only in the Middle District of Pennsylvania. But it offers extensive fact finding and legal analysis (far beyond that quoted here) that will significantly inform any litigation elsewhere regarding any attempts to teach so-called Intelligent Design in public science classes.

This article provides two relatively short quotes from the court's full 139-page Memorandum Opinion, that fully and fairly characterize the ruling.

The court's conclusion

"The proper application of both the endorsement and Lemon tests to the facts of this case makes it abundantly clear that the Board's ID Policy violates the Establishment Clause. In making this determination, we have addressed the seminal question of whether ID is science. We have concluded that it is not, and moreover that ID cannot uncouple itself from its creationist, and thus religious, antecedents.

Both Defendants and many of the leading proponents of ID make a bed-rock assumption which is utterly false. Their presupposition is that evolutionary theory is antithetical to a belief in the existence of a supreme being and to religion in general. Repeatedly in this trial, Plaintiffs' scientific experts testified that the theory of evolution represents good science, is overwhelmingly accepted by the scientific community, and that it in no way conflicts with, nor does it deny, the existence of a divine creator.

To be sure, Darwin's theory of evolution is imperfect. However, the fact that a scientific theory cannot yet render an explanation on every point should not be used as a pretext to thrust an untestable alternative hypothesis grounded in religion into the science classroom or to misrepresent well-established scientific propositions.

The citizens of the Dover area were poorly served by the members of the



Board who voted for the ID Policy. It is ironic that several of these individuals, who so staunchly and proudly touted their religious convictions in public, would time and again lie to cover their tracks and disguise the real purpose behind the ID Policy.

With that said, we do not question that many of the leading advocates of ID have bona fide and deeply held beliefs which drive their scholarly endeavors. Nor do we controvert that ID should continue to be studied, debated, and discussed. As stated, our conclusion today is that it is unconstitutional to teach ID as an alternative to evolution in a public school science classroom.

Those who disagree with our holding will likely mark it as the product of an activist judge. If so, they will have erred as this is manifestly not an activist Court. Rather, this case came to us as the result of the activism of an ill-informed faction on a school board, aided by a national public interest law firm eager to find a constitutional test case on ID, who in combination drove the Board to adopt an imprudent and ultimately unconstitutional policy. The breathtaking inanity of the Board's decision is evident when considered against the factual backdrop which has now been fully revealed through this trial. The students, parents, and teachers of the Dover Area School District deserved better than to be dragged into this legal maelstrom, with its resulting utter waste of monetary and personal resources.

To preserve the separation of church and state mandated by the Establishment Clause of the First Amendment to the United States Constitution, and Art. I, § 3 of the Pennsylvania Constitution, we will enter an order permanently enjoining Defendants from maintaining the ID Policy in any school within the Dover Area School District, from requiring teachers to denigrate or disparage the sci-

entific theory of evolution, and from requiring teachers to refer to a religious, alternative theory known as ID. We will also issue a declaratory judgment that Plaintiffs' rights under the Constitutions of the United States and the Commonwealth of Pennsylvania have been violated by Defendants' actions.

Defendants' actions in violation of Plaintiffs' civil rights as guaranteed to them by the Constitution of the United States and 42 U.S.C. § 1983 subject Defendants to liability with respect to injunctive and declaratory relief, but also for nominal damages and the reasonable value of Plaintiffs' attorneys' services and costs incurred in vindicating Plaintiffs' constitutional rights."

The court's order:

NOW, THEREFORE, IT IS ORDERED THAT:

1. A declaratory judgment is hereby issued in favor of Plaintiffs pursuant to 28 U.S.C. §§ 2201, 2202, and 42 U.S.C. § 1983 such that Defendants' ID Policy violates the Establishment Clause of the First Amendment of the Constitution of the United States and Art. I, § 3 of the Constitution of the Commonwealth of Pennsylvania.
2. Pursuant to Fed.R.Civ.P. 65, Defendants are permanently enjoined from maintaining the ID Policy in any school within the Dover Area School District.
3. Because Plaintiffs seek nominal damages, Plaintiffs shall file with the Court and serve on Defendants, their claim for damages and a verified statement of any fees and/or costs to which they claim entitlement.


