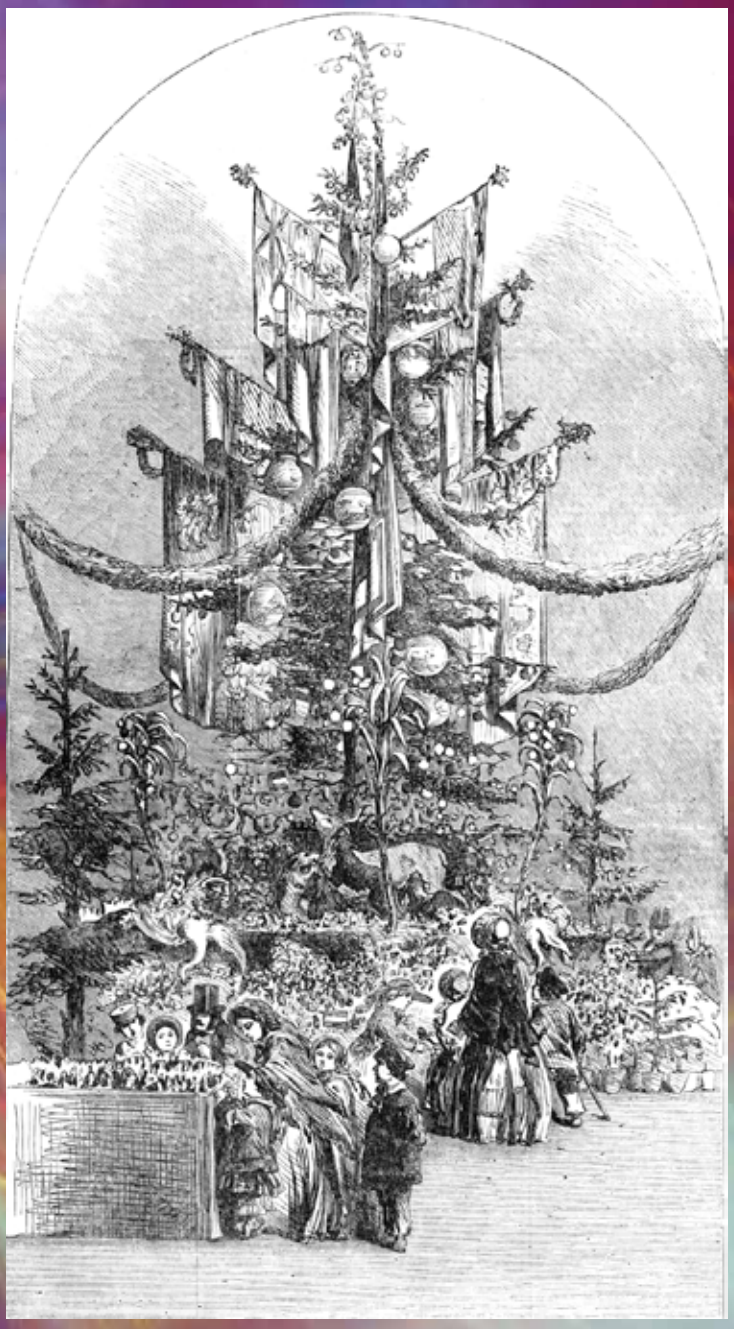
BSHS THE BRITISH SOCIETY FOR THE HISTORY OF SCIENCE

CHRISTMAS SPECIAL 2012

Viewpoint

ISSN: 1751-8261

MAGAZINE OF THE BRITISH SOCIETY FOR THE HISTORY OF SCIENCE



"Christmas-tree at the Crystal Palace", 1854. (© ILN archive, Gale Cenage databases)

Science at Christmas

A warm welcome to our first *Viewpoint* Christmas special, an abbreviated edition of the BSHS magazine. In these pages, you'll find a fabulous feature article by Rupert Cole on the Victorians' special relationship with festive science.

