



FIG 2—“He was the Inventor of true Spectacle Grinding, & the only person who had the Approbation of the Royal Society.” From a handbill, after 1714

outsider claiming a radically improved technique and having that claim supported by the prestige of the Royal Society. Their delegation to the Royal Society complained “That the Invention was not new, nor his, nor of the use pretended by him.” Both Marshall and the spectacle makers submitted written comments. The spectacle makers were told “That the Society Conceived their Certificate was well Grounded, and that if Mr Marshall did Act Against their Charter, they might Right themselves by Law.” They never did. Unfortunately, the submissions are lost; they almost certainly contained the gist of Marshall’s method and how it differed from previous practices.

### Subsequent history

Marshall made no attempt to patent or keep secret his new method. In fact, he trained and sold suitable

tools to gentlemen amateurs. It was easy for his journeymen and apprentices to pirate the method, and within months trade rivals advertised that they were using a method approved by the Royal Society. Marshall therefore added to some of his trade cards and advertisements that he alone had that approbation. It gained him nothing; no one ever acknowledged that it was his invention.

Ironically, long after his death, London opticians proudly announced to the public that their spectacles and other instruments were made with lenses ground by the method approved of by the Royal Society. The society could take comfort from the use of its name, since it signified that the public accepted that the Royal Society stood for disinterested evaluation.

Not only did batch manufacture mean that good quality identical lenses could be made at least as cheaply as inferior ones but it may also have contributed to a change in the nature of the optical trade. Although more specialised instruments continued to be commissioned, tradespeople began to make and keep batches of the less expensive optical goods to be sold off the shelf rather than as bespoke pieces. This change is confirmed by advertisements containing French, German, and Dutch descriptions; foreign visitors would normally buy on the spot.

Although Marshall’s innovation may have been only a minor technical achievement, it resulted in a considerable increase in comfort and pleasure for those who needed spectacles. Jonathan Swift, soon afterwards, and Jane Austen, at the end of the century, commented on the effectiveness of spectacles in the novels *Gulliver’s Travels* and *Emma*. In combination with the focus mark, introduced by Edward Scarlett, Marshall’s method established the superiority of English spectacles over their continental rivals for a long period. Nevertheless, without methods of testing the defects of the eye, the competence of the optician remained paramount, and complaints were made that eyes were being damaged by faulty or wrong lenses.

Much modified by a succession of improvements, the batch method remains the basis of present day practice. On its 300th anniversary, it is surely time to restore Marshall’s name to his method.

1 Bryden, DJ, Simms DL. Spectacles improved to perfection and approved of by the Royal Society. *Annals of Science* 1993;50:1-32.

## Dr Doubledose: a taste of one’s own medicine

Roy Porter

Jokes, Freud taught us, are the acceptable face of aggression. Humour has, not surprisingly, provided a way for the people to fight back against the powerful; and, on account of their own highminded aspirations, the liberal and learned professions traditionally laid themselves particularly open to lampoon. Anti-priest and anti-doctor satire was not only a form of revenge, it was also designed to deflate, exposing pretension and humbug.

Medical satire was particularly near the bone since its humour was black. Laughter was a way of keeping the dread of death at bay—of handling the insidious suspicion that the medical profession might not after all be fighting death but could prove a double agent.

Such themes became specially prominent from the 18th century with the spread of fairly cheap prints and engravings alongside traditional verbal expressions like proverbs, riddles, and rhymes. Hogarth’s com-

mercial talents led the way from the 1730s. The decades around 1800 brought the golden age of the cartoon with Rowlandson, Gillray, and the Cruikshank family. The verbal and the visual joined forces to produce maximum impact in an age notably uninhibited in its depiction of sex and violence in political prints and professional satire alike.