Defendants shall have the right to object to any such fees and costs to the extent provided in the applicable statutes and court rules." 



photo of Gary Stone by Helen Hester-Ossa

Michael Servetus—Death by Fire

by Neil Langdon Inglis

Skeptics enjoy researching scientific history, and they love to read about scientific “priority”—who discovered what first (remember who found Pluto?). But deciding who got there “first” can be difficult and fruitless. Two or more investigators may come to the same conclusion independently, but only one is honored by posterity. Or a maverick toiling in obscurity may make a remarkable discovery; and the discovery is remembered, but not its finder.

Michael Servetus (born in Spain 1511, burned at the stake in Geneva in 1553) cared little for conventional professional trajectories and was—at varying stages of his life and sometimes all at once—a lawyer, medical student, anatomist, doctor, editor, theologian, self-published author. Family life eluded him (an accident left him impotent). History books recall him, dimly and in footnotes, as the “discoverer” of the lungs’ role in the circulation of the blood. In that era of superstition, long before microscopes, others had worked on blood circulation and groped toward the same conclusion, before Servetus. Yet prizewinning—who discovered what first—meant nothing to

the Spaniard, who quit a successful career in science and medicine for the lurid lure of theological controversy.

Men with heretical views in that time were burned alive. Those with powerful protectors, and a well-honed instinct for self-preservation (Servetus had both), could cheat death for a while. A zest for leading a double life helped to delay the inevitable. After settling in France in the late 1530s, Servetus had adopted the

French persona of Michel de Villeneuve, punning on the name of his Spanish hometown of Villanueva, and possibly recalling the name of a Catalan medical pioneer (Arnaud de Villeneuve) from the 1200s.

This camouflage worked for 15 years, but the fickle Spaniard blew his own cover by writing books. He incorporated his anatomical observations on blood circulation into the last—his personal religious manifesto (the *Christianismi Restitutio* or *Restoration of Christianity*) which he self-published under the name of Servetus in the South of France in 1553.

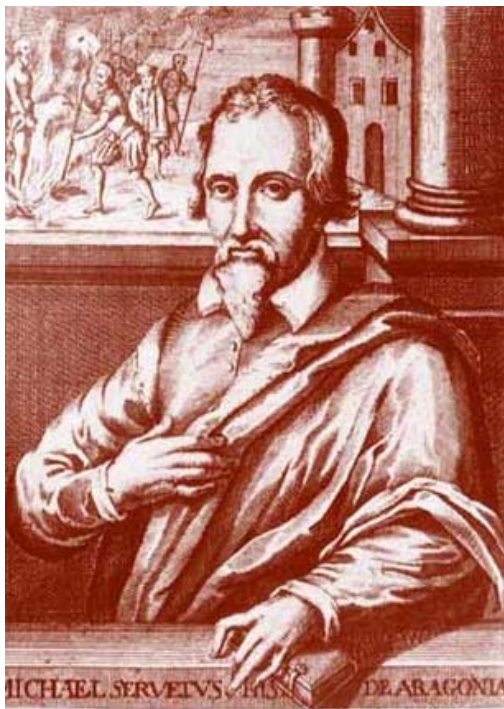
Blessed with a gift for diving into issues that even the toughest militants shied away from, Servetus’s writings had always taken heresy to a new level. In *De Trinitatis Erroribus* (*On the Errors of the Trinity*, his maiden publication in 1531) he had commented disparagingly on the Holy Trinity. Such language invited accusations of fellow-traveling with Islam and Judaism, two religions which equated Trinitarianism with polytheism.

But it was his spiteful tone that especially raised hackles. His enemies began to take note, and to keep score. He continued to dabble in theology as the years progressed, but eventually, when he released the *Restitutio*, he went too far.

Acting on a tip that de Villeneuve, the doctor, was Servetus, the heretic, the ecclesiastical authorities in Lyons scheduled a hearing in 1553; imprisonment followed. Unsure they had the right man, the inquisitors dithered. Servetus exploited their hesitation. In a gamble copied by nimble-footed Protestants everywhere, he tricked his jailor, removed his nightgown to reveal a full set of clothes underneath, and slipped away into the night to find a cache of money hidden for the journey ahead.

