

Pills and profits : the selling of medicines since 1870 : an exhibition at the Wellcome Institute for the History of Medicine / Ken Arnold, Tilli Tansey.

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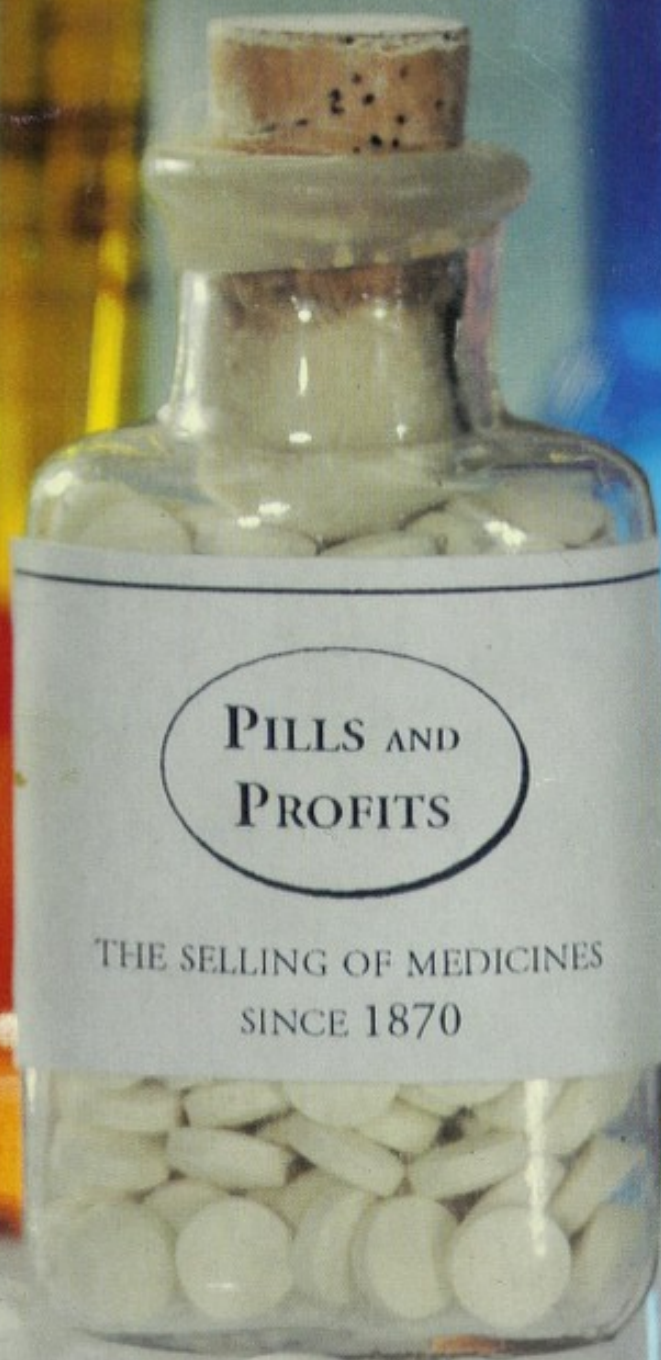


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THE SELLING OF MEDICINES
SINCE 1870

PILLS AND PROFITS



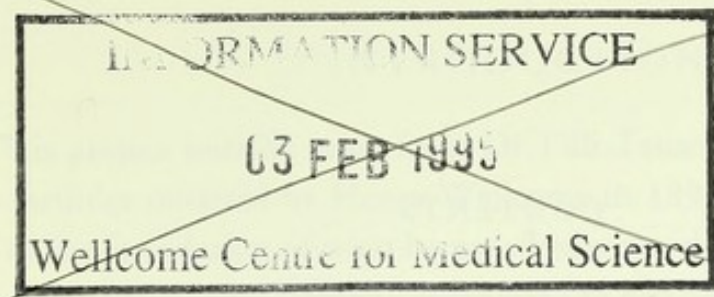
An exhibition at the Wellcome Institute
for the History of Medicine