We also have the latest news from the Outreach and Education Committee: see the last page for details of all the deserved winners in the Great Exhibitions competition, and the call for nominations for the 2013 Dingle Prize.

There's also a gentle reminder that membership nominations are now due. We hope you enjoy this extended Christmas card!

Melanie Keene, editor

Science steals the show

Rupert Cole resurrects Victorian Christmas traditions of rational recreation

As Christmas approaches, science writers, editors and popularisers, Enlightenment aficionados, neo-Rationalists and The Brian Cox Fan Club are all desperate to find some way, *any way*, of making science suitably festive. The science of Christmas is, as Roger Highfield's publishing success suggests, a fashionable subject – a favourite fancy being the physics involved in Father Christmas' annual voyage. And Robin Ince's "Nine Lessons and Carols for Godless People" – billed as a "yuletide rationalist romp" – offers, at every Christmas, a proudly-secular show of science and comedy. If the current trends continue, maybe next year we will see nano-stockings and Higgs pies.

Historians of science have it a little easier (Newton, after all, was born on Christmas Day, according to the Julian calendar). Take the Royal Institution's Christmas Lectures. Stretching back to 1825, they are the sole-surviving descendants of a whole Victorian culture of festive science – now largely forgotten.

In the first few decades of the 19th century, Christmas was a rather rarefied tradition, kept alive by the nostalgia of poets and antiquarians. Romantically-inclined writers such as William B. Sandys and Thomas Kibble Hervey feared for the end of "Old Christmas" – the modern age, they lamented, had become too "philosophic", too "utilitarian" and too "refined" for boozy wassail bowls, feudal feasts and Lords of Misrule. Ironically, modern values and tastes would actually come to reshape and revitalise Christmas, rather than ruin it.

On the eve of the Victorian era, as Christmas was undergoing a dramatic transformation, the famous mountaineer and wit Albert Smith recognised the impact science was having on "our ancient pastimes", predicting that if Old Christmas's traditions do survive, then they will reappear in some "altered and deeply philosophical form".

Smith's 1841 essay "Science and the Show-folk" was clearly humorous in tone, as he then proceeds to imagine a future where old customs have become scientific: for instance, the "Yule Log" would be swapped for a "lump of anthracite coal in a Dr Arnott's stove"; and Christmas presents such as "dolls houses" will be replaced by "cheap air pumps imported from Holland" or "models of the Adelaide Gallery".

Christmas became a time to tackle the problems of the day, such as increasing population, poverty and disease in the cities. The festival soon adopted the nation's values of social, scientific and technological progress. Christmas essays, stories and poems appeared in novel publications like *The Illustrated London News* and *The Leisure Hour* that celebrated science, comparing the present age with the past and imagining utopian futures.

By midcentury, festive science was all the rage. Christmas annuals and books such as the *Boys' Own* series and *Peter Parley* printed scientific experiments for children to do at home during the holidays. *Punch* magazine expertly satirised these in an 1856 piece, "Nine Rational Recreations", which features experiments that were designed to keep energetic children occupied:

4. Take a Kitten (one of a kindly disposition is preferable), and place it upon your lap. Stroke it gently for a few seconds and the animal will be distinctly heard to purr. This experiment may be varied by pinching its tail. […]