That was to be Michael’s last bright idea. Instead of seeking refuge in a free-thinking community abroad, Servetus fled to Geneva, a bastion of orthodoxy ruled over with all the warmth of an Alpine glacier by Jean Calvin himself.

Calvin and Servetus had a history; as students in Paris at different times in the 1530s, ➔



<http://www.servetus.org/en/michael-servetus/image-gallery/iconography/ico2.htm>

they never met in person but had corresponded over the years and had come to loathe one another with particular acrimony. Calvin hated Roman Catholicism but detested Servetus's unpigeonholable theology even more. Most of all, he couldn't abide the Spaniard's disrespectful tone. Calvin fantasized about wreaking vengeance on this epistolary pest—but how? For years, the letter-writer's identity and location were unknown. Then, when word of the *Restitutio* (and its author) reached Geneva from Calvin's spies in France, Calvin put two and two together. But Servetus was still out of reach.

Thus, when the Spanish-born gadfly showed up on his doorstep, Calvin couldn't believe his good luck (one might say that Calvin was hugging himself—but Calvin was not a hugger). Servetus—a skilled debater who had won many public debates in his adoptive country of France—found the Swiss court system stacked against him and a sentence of death by burning was a foregone conclusion. Led to the place of execution in front of braying crowds along the avenue that now bears his name, the Spaniard's hair was dusted with sulfur and he was roasted at agonizing length in sodden green timber, with copies of the *Restitutio*—and the medical discovery they contained—incinerated beside him. The exterminators had done their work well; virtually every trace of the *Restitutio* was destroyed. One or two copies somehow escaped the flames and spent the next few centuries on the antiquarian book circuit, eventually ending up in university libraries.

Servetus' death aroused some indignation at the time. Yet since none of Servetus' contemporaries—perhaps not even Servetus himself—could care less about his powers of anatomical observation, it has been left to others to proclaim Servetus' scientific legacy. The French author and rationalist Voltaire took a keen interest in the case. The Unitarian Church claims the Spaniard as their spiritual father. Nineteenth century historians of the Reformation, prone to romanticizing, took Servetus to their hearts as a gentle Christ-like figure, a hopelessly inaccurate description that does no justice to the man.

Calvin and Servetus had a history; as students in Paris at different times in the 1530s, they never met in person but had corresponded over the years and had come to loathe one another with particular acrimony.

In person he neither fawned nor favored, and had the knack of freezing potential allies into postures of lifelong hostility. He called things as he saw them. As a law-student and altar-boy in the entourage of Cardinal Quintana to the 1529 conference between the Pope and Holy Roman Emperor in Bologna, Servetus observed firsthand the reality of power politics in the Catholic world, the stress on money, status, fine raiment, and all things external.

Seeking a return to the fundamentals of Jesus's ministry—but also keen to make his mark as a young man-in-a-hurry—Servetus turned his back on Spain and sought out the company of Protestant reformers in Basel and Strasburg in the early 1530s. His new hosts could tell that their prickly guest spelled trouble.

Even in that pre-electronic era, word of Servetus' reappearance traveled on the grapevine back to Spain, where it reached his vastly more doctrinaire brother, Juan. Juan located Servetus' whereabouts, paid him a visit, and "invited" him to return to Spain, where—Juan felt certain—Michael could be assured of the warmest possible welcome. Michael's response was straightforward "thanks-but-no-thanks."

Our anti-hero then resurfaces in Paris, where Servetus—now sporting the name Michel de Villeneuve—shows up in medical school in the late 1530s (he may not have officially enrolled, but merely barged his way into the dissection room). We take dissection



continued on page 28

Servetus—a skilled debater who had won many public debates in his adoptive country of France—found the Swiss court system stacked against him and a sentence of death by burning was a foregone conclusion.

for granted now—not so in the Middle Ages, where the revered theories of ancient authors (Galen, Avicenna, and others) held sway.

While the practice of anatomical dissection had taken hold in Italy in the 1400s, its potential and ramifications for medicine were not fully grasped. The initial assumption—that dissection would validate ancient authors—was slashed to ribbons, and the teachings of Galen and Avicenna were exposed as old wives’ tales. Servetus’ dissecting partner in Paris, Vesalius, was taking notes for his own

massive anatomical compendium on the human body (*De Humani Corporis Fabrica*, or *On the Structure of the Human Body*), that would come out in 1543. But Vesalius had missed one key aspect of blood circulation that Servetus spotted and filed away for later reference.