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Pills and Profits

the selling of medicines since 1870

AN EXHIBITION
AT THE
WELLCOME INSTITUTE FOR THE HISTORY OF MEDICINE

29 April to 19 August 1994

KEN ARNOLD
TILLI TANSEY



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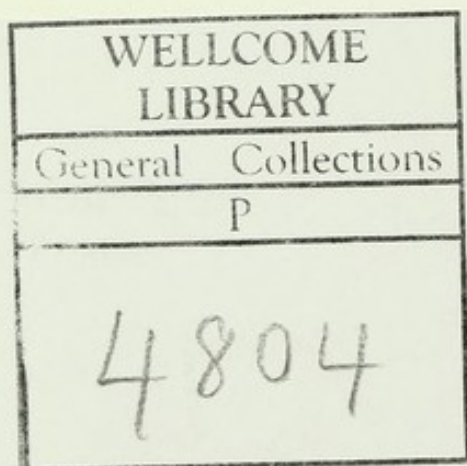
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INTRODUCTION

This project initially arose from Dr Tilli Tansey's interest in the research facilities initiated by Henry Wellcome in 1894. The centenary anniversary of the foundation of what became known as the Wellcome Physiological Research Laboratories (WPRL) provided the peg on which to hang this exhibition.

In her essay, Dr Tansey describes the early history of the WPRL, revealing much about the evolution of the legal aspects of animal experimentation and of the relationship between a pharmaceutical company and the professional scientists it employed. As she shows, this story represents a highly significant juncture in the evolving medical relationship between commerce and cure.

This story, and Dr Tansey's analysis of it, furnished the exhibition with its essential theme: the fundamental tension between the promise of relief offered by pills and the profits gained from selling them. Hinged about this central ethical dilemma, the exhibition takes a broader look at the history of how medicines have been sold, especially since the late nineteenth century.

The extraordinary range of exhibited material, from a Rembrandt etching to a modern shop-window display, is mostly drawn from the Wellcome Institute Library, especially the Iconographic and Modern Medicine Collections. Other items have been very generously loaned by The Wellcome Foundation Ltd, the Science Museum and the Royal Pharmaceutical Society of Great Britain.

KEN ARNOLD

THE FOUNDING OF THE WELLCOME PHYSIOLOGICAL RESEARCH LABORATORIES: CONFLICT OR CONCORD IN MEDICAL RESEARCH

The pharmaceutical industry is a hybrid of mixed parentage: it has close associations with both commerce and the medical arts of healing and comfort. Throughout its comparatively short history this tension has resulted in the industry being subjected to numerous forms of criticism: medical, ethical, political and scientific. At the centre of all this is the fundamental distaste associated with the idea of profits accruing from those who suffer, however remote or tenuous the relationship may be. Thus a successful pharmaceutical company, whose business is making revenue from medicines intended to relieve, cure or prevent illness and disease, is inevitably faced with the charge of benefiting from the very misery they attempt to alleviate. The conflict between commerce and cure became particularly heated towards the end of the nineteenth century, as medical practitioners sought to professionalise and to distance themselves from quacks, mountebanks and other unqualified persons. Simultaneously, the aspirations of chemists, druggists and pharmacists, and the increasing incursion of industrial technology and scientific knowledge into the processes of discovering and manufacturing drugs, coalesced; thus, by the beginning of the twentieth century, a pharmaceutical industry had been established in Britain.

Several tensions emerged from these innovations. The association between commerce and medicine was put into sharp focus, not so much because medicines were bought and sold – which by then was a normal part of the medical encounter – but because of the rise of a new type of business, not only with claims to medical and scientific expertise, but also with ambitious commercial interests in the marketplace. Throughout the twentieth century the interactions between these two ambivalent components of the industry, and the relationship of that industry with medical, scientific and public opinion, provide windows through which to view and assess the profits, both financial and medical, that accrued from the pills.