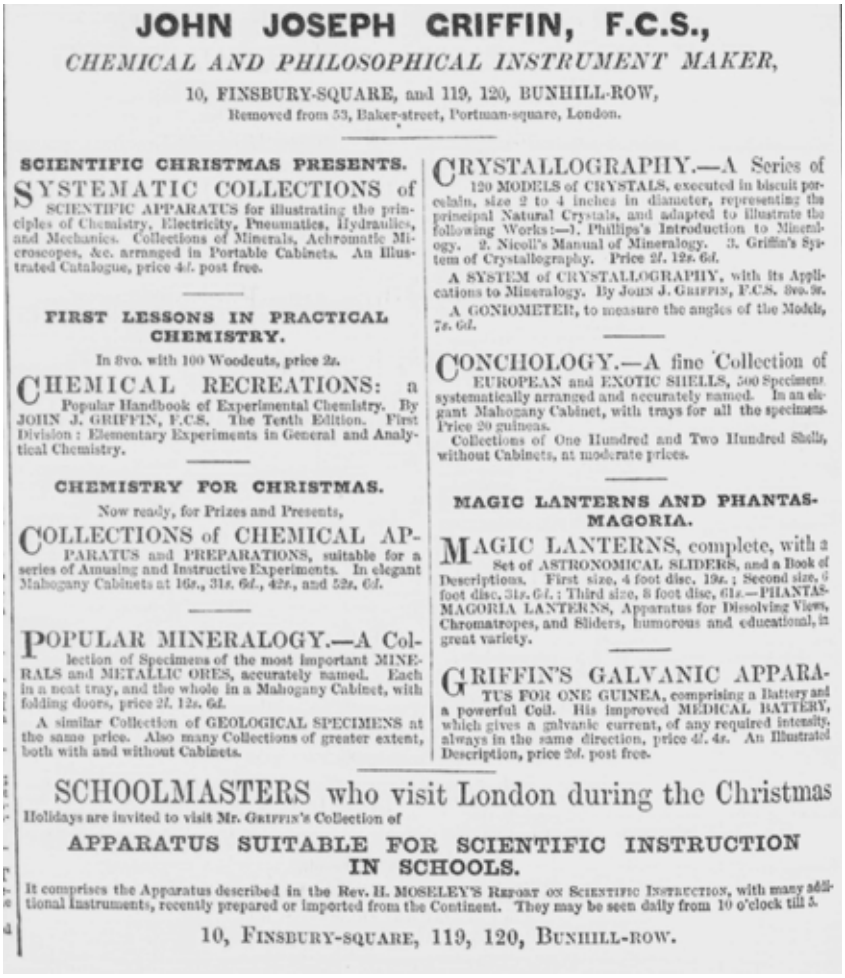
8. Place the palms of your hands together crosswise … and strike them on your knee. A sound will be produced somewhat resembling the chink of money. This is quite as good as having money itself.

9. Go to bed.

Newspapers ran adverts for "scientific Christmas presents" and articles detailing "Christmas scientific recreations" in London.

London was a hub of activity at Christmas. The festive season of exhibitions, shows, lectures, concerts and theatres generally began on Boxing Day. In the middle-decades, scientific amusements were among the most popular. Pantomimes, which had by the Victorian period become the quintessential Christmas entertainment, staged science-themed productions. The Victorian pantomime, it must be said, was much more politically edgy, witty and spectacular than the best of today's efforts – which tend to rely on the fame and acting abilities of soap stars.