Never missing an opportunity to land in the soup, Servetus (a.k.a. de Villeneuve) dabbled in “judicial astrology” and earned a reprimand from one of France’s most feared Inquisitors,

Pierre Lizet, that stopped short of a prison term (or worse).

It was time for a change of scene, and Servetus—who had soaked up the medical school atmosphere without formally enrolling or graduating—set himself up as a country doctor in Vienne, outside Lyons. Here he met Archbishop Pierre Palmier, a major figure in the Catholic hierarchy and mildly sympathetic toward the new Humanistic learning that men like Servetus exemplified. Palmier befriended “de Villeneuve,” hired him as his personal physician, and perhaps protected him for the next dozen years.

The 1540s see the only extended period of personal comfort and professional recognition in the peripatetic Spaniard’s life. He took the Mass and rubbed shoulders with orthodox Catholics. He gained a reputation as a doctor who could cure patients other physicians could not save. This was quite a complement in the era of leeches and cupping vessels; or perhaps it attracted suspicious envy at a time when recovery from serious illness was the exception rather than the rule. To supplement his income and sate his curiosity, he edited scholarly publications (the French publishing industry was taking off at that time), and penned some of his own material, including cheerfully non-PC diatribes against the English, Irish, and Scots.

By night, Dr. Jekyll became Mr. Hyde, and de Villeneuve wrote (as Servetus) to Calvin in Spain, excoriating Calvin’s beliefs and whipping the Genevan into a frenzied fanatical vendetta. The two men exchanged books they had written and mocked their respective contents. The tenor of this debate need not concern us here—it is the worst kind of pettifoggery. By 1553, Jean Calvin, thanks to his own network of spies, had figured out that theologian Michael Servetus and Lyons physician Michel de Villeneuve were one and the same. And it was Calvin’s men who alerted the Church to de Villeneuve’s identity.

Catholic apologists made hay with the Servetus story. According to this school of thought, Protestants were never the angels they claimed to be and certainly never harsher than when policing their own ranks. There is some truth in this.

Gregorio Calvi di Bergola



<http://miguelservet.org/servetus/iconography.htm>

But Servetus is so much more than a pawn in a long-forgotten squabble; he is a fascinating man of science who deserves to be remembered in his own right. There are many such authors, scholars, translators, and researchers from that period. Those who ended up in the wrong place at the wrong time found themselves beneath the wheels of the inquisitorial juggernaut. That they have no public relations industry to keep their name alive (as the notorious heresy-hunter Sir Thomas More undoubtedly has) does not entitle us to complicity in their abandonment.

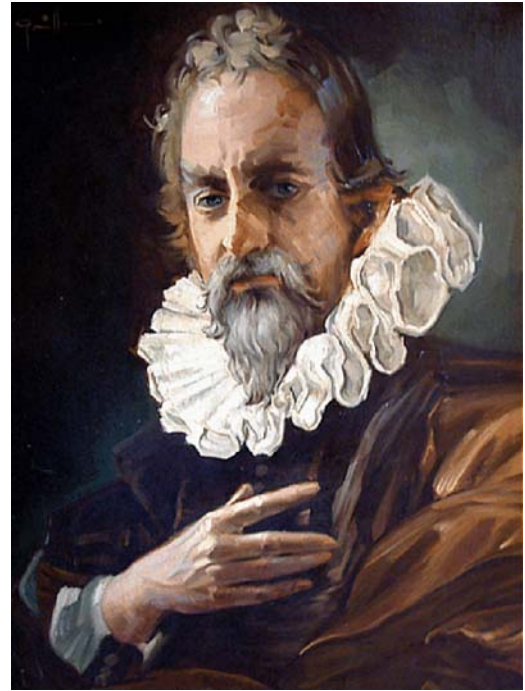
We can give the forgotten their due. Thus, it is well to ponder the life of Michael Servetus—a mind of agile ferment and wonder, cruelly snuffed out.

After all, who among us can fail to feel a frisson of delight as we read the critical passage from his *Restitutio*.