In the early-seventeenth century apothecaries, the specialists who prepared medicines, broke away from the Grocers' Company to establish their own trade Guild. This caused an early dispute with the authorities of the

Royal College of Physicians, as the apothecaries successfully sought the right to prescribe medicines in addition to dispensing them. By the eighteenth century dispensing by medical practitioners was augmented by the widespread habit of self-medication. At the same time, advertising began to achieve a position of some importance in the contemporary medical emporium. Handbills, posters, travelling shows and self-help books of domestic medicine were all common channels through which medicines were promoted. Newspapers and circulating libraries further fuelled the demand for brand name preparations, such as James' Powders, Epsom Salts, Friar's Balsam and Ward's Pills and Drops, all of which successfully emerged into the eighteenth century marketplace. Until the mid-nineteenth century, the chemists and druggists that supplied this trade were frequently small family-owned businesses operating in local communities, often guarding highly prized secret remedies. Pressure from within the business, from men such as John Bell, who owned premises on Oxford Street, radically revolutionised and regulated the trade, leading to the creation of the Pharmaceutical Society, the *Pharmaceutical Journal* and properly accredited educational and training schemes administered by the School of Pharmacy in London.

Pharmacy was clearly becoming the science of making medicines, and such moves coincided with limited attempts to control advertising of medicines. During the late Victorian and into the Edwardian period, drug advertisements became accepted (and indeed necessary from the revenue point of view) components of journals' copy, including that for specialised medical publications. Indeed, the adverts covered a wide range: foodstuffs, like cocoa, tea and cod-liver oil were promoted with gusto, as were tobacco goods and alcoholic drinks; publicity for cosmetics nestled against advertisements for pharmaceutical preparations and medical treatments. By the 1880s sections of the medical profession, with the British Medical Association to the fore, started objecting to, and campaigning against, the proprietary trade and so called 'patent medicines'. Efforts to distance 'ethical pharmacy', in which clearly recognised ingredients and procedures were used to provide quality medicines, from the secret recipes of patent remedies were made, especially by the *British Medical Journal*. At the same time, many manufacturers decided to advertise their ethical preparations only to the medical and pharmaceutical professions, thus further removing the products, and their producers, from the open market and its unambiguous relationship to 'trade'. Even so,

proprietary medicines continued to be widely advertised, and the line that divided them from ethical preparations was frequently blurred.

Moves towards higher quality ethical products were encouraged by two separate scientific advances. The first was in chemistry (both inorganic and organic), which came as the result of the growth of the coal tar and associated dyestuff industries. Although the first artificial dye was developed in Britain by William Perkin, who invented 'mauve', it was the German, and to a lesser extent the Swiss, industrial machinery that capitalised on the advances. Hoechst, Bayer, Ciba and Sandoz all have their origins in the dye industry. The considerable expertise that such concerns rapidly cultivated in synthetic chemicals provided the technological and scientific base from which to develop therapeutically effective compounds: 'Aspirin' was produced at the very end of the nineteenth century by Bayer, and Paul Ehrlich, working in association with the Hoechst company in 1909, developed 'Salvarsan', the potent anti-syphilitic drug.

The second discovery of note was the development of new 'biologicals', products derived from animals as opposed to chemical manufacture. This area too had its controversies. Brown-Séquard heralded the beginning of endocrinology with his promotion of 'organo-therapy', most notably of testicular extracts as rejuvenation therapy; Robert Koch discovered the tuberculosis bacillus, and facilitated the development of therapeutic Tuberculin; and in 1890 Emil von Behring, collaborating with Shibasaburo Kitasato, developed serum anti-toxins to counter diphtheria and tetanus.