At Christmas 1848, The Victoria Theatre hosted one of the most sensational



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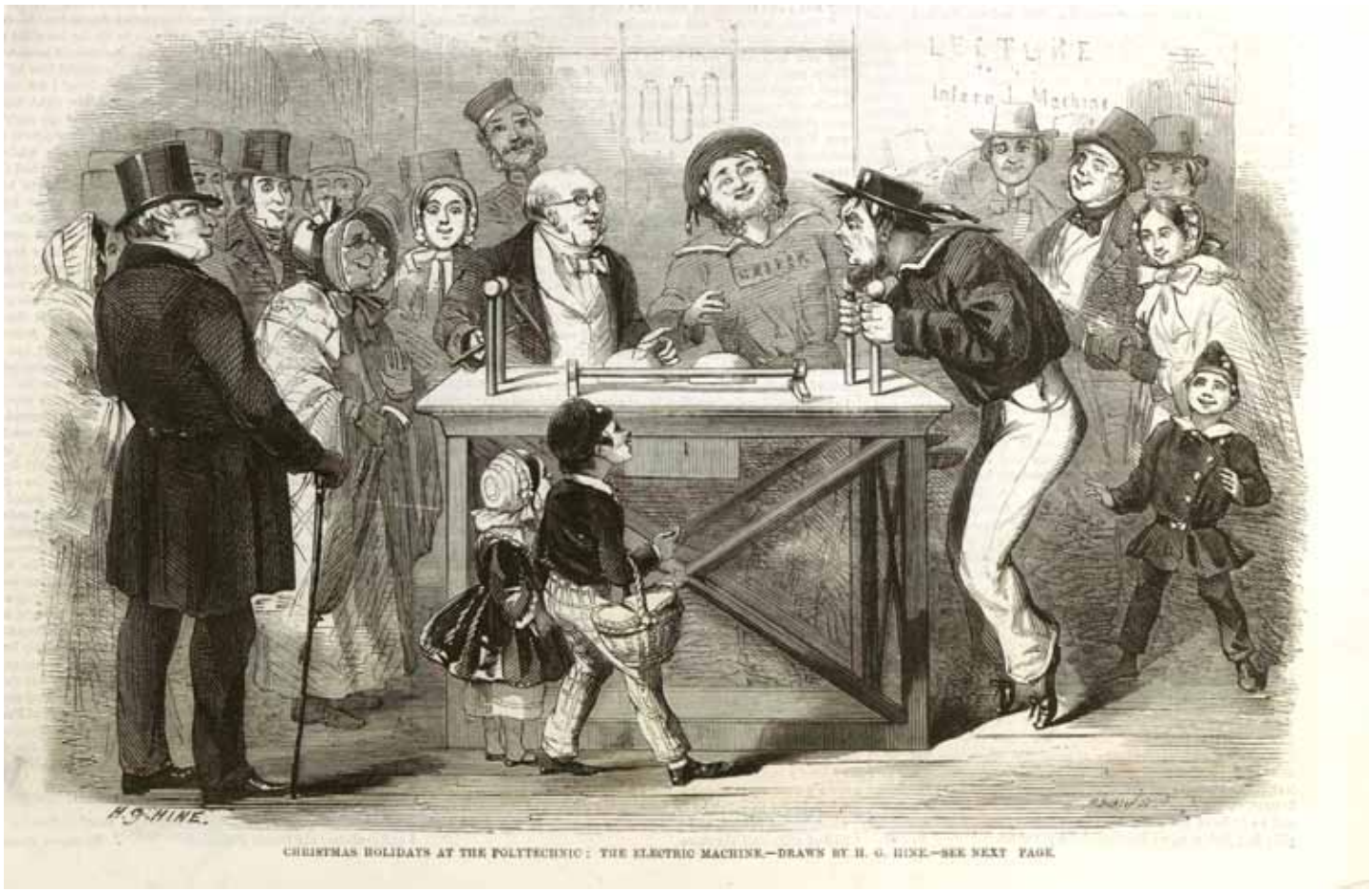
John Joseph Griffin's Christmas Advert, the Athenaeum, Dec. 24th 1853. (© 19th century newspapers online, Gale)



A sailor getting tricked into receiving a shock on an electrical machine during the "Christmas Holidays at the Polytechnic", 1858. (© ILN *archive, Gale Cenage databases)*

and oversubscribed pantomimes of the decade. E. L. Blanchard's "Land of Light, or Harlequin Gas and the Four Elements" made "Science" the personified hero. The opening scene takes place in a "goblin coal mine" 5,000 miles beneath the surface of the Earth, where an unhappy troupe of fairies bemoan their banishment from the science-enamoured society above. The character Science arrives, challenging the fairies to a (pretty one-sided) contest of traditional panto magic.

Science steals the show. The first "trick" performed is the combustion of coal. Stage directions at this point indicate that the player Gas appears from the coal "with flame upon his head"! To further perturb even the most hardened health-and-safety enthusiast, the scene's magical finale consists of a "magnificent temple" of artificial light, fuelled by a selection of intensely bright (and extremely explosive) gases in use at the time –Budelight, limelight and camphine.