The standing of early modern medics was precarious and it is not hard to see why. Disease and death still held sway. Faced with hordes of waterborne, airborne, and bugborne fevers, medicine had little power to cure the sick or save the dying. Doctors had to do their feeble best in a cut-throat trade, exposed to non-stop vilification. “If the world knew the villainy and knavery (beside ignorance) of the physicians and apothecaries,” the gossipy antiquarian John Aubrey was told by a doctor, “the people would throw stones at ’em as they walked in the streets.” Scepticism ran high: “God heals

and the Doctors take the Fee," judged Ben Franklin. Proverbial wisdom warned that death and the doctors were thick as thieves, or at least always conducted joint consultations: practitioners, it was said, fleeced the public first and slew them afterwards. "When a Nation abounds in Physicians," bantered Addison and Steele's *Spectator*, "it grows thin of people."

Doctors were taunted with caring only for their fees. Himself a practitioner, Bernard Mandeville versified this slur in *The Fable of the Bees* (1714):

Physicians valued Fame and Wealth  
Above the drooping Patient's Health,  
Or their own Skill: The greatest Part  
Study'd, instead of Rules of Art,  
Gave pensive Looks, and dull Behaviour;  
To gain th' Apothecary's Favour,  
The Praise of Mid-wives, Priests and all,  
That served at Birth, or Funeral.

Ubiquitous antidoctor diatribes suggest disquiet was heartfelt and not just hackneyed. Gravest of all was the charge that physicians were fatal. Should one consult an old or a young physician? someone inquired of Dr Frank Nicholls. "The difference," replied the anatomist, is this: "The former will kill you, the other will let you die."

Doctors were mocked as men on the move, men on the make, a money-mad medical mafiosi:

You tell your doctor, that y'are ill  
And what does he, but write a bill.

—thus Matthew Prior put the matter in a nutshell. The faculty warned the public against imposters. But the common retort was that the profession itself was quackery in camouflage, cashing in whenever it could—a point Hogarth epitomised in *The Company of Undertakers*. Was there truly any difference between the stately bewigged faculty physicians at the foot of the print and the infamous contemporary quacks above—Joshua ("Spot") Ward, Sally Mapp the bone manipulator, and John ("Chevalier") Taylor, the oculist? No: because Hogarth's motto said *et plurima mortis imago*: everywhere the face of death.

People were, of course, always bellyaching against doctors. "Met Mr Forbes the surgeon going to kill a few patients", jotted Parson William Holland in his diary. No wonder medical men and issues commanded

media prominence but mixed feelings. Of the 1300 satirical prints produced by the prolific Rowlandson during the reign of George III, up to 50 dealt directly with medical subjects. The stereotypes created, however, were negative or equivocal. Doctor bashing was nothing new: medieval illuminators and carvers depicted them as apes. But there were also singular aspects of public disquiet that Georgian cartoonists exploited.

### Threats to the body

What is most striking about the portrayal of medicine in early cartoons is violence. Practitioners endlessly perform procedures that invade, wound, and pain their patients. They wield the lancet and let blood; they prescribe violent and disgusting purges; they yank out teeth. In a Rowlandson cartoon titled *The Toothache, or Torment and Torture*, Barnaby Factotum, the village jack of all trades, is caught drawing a fang, while, suffering from raging toothache, an old lady awaits her turn. "Draws Teeth, Bleeds and Shaves," reads the testimonial pasted to the wall, "Wigs made here, also Sausages, Wash Balls, Black Puddings, Scotch Pills, Powder for the Itch, Red Herrings, Breeches Balls and Small Beer by the Maker."

Illness is painful but being physicked is equally agonising. Moreover, artists wished to intimate a endemic fiendishness in medicine, a theatre of cruelty. This is supremely expressed in the finale of Hogarth's *Four Stages of Cruelty*, set literally in a theatre, an anatomy theatre. Tom Nero (evidently the name means "no hero") is being dissected. In the first print Tom was caught tormenting a dog. He descends into seducing a maidservant, later murdering her. After his execution it is his ghastly fate to become an exhibit in the dissecting room, being ritually disembowelled and having his eyes gouged out by surgeons and his guts guzzled by another dog (fig 1). What is there to choose, Hogarth invites us to ponder, between the murderous malefactor and the dissecting doctors?