The anti-toxins were the wonder drugs of their era, especially after 1894 when the French bacteriologist Emil Roux used horses, rather than the sheep or goats, to raise the anti-serum. This move rapidly increased the yield of useable, and marketable, therapeutic serum. Academic institutes and commercial companies across Europe attempted to produce the serum on a large scale, and these included the Institut Pasteur in Paris, Meister, Lucius and Brüning in Hoechst-on-Main and in America, Parke, Davis & Co. seized upon the new technique. In Britain the first successful production was announced, towards the end of 1894, by the London-based pharmaceutical firm of Burroughs Wellcome & Co. and by the Brown Animal Sanatory Institution, a small non-commercial research laboratory associated with the University of London. Such developments, in which both medical

researchers and commercial workers vied to produce the same commodity, exacerbated divisions between business enterprises and medical authorities, between the worlds of industry and academe. Many of the difficulties, and the solutions to them, were first recognised and then negotiated within the pharmaceutical firm of Burroughs Wellcome & Co. and especially in the institution that the company established to promote anti-toxin production, later known as the Wellcome Physiological Research Laboratories.

These novel difficulties principally related to the recruitment and subsequent contractual obligations of suitably qualified scientific staff, the rights and responsibilities of such staff with regard to the publication of scientific papers, and the legal position of the labs with regard to animal experimentation. Close examination of the tensions, and their resolution, within the Wellcome empire elucidates a significant juncture in the evolving relationship between commerce and cure, between trade and profession.

*Burroughs Wellcome & Co.
and the Wellcome Physiological Research Laboratories*

Burroughs Wellcome & Co., now The Wellcome Foundation Ltd, was established in Britain in 1880 by two young American pharmacists, Silas Mainville Burroughs and Henry Solomon Wellcome. After each pursuing a varied career in pharmaceutical enterprises, they joined forces to import into British and Continental markets, and later to manufacture, compressed medicines, which were becoming increasingly popular and successful. Their production methods and technology benefited greatly from the 'compressed pill' machinery invented and patented by the British scientist William Brockedon FRS in 1843. The innovation revolutionized pharmaceutical dispensing practices and Burroughs Wellcome & Co. were particularly quick to implement and publicise the new technology. In 1884 Wellcome registered the trademark 'Tabloid', a word now in common English usage although legally still the property of the firm, to describe the company's compressed-pill preparations.

Burroughs died suddenly and prematurely in 1895, and Henry Wellcome became the sole proprietor of a growing company. The security of his financial position allowed Wellcome to promote the business in his own personal style, and to follow his private concerns obsessively. He was particularly inter-

ested in the history of medicine – interpreted in its widest sense – and he amassed extensive archaeological, anthropological and historical collections, much of which survives today in specialist libraries and museums. The nucleus of the present Library of the Wellcome Institute for the History of Medicine, from which much of the present exhibition material is drawn, is Wellcome's personal collection of books and manuscripts. He vigorously promoted scientific research in specified directions, within the firm, all of which reflected his particular interests in bacteriology, physiology, chemistry and tropical medicine. The prototype for such ventures was the laboratory where the first diphtheria antitoxins were produced, which ultimately became known as the Wellcome Physiological Research Laboratories (WPRL).

1894–1896: anti-toxins and anti-climax?

Towards the end of 1894, the *Chemist and Druggist* announced “Messrs. Burroughs Wellcome and Co. have arranged to supply diphtheria anti-toxin. They have been preparing quietly for some months back (it takes that time before the horses become immune), and hope to have serum for distribution next week.”

The first supplies thus produced were rapidly exhausted, which encouraged the company to continue production, under the supervision of Dr T J Bokenham from St Bartholomew's Hospital. He was based in premises at 10 Devonshire Street, Portland Place, the requisite horses being stabled in Lisson Grove. The serum was issued by the company, but was only available through medical practitioners. Wellcome's personal association with the labs was close: for example, he and the office staff from his commercial headquarters frequently advised Bokenham to develop several new anti-toxins; in the first year alone he was urged to produce anti-toxins against consumption, erysipelas, and puerperal fever.