The "Land of Light" was lauded in the press. One paper remarked:

This is a decided novelty. We know that Dr. [Erasmus] Darwin tried to instil the science of botany into imaginative minds by means of epic poetry [...] but it was reserved [...] for the stock dramatist of the Victoria Theatre, to drive the doctrines of natural philosophy into the brains of a transpontine populace by the "slap and trap" of pantomime.

E. L. Blanchard, however, was no ordinary stock dramatist. Before becoming the most prolific writer of pantomimes to date (between 1852 and 1888 he was the author of every pantomime at Drury Lane) he worked as a professional magician and theatre manager. Blanchard's first job, however, came when he left school in 1835 to join a travelling oxyhydrogen microscope exhibition. He often gave the lectures on the process himself.

Rivalling the pantomime's dominance in Victorian London's festive season, two "galleries of practical science" popped up in the 1830s that strove to offer "instructive amusement" for the masses. The Adelaide Gallery arrived first in 1832. Their Christmas bill including performances of traditional festive oratorios – usually Handel's Messiah or Haydn's Creation – that featured massive projections of microscopic organisms or dramatic displays of electricity.

Famous for its "abominable smells" and the "odd explosion", The Royal Polytechnic Institution (1838) soon eclipsed the Adelaide in popularity and financial success. It was John Henry Pepper, having joined as a lecturer and resident chemist in 1848, who made Christmas at the Polytechnic legendary. "Professor" Pepper was perhaps an even greater scientific celebrity in his time than Faraday. At Christmas, he transformed the Polytechnic into a winter wonderland, with Christmas trees and other evergreens decking the Great Hall, where a host of impressive machines and inventions were on display.

The Hall also boasted a celebrated, giant tree – each year bigger than the last. It was loaded with scientific presents that Pepper himself dished out to children. Sydenham's Crystal Palace and the Polytechnic, competing for the Boxing Day crowds, were continually trying to outdo the other's tree size. The Crystal Palace's "stupendous trophy" of 1854, reportedly attracting 10,000 in one day, was decorated with Turkish, French and English flags, signalling to the nations at war in the Crimean. *Punch* (who else?) came up with their own "Tremendous Christmas Tree", decorated with "chemists' bottles and doctor's lamps", "suspended pill-boxes and ornamental vials of the most fashionable medicines".

Over the years, the Polytechnic treated the public to such festive marvels as harps that telegraphically channelled music played elsewhere, "optical" pantomimes showcasing the best in magic-lantern projection technology, and, most popular of all, The Ghost.

Pepper's Ghost satisfied the Victorian taste for a rational dose of magic and

gothic entertainment at Christmas. Adapting Henry Dircks's mirror-based invention, Pepper managed to project on stage the image of an actor concealed below, creating the illusion of an uncannily convincing ghost.

On Christmas Eve 1862, Pepper invited a group of scientists and press figures to a special preview performance, where he staged a version of Edward Bulwer-Lytton's gothic novel, *A Strange Story*. After the show, a lecture was supposed to be given explaining how the illusion worked, but instead Pepper rushed out to patent the illusion – it turned out to be a very profitable move.

That same Christmas, an adaptation of Charles Dickens's *The Haunted Man and the Ghost's Bargain* was chosen for the first public performance of the illusion. Dickens's novella, published in 1848, was his fifth and final Christmas book. It told the story of Redlaw, "a learned man in chemistry" who was haunted in his lecture theatre by a doppelganger – the perfect subject for Pepper, "professor" of chemistry, and his Polytechnic Institution.

Faraday, who delivered his famous Christmas lecture series "The Chemical History of a Candle" in 1848, was undoubtedly the inspiration for Dickens's protagonist. In fact, the author wrote to Faraday in 1850 asking for his "Candle" lecture notes. He then wrote a dramatisation of the series, "The Chemistry of a Candle", which appeared in the first issue of his new journal *Household Words*.