“That the communication and elaboration are accomplished in this way through the lungs we are taught by the different conjunctions and the communication of the pulmonary artery with the pulmonary vein of the lungs. The notable size of the pulmonary artery confirms this; that is, it was not made of such sort or of such size, nor does it emit so great a force of pure blood from the heart itself into

where because those little membranes or valvules of the heart are not opened until the time of birth. Therefore that the blood is poured from the heart into the lungs at the very time of birth, and so copiously, is for another purpose. Likewise, not merely air, but air mixed with blood, is sent from the lungs to the heart through the pulmonary vein; therefore the mixture occurs in the lungs. That reddish-yellow color is given to the spiritous blood by the lungs; it is not from the heart.”

(From *Michael Servetus*, by C.D. O’Malley, American Philosophical Society, 1953).



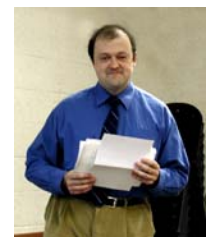
M. Servetus by Guillermo

Never missing an opportunity to land in the soup, Servetus (a.k.a. de Villeneuve) dabbled in “judicial astrology” and earned a reprimand from one of France’s most feared Inquisitors, Pierre Lizet, that stopped short of a prison term (or worse).

the lungs merely for their nourishment; nor would the heart be of such service to the lungs, since at an earlier stage, in the embryo, the lungs, as Galen teaches, are nourished from else-

We skeptics know that superstition offers only betrayal and that science is cool, but as Servetus’s sobering story shows, reason and unreason can coexist in the same mind. ☞

Neil Inglis spoke on the life of Michael Servetus at the Bethesda library in January 2005. Neil is a member of the NCAS Board of Directors.



The Origin of the Modern Day Occult: Starry Influence

by Richard Dengrove

If Mesmerism is the origin of psychic research, “positive thinking,” and spiritualism, where did Mesmerism originate? Natural Magic.

The idea of something like natural magic being both legally and religiously lawful existed by the 13th century, reaching its zenith in the 16th century (when such notables as Agrippa, Della Porta, and Cardan advocated it, and even the skeptic, Scot, was influenced by it), and declined in the 17th century. However, vestiges of it remained in subsequent scientists such as Newton and van Helmont (who gave gas its name).

Starry Influence

In February 1778, Franz Anton Mesmer proclaimed that his fluid, Animal Magnetism, existed throughout the universe. This concept had many things in common with natural magic. The influence of the stars, which was conducted by Mesmer’s fluid, was also important in natural magic, and included the influence of not only the stars, but the planets as well. As in natural magic, starry influence affected our minds through the head, *a la* Plato.

Like natural magic, there were other influences as well. For instance, the earth influenced the feet most. Some Mesmerists, especially after the French Revolution, believed invisible beings influenced us: *e.g.*, angels, devils, and ghosts. However, when it came to spirits, natural magic was more circumspect. Invoking invisible beings (even God and the angels) was against the law. In the freer 18th century, Mesmer’s followers did not worry about the law as much as in previous generations.

Both Mesmerists and natural magic believers felt that psychic powers by individuals, both living and dead, could influence us. The 16th century’s Paracelsus was a proponent of it. Some of the stronger proponents of natural magic claimed psychic powers could be obtained by concentrating on magical symbols.

Again, natural magic was circumspect. Conventional writers took a dim view of using

the ‘imagination’ because they were preoccupied with the mischief it could do.

Often Mesmer did not specify what was doing the influencing. It was more important that we were not receiving the animal magnetism properly. Similarly, with natural magic, what was doing the influencing was not necessarily known or of interest. In fact, the word occult comes from the idea that the explanation for some phenomena was considered hidden.

Another similarity between natural magic and Mesmerism had to do with powers beyond curing diseases, *e.g.* psychic powers, such as foretelling the future and mind reading. In natural magic, often the stars or angels ultimately imprinted the future on natural objects, such as palms or crystal balls, and the future could be foretold from them. Mind reading was not as popular as a wild talent in natural magic. Still, the concept existed in the 15th and 16th centuries.

Until now, the similarities between natural magic and Mesmerism could be viewed as being merely the result of a similar social milieu. However, people in those days, far more than today, knew what had been written before them. The name, “animal magnetism,” came from the scientist Van Helmont in the 17th century. He believed that magnetic fluids in people could influence others.