Doctors in prints and the press thus presented threats to one's body, not just through therapeutic violence but sexually too. There are scores of leering sketches featuring the physician as lecher and clinical consultations as erotic skirmishes. Rowlandson's doctors gawp, grope, and glyster their patients in a most un-Hippocratic manner. In *Medical Dispatch or Doctor Doubledose Killing Two Birds with One Stone* (fig 2), with one podgy hand the physician takes the pulse of the cadaverous senseless invalid, while throwing an arm around the neck of the nubile girl. The "Composing Draught" and the opium pillbox on the table suggest the physician may be giving his patient a helping hand out of this world, so as to switch his medical ministrations to her maid.

Sex and medicine coalesce; physical examination becomes a motif for fornication, and the practitioner's apparatus—his cane, enemas, lancets, squirts, and clyster pipes—assume an erotic air, sometimes bawdily comic.

Medical violence and medical violation clearly preyed on people's minds. It may therefore have been obliquely comforting to perceive that, if the doctor were a threat, he was also a fool. The physician as pedant had long featured in the *Commedia dell'Arte*, offering models for Molière's prating physicians and the asinine doctors in picaresque novels where they are duped by their wives and valets while pretending to omniscience.

### Lives at stake

The black humour of fatuous physicians physicking gullible patients out of their lives never palled.



FIG 1—"The Reward of Cruelty"  
—Hogarth's non-hero meets a retributive fate



FIG 2—Rowlandson's *Doctor Doubledose*

Rowlandson's *A Visit to the Doctor* shows a rustic couple visiting a doctor's book-lined consulting room. "Do you see, Doctor," the husband ventures, "my dame and I be come to ax you advice—we both of us eat well and drink well, and sleep well—yet still we be somewhat queerish." Luckily the bewigged physician can solve all their problems. "You eat well—you drink well, and you sleep well—very good—you was perfectly right in coming to me, for depend upon it, I will give you something that shall do away with all these things!"

Sometimes they neglect, sometimes they kill: and whenever two or three are gathered together, they fall out. In "The Chamber War," part of Rowlandson's *English Dance of Death* series, the civil war among the physicians is so gross as to obviate description. Some attached verses gloss the skit:

Sir Samuel, as it appears,  
Had reach'd the age of four score years.  
Lame, weak and deaf and almost blind,  
To his arm chair he was confined:  
But while there's Life, there's Hope, they say;  
And three physicians every day  
Came, gravely, for their daily pay.  
A nurse too, who her labours plied  
In watching sick men till they died,  
Had all that time, and longer, been  
The Mistress of the Chamber Scene.  
She did the sick man's food prepare,  
And nurs'd him with unwearied care.  
But still the Doctors came each day,  
And bore their golden Fees away.

Sometimes the cartoon doctor is just a dupe, more naive than his ignoramus patients. In *Cunicularii, or the Wise Men of Godliman in Consultation* (1726), Hogarth mocked the noted accoucheur, Sir Richard Manningham, the Princess of Wales's man-midwife. With other doctors, Manningham had testified on behalf of a peasant woman, Mary Toft, who had professed to give birth to litters of rabbits, enabling her to come to London, put herself on display and so make a fast buck. Small wonder Manningham appeared as "an occult philosopher searching into the depth of things." Belief in the rabbit woman was a medical foible Hogarth often milked for a laugh.

Not just fatuous, doctors were also depicted as pretenders to fashion. Dressed up to the nines in distinctive "physical wigs," sporting their gold-headed canes, all pomp and polish, prattling on, indifferent to their charges, these practitioners were full of themselves. And vanity rode with mercenariness.

### Quackery

If regular doctors suffered from such egregious faults and bad publicity, were not quacks ten times worse? Georgian culture took endless potshots at charlatans. Mountebanks in full cry offered the artist's dream subject: it was theatre, comic and grotesque, and it could serve as an all-purpose allegory. In Hogarth's *Southwark Fair*, a quack appears almost central, below the booth covering the church-tower. Promoting a pamphlet puffing his nostrums, the doctor eats fire to attract attention (and so becomes a fiery dragon). In zany's garb, his sidekick patters away, peddling the pills. Other artists also presented the charlatan as showman, singling out their weird and wonderful contraptions, as in Gillray's terrifying exposé of Elisha Perkins' *Metallic Tractors*. These consisted of brass and iron rods, united like a tuning fork, one end rounded, the other pointed. Sold at a knock down five guineas, they concentrated galvanic electricity upon affected areas and wrought instant, painless cures.