By 1896 the considerable medical demand for serum anti-toxins encouraged Wellcome to expand the laboratories' facilities further, into new, purposely equipped premises at 40 Charlotte Street, still in Central London. However, the production of these new 'biological' remedies, unlike chemical therapeutics, necessitated the use of living animals, procedures which in Britain were closely regulated by the 1876 Cruelty to Animals Act adminis-

tered by the Home Office. The conditions of that Act required individual scientists to be licenced with the Home Office, and the premises where they worked to be registered and consequently subject to random unannounced inspection by Home Office officials.

There was considerable ambivalence within the Home Office at the time as to whether the techniques used in anti-toxin production were in fact experiments under the law. The argument that the production methods were well known, that the horse was merely the vehicle for a painless procedure, and that the process was not therefore an experiment, merely a production technique, was widely accepted. In 1896, however, Henry Wellcome decided to apply for such registration, even though it was still far from clear whether it was necessary. Scientific staff like Bokenham already held Home Office licenses, and performed experimental work that was clearly under the Act on licensed premises other than the Wellcome labs. It seems likely that Wellcome wanted to guarantee that his staff could perform all their work, routine and research, in the same premises.

However, almost coincidentally with Wellcome's application, the *Lancet* published the results of an investigation into the relative strengths of diphtheria anti-toxins produced by several institutions, both European and British. Most producers, including the Institut Sérothérapique, Brussels, Vogt, Geneva and the Institut Pasteur, Paris, but especially the British manufacturers, were severely reprimanded for producing weak serum. The *Chemist and Druggist* defended the British producers and emphasised that this provided one more example of the "made-in-Germany" problem which haunts British technologists". The editorial added, with particular reference to anti-toxins, that the German products (from Meister, Lucius & Brüning, Schering, and Merck) had all performed comparatively well, and this was because the German Government offered financial incentives, and training facilities to producers, while no such system of support was available to British manufacturers. As he was responsible for the only British commercial body involved in serum production (the other British suppliers were the Leicester Bacteriological Institute and the British Institute for Preventive Medicine, both academic bodies), Wellcome was especially motivated to put his house in order and repudiate or redress any complaints. In the wake of the report therefore, Henry Wellcome instigated a major reassessment of his laboratories, their staff, premises and practices.

The result was the complete overhaul of the labs, of the staff, and a further refitting of the building. The question of Home Office registration was shelved for some time until the labs had regained their strength and momentum.

Home Office registration for animal experimentation

By 1900, Wellcome had become convinced that animal experimentation was increasingly necessary for the development of new therapeutics (both biologicals and chemicals) at his labs, and that such experiments were also necessary to test, quantify and standardise the resultant medicines. He therefore applied to the Home Office once again for his labs to be registered for such work. This time the issues were considered more thoroughly and more publicly. The debate, about whether to allow a commercial manufacturer privileges previously reserved for academic bodies, involved not only the Home Office and its appointed Inspector, but also authoritative institutions and individuals in the medical world. Wellcome's application occurred against a backdrop of explicit concern about the failure of scientific and technical education in Britain, particularly when compared with Germany. His submission to the Home Office also addressed broader issues such as the interpretation of the law, problems of pharmacological standardisation, the control of therapeutic advances and, more significantly, the ethics of research undertaken on premises not associated with a university, hospital or medical corporation.

Informal soundings on his behalf suggested that the Home Office would only register the labs if the pillars of the medical profession publicly approved the move. Such support was not evident. The Royal College of Physicians, the Royal College of Surgeons and the Pharmaceutical Society all publicly and privately opposed the registration. Wellcome and his staff consequently embarked on a vigorous campaign to overcome the prejudice. Individual members of the medical profession were visited and petitioned to discuss the work and purpose of the laboratories. It quickly became clear that a consistent argument of those opposing registration was that commercial organisations could not possibly hold the same high ideals as purely medical establishments. And although the Wellcome laboratories were acknowledged to be of the highest standard, their registration would therefore open the gates to inferior companies. The opposition seemed so powerful that

Wellcome's many commercial agents abroad were instructed to investigate local laws and regulations relating to animal experimentation. This revealed few restrictions in Europe or the United States and Wellcome discussed the possibility of moving the laboratories abroad, property near Milan being the preferred site.