However, there were differences between Mesmer’s animal magnetism, which he had adapted to the 18th century, and natural magic.

Natural magic differed greatly from the respectable ‘scientific’ theories of its time. Because natural magic was often thought to work by action at a distance, it conflicted with the accepted principle of Aristotle, that there was no action at a distance.

On the other hand, Mesmer’s theory was not that different from the theories accepted by scientists of his time. It was noted that J.S. Bailly, a respected enemy of Mesmerism, held a theory quite similar to it. Also, there were similarities with Lavoisier’s ‘caloric.’ A Mesmerist compiled a fair sized list of thinkers whose beliefs bore some similarity.

Richard Dengrove is the librarian for the Food and Nutrition Service, Department of Agriculture. He lives with his wife, Heidi, in Alexandria, Virginia. His ambition is to write a history of occult magic. Richard discussed Mesmerism in an article entitled, “Early Origins of Psychic Research,” in *Skeptical Eye* vol. 17, #1, 2005.



modern day occult continued from previous page

One way Mesmer adapted to the 18th century was to put on a good show. You could see the cure coming because the patients had epileptic fits and somnambulistic trances. They attracted because they provided a good show.

Touch had a special place. It was considered risqué, which, in pre-Revolutionary France, gave it an added panache. People loved to be shocked.

Furthermore, Mesmer's animal magnetism worked less by juxtaposing the substance to people, through proximity or amulets, as natural magic did, and more by channeling influences already there. Cures by touch, iron rods, rope, and music were supposed to make people more susceptible to influences coming through animal magnetism. Also, tubs filled with iron filings and 'mesmerized' water were supposed to enhance influence.

This emphasis on the mind and less on apparatus developed into later idealistic occult beliefs, where mind was often over matter and

powers came from beyond the material world of our senses.

Still, even with all these differences, Mesmerism owed a great deal to the natural magicians of previous centuries. ☺

Selected Bibliography

Darnton, Robert, *Mesmerism and the End of the Enlightenment in France*. Harvard, 1968, 218p.

Daston, Lorraine and Katharine Park, *Wonders and the Order of Nature 1150-1750*. New York: Zone Books, 1998

Eamon, William, *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture*. Princeton, Nj: Princeton, 1994, xviii, 490p

Fauvel, John, Raymond Flood, Michael Shortland, and Robin Wilson, *Let Newton Be!* Oxford, 1988, pp136-42

Scot, Reginald, *The Discovery of Witchcraft*. Dover, 1972 [1584], 283p

Don't be mystified.

Yes, I want to: join NCAS.
 renew my membership.

Membership Options				
	1 year	2 years	5 years	Lifetime
Single	\$30	\$50	\$100	\$200
Double*	\$40	\$65	\$120	\$250
Full-time student **	\$10	—	—	—

*(2 members at same mailing address)

Name _____

Street _____

City _____ State _____ Zip _____

Phone _____ e-mail _____

**Students: List institution attending _____

Your additional tax-deductible donation _____

i do not wish to receive the email version of the NCAS monthly calendar, *Shadow of A Doubt*



Make checks payable to NCAS and mail to:

NCAS
PO Box 8428
Silver Spring, MD 20907

Check the mailing label for your membership date . . .
you'll find a renewal form above

about NCAS

Bits and Pieces

- *The Shadow*, NCAS' monthly calendar, can be sent to you via email! Send an email request to ncas@ncas.org to be added to the eShadow list.
- NCAS has a low-volume electronic mailing list, *ncas-share*, where members can share news items and other things of interest. Send an email request to ncas@ncas.org to be added to the *ncas-share* mailing list.
- Visit the NCAS website to find the Condon UFO report online and many other resources at www.ncas.org
- Because NCAS is a 501c(3) nonprofit organization, all donations you make to NCAS are fully tax deductible!

What would YOU like to see in the *Skeptical Eye*? Write us at

e-mail: ncas@ncas.org
s_eye@ncas.org (newsletter business)
Internet: <http://www.ncas.org>

or call our
24-hour phone number: 301-587-3827

We'd like to hear from you.

**National Capital Area Skeptics
PO Box 8428
Silver Spring, MD 20910**

FIRST CLASS