Cartoons played on the risqué aspects of the irregulars. Many showed the nerve doctor and pioneer sex therapist, James Graham. He developed a mud-bathing establishment; he employed scantily clad "goddesses of health" to arouse public curiosity (allegedly, one was Emma Lyon, the later Emma Hamilton), promoted a *Celestial Bed* guaranteed to restore potency, and lectured on the restoration of national virility.

The quack who dominated the prints, however, was James Morison, whose "Universal Pills" were early Victorian England's best-selling medicine:

My "Universal Pills" are quite divine!  
If one don't do, you may take nine.

A caricature by George Cruikshank shows a huckster standing on a box of *Universal Vegetable Pills*—Morison's brand name—in a "before and after" scene. Morison was the most successful medical entrepreneur of his time. He first launched his pills in 1825, and they proved immensely popular. Rejecting the harsh "heavy metal" drugs of the faculty and advocating vegetable and herbal cures, Morison (in a manner today all too familiar) denounced the establishment and made a fortune.

Contemporaries assailed quackery. But we must beware hindsight, for our judgments of quack cures do not always coincide with theirs. Thus it was perfectly plausible around 1800 to represent Jennerian vaccination as balderdash. In *The Cow-Pock*, Gillray spoofed variolation, implying that the vaccinated would develop horns, tails, and udders, while Lord Byron casually lumped Jenner together with Perkins:

What varied wonders tempt us as they pass!  
The Cow-pox, Tractors, Galvanism, Gas  
In turns appear to make the vulgar stare,  
In the swoll'n bubble bursts—and all is air.

### Death's captains, Death's disciples

Healers of all stripes were ubiquitously portrayed in popular culture as menacing buffoons. What might render the comedy not frivolous but black was that disease was no joke. To be precise, Death was the satanic jester, the grave enemy, the bitter fool. Medical humour was the child of desperation (fig 3).



FIG 3—Death the jester's disciple

And diseases were Death's captains. Maladies were represented as sinister manikins: goblins, demons, imps—energetic, well drilled, and deadly effective. Rowlandson excelled in personification of maladies as funny devils. *Ague and Fever* depicted a patient, teeth chattering, sitting holding his hands to a blazing fire. *Ague*—that is, malaria, then common in marshy areas—a sinuous, snaky monster, clutches at him, while *Fever*, a furry fiend, waits its turn. Personification of diseases remained popular, and Cruikshank often brought microbe men to life. Endless variations appeared on such themes: headache French style, headache English style; choleric, male and female alike.

The black comedy of all these topoi was that death watermarked them all. Of course, there was nothing new in this. From the medieval *danse macabre*, death had partnered life, and the *memento mori* taught that one lived to die and died to live. Mutability and mortality, art historians have shown, constitute the hidden meanings of Dutch still life. The shocking fact about the cartoons is not just death's omnipresence but



FIG 4—Doctors in "Punch" aspired to an aristocratic lifestyle (1878). Reproduced by permission of "Punch"

the role of doctors as Death's disciples; an unholy entente unites death, disease, and the doctors. Medicine itself is a plague—a theme magnificently embroidered in Rowlandson's wonderful *English Dance of Death* sequence. In dozens of images of Death stalking the living, the doctor there serves as Death's deputy. Death shadowed the anatomist in the mortuary and rode with the undertaker. And quackish apothecaries were also confederate with death. The image of Death as the doctor's overlord had an enduring resonance.

Maladies and medicine loomed large in pre-modern culture precisely because it was all so near the bone. Disease, disfigurement, disability, and death elicited anger, explosive laughter, and all the elemental passions. Medicine was a double agent. It was desperately in demand. Yet it could be suspected as sleeping with the enemy. Doctors, death, and the devil easily changed places.