The Home Office recognised the economic threat of taking such work abroad, and anxious to avoid the mistake of not supporting a British initiative, invited Wellcome to supplement his application. This he did with relish. His lengthy submission emphasised several points. Throughout, he declared that the WPRL were entirely separate and distinct from the business company, a view he seemed sincerely to believe. He listed several substances awaiting full physiological testing, serum work on typhoid, tetanus and snake-bite; standardising work on digitalis, ergot and lobelia, and purely experimental work on suprarenal gland extracts. His proposals, he argued, would allow members of the medical profession to obtain therapeutic substances with definitely ascertained properties and of known strength. He particularly objected to the contradictory criticisms raised to his application: on one hand, detractors had argued that registering the Wellcome labs would create a precedent that would allow the registration of inferior companies. On the other hand, if such inferior facilities were not registered, Wellcome might acquire a valuable monopoly. Wellcome roundly condemned the logic of that argument, and stressed that the Home Office should decide on scientific criteria alone, and ignore the commercial associations of applicants.

Finally, he stressed that his employees were all responsible scientists, "guided by the same spirit and by the same aims as actuate all research workers". He maintained that it was particularly invidious to suggest that a well-trained man "would work in a proper spirit in his University laboratory and in an improper spirit in any other laboratory, his experiments being 'humane' in the former case, and *ipso facto* losing this quality in the latter should it happen to be in any way connected with a commercial firm".

The wariness toward 'commercial links' expressed by some medical practitioners was not however universal. Some individuals privately supported Wellcome and were subsequently prepared to contribute to a petition appealing for the registration of his laboratories. These included the editors of both the *Lancet* and the *British Medical Journal* and the President of the Royal

Society (then Lord Lister); faced with these arguments for the practical importance of such work, and bearing in mind the eminent support that Wellcome had obtained, the Home Office decided, despite official medical opposition, to grant his laboratories registration. On 6 September 1901, the WPRL were registered under the 1876 Act.

Scientific research and commercial pressures

Registration under the 1876 Act allowed Wellcome to employ physiologists and pharmacologists to undertake 'pure' research. His most notable recruit was undoubtedly the future Nobel Laureate Henry Dale, who joined the labs in 1904. At the time he was warned not to sell "my scientific birthright... for a mess of commercial pottage", although many years later, after a most distinguished scientific career, Dale affirmed "I never had serious or lasting reason to regret the change which I had made".

Wellcome's initial request for a reference for the young Dale had emphasised not only the academic independence of the laboratories themselves, but also expressed his wish to employ "a man who is capable of broad and deep thinking, who has fertility of mind, originality and alertness, and patient persistence; a man who will concentrate his whole mind and energies on this work. I want the work in these laboratories to be done on the highest scientific lines and with such a thoroughness and precision that it will stand the test of time and the keenest criticism".

In Henry Dale, Wellcome had certainly found a man to fulfil his ambitions for the WPRL. Dale's arrival at the labs in 1904, and subsequent promotion to Director in 1906, determined very clearly the scientific direction of the pioneering research work undertaken there. Stimulated by a request from Wellcome that if he had no other project in mind, an examination of ergot of rye would be appreciated, Dale laid the foundations of his entire career. From ergot he discovered acetylcholine, tyramine and histamine; work on ergot led him towards sympathomimetic amines, the mechanisms of anaphylaxis, and the oxytocic principle of the posterior pituitary gland. And why did Wellcome suggest a study of ergot? Simply that ergot was marketed as an obstetric preparation, to prevent post-partum haemorrhage, and Parke, Davis & Co. were promoting a new 'standardised' preparation. Wellcome, despite his assertions

of the separation of lab and business, hoped that Dale would eventually devise a more successful commercial product.