Dickens was not the only populariser of Christmas to embrace festive science. Prince Albert, a man keen on science, took the Royal Children to Faraday's 1855 Christmas series on "The Distinctive Properties of the Common Metals". Prince Albert Edward (later King Edward VII) attended three series between 1855-1858. Faraday and his Christmas Lectures were the place to be seen in the 1850s. Although the Lectures were ostensibly for a "Juvenile Auditory", the amused press produced lists of attendees which read like a who's who of fashionable and titled London society.

Faraday, who gave a remarkable 19 series of Christmas Lectures, introduced seasonal touches in his last decade of lectures. He made references to the pantomime, performing on one occasion the method by which the theatres create lightning – blowing lycopodium powder through a spirit flame. In his "Candle" series, he used the popular Christmas parlour game, snapdragon, to illustrate different kinds of combustion.

Snapdragon was a delightfully dangerous game, played in the dark. Faraday, true to the game, doused a bowl of warm raisons with brandy, then lit them in the pitch-black theatre. The object was to pick the raisons out, minding not to set yourself alight. Snapdragon may be the ancestor of our tradition of lighting the Christmas pudding.

The Christmas Lectures remain a relic of this lost culture of festive science that, like most romances, did not last long. It was certainly an oddity by the 1870s. More research is needed to determine just how important science was to the Victorian Christmas, why it arose, and why it fell out of favour. How different would our modern Christmas be had science become an established tradition in Victorian England?

Rupert Cole
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BSHS Announcements

Great Exhibitions

The British Society for the History of Science Outreach and Education Committee is delighted to announce that first prize in the 2012 Great Exhibitions competition for large displays has been awarded to the Science Museum, London, for "Codebreaker: Alan Turing's Life and Legacy". Second prize was won by the Berlin Museum of Medical History at Charité for their exhibition "Tracing Life".

The small exhibition category was won by the Royal College of Physicians, London, for "Curious Anatomys", whilst joint second place was taken by the National Museums Scotland, Edinburgh, for "Reconstructing Lives", and The Museum of Art at the University of Virginia for "Making Science Visible: The Photography of Berenice Abbott".

The standard of submissions was extremely high, with entrants from a broad range of regions, including North America, Europe and Britain, covering varied subject areas in the history of science, technology and medicine, from alchemy and acoustics to anatomy and computing. The judges would like to thank and congratulate all the institutions and individuals who prepared entries to the competition.

Membership Renewals

Membership of the BSHS starts from January 1st of each year. As the principal learned society representing the field, the Society works to promote the history of science, technology and medicine nationally and internationally and we hope you wish to continue your membership in 2013.
Renewing is easy and full details can be found on our website www.bshs.org.uk.

Dingle Prize 2013

The British Society for the History of Science invites book nominations for the 2013 Dingle Prize.

In keeping with the Society's concern to communicate history of science to broad audiences, the 2013 Dingle Prize will be offered for the best book in the history of science, technology, and medicine, first published in English in 2011 or 2012, which is accessible to a wide audience of non-specialists.

The winning book should present some aspect of the field in an engaging and comprehensible manner and should also show proper regard for historical methods and the results of historical research: for example, it might re-examine a well-known historical incident or achievement, or bring new perspective to previously neglected figures or fields in the past.

The value of the Dingle Prize is £300. The winner will also have the opportunity to give a public lecture, organised by the BSHS, on the subject of their book.

The Prize was established in 1997 to mark the fiftieth anniversary of the Society, and is named after the mathematician, astronomer and philosopher of science Herbert Dingle, a founder member of the BSHS. More information about the prize, including details of past winners, is available at http://www.bshs.org.uk/prizes/dingle-prize.

Nominations for the Prize are invited from both individuals and publishers. Nominations should be sent to Dr James Stark (j.f.stark@leeds.ac.uk) by 21 JANUARY 2013. Please include full publication details with nominations.

Publishers should send five copies of each of their nominated book(s) to: Dr James Stark, Leeds Humanities Research Institute, University of Leeds, LEEDS, LS2 9JT, UK, to arrive by 1 FEBRUARY 2013.