### A change of image

The medical prints and jokes of the Georgian age really packed a punch. The later humour of *Punch* by contrast seems sedate. Above all, in *Punch* cartoons from the Victorian period through into the present century, practitioners rarely seem to be doing *anything* to their patients: they have ceased to be muggers, rapists, or murderers in disguise. No longer are patients being given enemas or having their legs sawn off, and surgeons no longer look like soldiers.

These changes may in part reflect the fact that, in certain respects, medicine became less nakedly threatening to the body in the Victorian era. With the gradual demise of phlebotomy, therapeutics ceased to be automatically associated with bloodshed; the coming of anaesthesia took the unbearable pain and terror out of surgery; the dragon-like Sarah Gamp type of nurse became a thing of the past.



FIG 5—The new breed of doctor—female—was routinely caricatured. Reproduced by permission of "Punch"

They also doubtless register the triumph of Victorian prudery and highmindedness. Whatever John Bull and his wife might have felt about disease, death, and the doctors, it had ceased to be acceptable to display in the public press images of physicians touching up nubile patients or surgeons mangling bodies. The first 20 years of George Cruikshank's long career—he lived from 1792 to 1878—were marked by bawdiness; the last decades by the strictest decorum.

But the distinctive style of *Punch* prints is also symptomatic of a real shift in the public image of, and fears about, medicine. The 18th century practitioner was chiefly lampooned as a dangerous ignoramus. His 19th and early 20th century successor was satirised for his aristocratic pretensions. He gave himself airs and graces, dressed in style, never got his hands dirty—and he was exceedingly expensive (fig 4). The standard cartoon physician was menacing through his insidious mixture of gentility and greed. Modern American

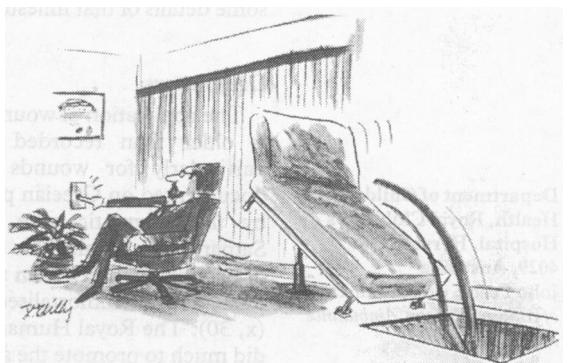


FIG 6—Now psychiatrists are the main target of medical jokes

medical humour has, not surprisingly, been obsessed with medical fees.

Another trend has become evident during the last hundred years: jokes have increasingly been directed not against the doctors but against the patients. Perhaps as the medical profession has grown more august and medicine more arcane, humorists find it easier to make fun of the ignorant folly of the client—particularly in the guise of a bird brained, sexy woman: it is noteworthy that female doctors were also routinely caricatured earlier in the century (fig 5).

And it is appropriate that the man who taught us the

unconscious meaning of wit should have triggered the best modern humour. Today's most biting medical jokes (members of the BMA will be relieved to hear) are invariably targeted (fig 6) against the shrinks.

It has been impossible to illustrate this paper as fully as one would like. No matter, for three anthologies of medical cartoons exemplify these themes very well. Kate Arnold-Forster and Nigel Tallis's *The Bruising Apothecary: Images of Pharmacy and Medicine in Caricature* (London: Pharmaceutical Press, 1989) is especially strong on the 18th century. *Mr Punch Among the Doctors* (London: Methuen, 1933) covers the first century of *Punch*; *The New Yorker Book of Doctor and Psychiatrist Cartoons* (London: Aurum Press, 1993) gives a taste of modern medical humour.