It was Dale's routine obligations to the company, as he was required to test various products 'from time to time', that provided his most outstanding research successes. At the very beginning of his career at the WPRL, Dale had safety-tested a batch of extract of suprarenal gland (adrenaline, produced by the company under the trade-name hemisine) and noted some ambiguous results. A detailed experimental investigation of the extract was promptly incorporated into his research programme, and was to result in the recognition that chemically similar compounds could exert physiologically similar effects. This was a fundamental discovery, which has been enormously powerful in understanding the mechanisms of drug action, and also in the design and development of new therapeutic agents.

Towards the end of his WPRL career, a chance observation, of an unusual contaminant in a batch of obstetric ergot of rye he was testing for the company, guided Dale to find acetylcholine, a substance that he was later to show was a natural constituent of the animal body. Dale's subsequent work on acetylcholine and its role in the nervous system as a chemical neurotransmitter was to bring him the Nobel Prize for Physiology or Medicine in 1936.

However, such achievements were conducted in a novel environment, and unanticipated difficulties could, and did, arise. A critical incident occurred in 1906, when Henry Dale wished to publish a scientific paper on his work on ergot of rye and adrenaline. Not unnaturally, he wished to use the word 'adrenaline', by then the commonly accepted word in the British scientific community for the active principle of the suprarenal (adrenal) gland. But the word was, in the USA at least, the registered trade-name of Parke, Davis & Co. Henry Wellcome decreed that no employee of his could flout the regulations by disregarding the commercial conventions applicable to the use of trade-names. Equally strongly, Dale contended that the word was in common scientific use, and that censorship of his paper would seriously jeopardise the scientific standing and reputation of the WPRL. Both men had legitimate concerns, and the matter was fervently discussed at several levels within the Wellcome organisation. External legal and scientific advice was sought and, after six weeks of deliberation, Wellcome allowed Dale to use the

disputed word. It was an important decision. It explicitly demonstrated that the research laboratories could be considered as independent from the commercial concerns of the company, and that the work produced in them was not necessarily tainted or substandard.

Further evidence of the quality of work produced from the WPRL in its pioneering early days can be assessed by examining the range of important scientific papers that emerged, as exemplified by the work of Henry Dale briefly outlined above. Professional acknowledgement of that quality came in 1914 when Dale was elected to Fellowship of the Royal Society, a signal honour for any scientist. The acceptance, albeit grudging at times, in the British scientific world of pharmaceutical enterprises contrasts with the situation in America, where pharmacologists working in the industry were forbidden to belong to the Society for Pharmacology and Experimental Therapeutics, and any member who accepted commercial employment was ejected from the Society.

Animal experimentation in other pharmaceutical companies

The Home Office received its next application for the registration of premises belonging to a pharmaceutical company four years after Wellcome's success. In November 1905, Brady & Martin, a small manufacturing firm in Newcastle upon Tyne, applied for registration of their premises, and for a personal licence for Dr William Martin. They argued that consumer demands for properly standardised medicines could not be adequately met, the principal suppliers being US or German companies. They concluded their application by noting that "Messrs Burroughs Wellcome and Co. have had a licence granted to them for making experiments on animals in this country."

Thus the earlier registration of the WPRL was used by applicants as an argument for their own. Despite the fact that Brady & Martin did not even employ a Home Office licensee (compared with the staff employed by Wellcome at the time of his application) the Home Office also used the precedent of the WPRL registration in assessing the Newcastle application, arguing "if one place is licensed, another ought to be if sufficiently equipped to do the work satisfactorily... If the toxin is not made in England, the manufacturers will only have to go to Germany. The demand

exists and must be satisfied somehow". Three weeks after requesting registration, the laboratories of Brady & Martin were registered under the 1876 Act. There is no evidence that the Home Office consulted widely about the application or that there was any serious debate about the granting of the request.