## The earliest days of first aid

John Pearn



Surgeon-Major Peter Shepherd (1841-78)

NATIONAL ARMY MUSEUM, LONDON

First aid, as a profession in its own right, has a history of only 120 years. It evolved from the teachings of the Royal Humane Society and military surgeons, who saw the wisdom of training in splinting and bandaging for battlefield wounds. In 1878 two Aberdeenshire military officers, Surgeon-Major Peter Shepherd of the Royal Herbert Military Hospital, Woolwich, London, and Colonel Francis Duncan established the concept of teaching first aid skills to civilians. This radical new enterprise, conducted under the auspices of the newly formed St John Ambulance Association, was a natural evolution from the body's philanthropic and ambulance transport work. Shepherd conducted the first class in the hall of the Presbyterian school in Woolwich using a comprehensive first aid curriculum that he had developed. Within months of that first class, local Woolwich civilians used their skills when the pleasure boat *Princess Alice* sank in the Thames at Woolwich, killing 600 people. Within a decade, the new discipline of first aid spread rapidly throughout the world, and by the end of the 19th century, hundreds of thousands of St John first aid certificates had been awarded in four continents. Shepherd's pioneering classes changed the world's concept of the need for the provision of skilled prehospital care.

From the perspective of 20th century medicine the need for first aid training seems self evident. But first aid, as it exists today, has a history of only about 120 years. First aid comprises a series of drills and skills which have doctrinal underpinning and which require training; the procedures are constantly revised and are subject to ongoing medical audit. The discipline originated in 1878 from a pioneering and revolutionary experiment to teach members of the general public skills that had been developed for military stretcher bearers in the previous decade. This paper documents some details of that milestone event.

### Originators

The application of woundworts to cuts and abrasions is older than recorded history.<sup>1</sup> Bandaging skills, particularly for wounds sustained in battle, were documented on Grecian pottery from around 500 BC, by the enigmatic vase painter Sosias. The good Samaritan, with his ethic of succour and his efficiency of bandaging, dates from the bronze age in the Middle East, and is immortalised in the gospel of St Luke (x, 30). The Royal Humane Society, founded in 1774, did much to promote the attempted resuscitation of the apparently drowned. It was not until the 1870s,

however, that the Prussian military surgeon, Johannes Friedrich August von Esmarch (1823-1908) first used the term "Erste Hilfe" and taught that soldiers could help their wounded comrades on the battlefield by using a standard set of prelearnt bandaging and splinting skills.

In the same decade in England a groundswell of charitable fervour changed the English Priory of the Order of St John from a religious and fraternal body into a useful charitable organisation, initially with the concept of alleviating human suffering by philanthropic work. One of the advocates for this practical innovation was Colonel Francis Duncan (1836-88), a career artillery officer from Aberdeen. After six years of garrison duty in Canada he was posted to Woolwich Arsenal, London, in 1875. A devout Presbyterian, a keen historian, and a gunnery officer in the highest traditions of the Royal Regiment of Artillery, he established a number of good works in Woolwich, a south eastern suburb of London. In particular he enthusiastically espoused the humanitarian principles of battlefield ambulance transport. His young colleague, Surgeon-Major Peter Shepherd (1841-79), also from Aberdeenshire, had also been posted to the garrison and was based at the Royal Herbert Military Hospital at Woolwich. Shepherd had the complementary medical skills needed to provide the technical training in what was to be the new profession of first aid.

Shepherd saw the value of von Esmarch's new teaching in bandaging and other elementary first aid skills as these were evolving in the Prussian army. He quickly developed and extended these skills for British stretcher bearers in the army medical department. It was Shepherd who first used the English term "first aid for the injured" and developed the doctrine in an unpublished series of lectures covering a comprehensive range of first aid skills for a wide range of medical emergencies, not just battlefield wounds.

### Chronology

Shepherd's role was the primary practical influence in establishing first aid as a major theme in the work of the Venerable Order of the Hospital of St John of Jerusalem. In 1870 the Order of St John, with its tradition of "muscular" hospice care but unrealised infrastructure, had "grand possibilities . . . to establish and develop a system of practical philanthropy that would benefit the whole community."<sup>2</sup> By 1872 the order had contributed £100 towards establishing Britain's first ambulance transport service, and in 1875 it had developed its own wheeled transport litter, called the St John Ambulance. It was a short step, in

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