The next pharmaceutical company to achieve registration was May & Baker's, for their laboratories in Wandsworth, South London in 1916. By now, war-time contingencies in particular had led to a marked increase in the number of registered premises, mainly due to military and naval hospitals being registered for experimental work. In 1919, facilities belonging to Nathan and Company (later Glaxo) in London and Lever Brothers in Port Sunlight were registered, and the following year five more commercial premises achieved registration. By then, there seems to have been no debate at all about the suitability of 'commercial' companies for the privilege of registration, and such applications were routinely considered along with those from hospitals and university departments. Scientific research laboratories, housed in the premises of pharmaceutical firms, developed a composite, commercial science that could not have been contemplated in Britain a quarter of a century earlier. They were to become central to the development of medical science, and penicillin, beta-blockers and interferon are just some of the products of industrial and scientific collaboration that have emerged after the Second World War.

The role of the Wellcome Physiological Research Laboratories in initiating such developments completely justified the optimism expressed by Henry Dale in a letter to Henry Wellcome in 1906: "... I hope some day to see the aid of commerce by physiology recognised as an important & desirable brand of medical science in England, & to see your laboratories recognised as the pioneer institution."

Further reading:

Doyle, P A (ed.) (1962) *Readings in Pharmacy* (John Wiley & Co., New York)

Dunlop, D (1973) *Medicines in our time* (Nuffield Provincial Hospitals Trust)

Liebenau, J (1987) *Medical Science & medical industry, the formation of the American pharmaceutical industry* (Johns Hopkins University Press, Baltimore)

Liebenau, J, Higby, G J and Stroud, E C (eds) (1990) *Pill Peddlers: Essays on the History of the Pharmaceutical Industry* (American Institute of the History of Pharmacy, Madison, Wisconsin)

Mahoney, T (1959) *The merchants of life: an account of the American pharmaceutical industry* (Harper & Bros., New York)

Porter, R (1989) *Health for Sale: Quackery in England 1660–1850* (Manchester University Press, Manchester and New York)

Schupbach, W (1985) 'Sequah: an English "American medicine"-man in 1890' *Medical History* 29: 272–317

Swann, J (1988) *Academic scientists and the pharmaceutical industry: cooperative research in twentieth century America* (Johns Hopkins University Press, Baltimore)

Tallis, N and Arnold-Forster, K (1991) *Pharmacy History: a pictorial record* (The Pharmaceutical Press, London)

Tansey, E M (1989) 'The Wellcome Physiological Research Laboratories 1894–1904: The Home Office, pharmaceutical firms, and animal experiments' *Medical History* 33: 1–41.

Weatherall, W (1990) *In search of a cure: a history of Pharmaceutical diseases* (Oxford University Press, Oxford)

Additionally, company histories are available for several pharmaceutical firms, which often provide details of their research policies and programmes, their management and marketing strategies, and exemplify the interactions and tensions between industry and academe.

TILLI TANSEY

PILLS AND PROFITS: THE EXHIBITION

INTRODUCTION

As a commercial commodity, health has long been for sale. What the history of pharmaceutical practice highlights in particular is the conflicting interests within medicine between altruistic healing and worldly gains. Any number of disputes in the often fractious world of medicine have centred on accusations about the unseemly dominance of the latter.

Rarely just sold, most medicines have also been promoted. This exhibition looks at the changes in styles of advertising and commercial practices through which pills have been peddled, especially since the 1870s.

In the first case it uncovers eighteenth- and nineteenth-century attempts to promote medicines, which evolved despite punitive taxes imposed to try to keep the phenomenon in check. From the 1890s, the next case looks at the work of Sequah Ltd, examining their energetic efforts to sell 'American Indian' remedies on the back of a carefully crafted cultural image. The third case looks at the period up to the First World War, when the practice of advertising expanded enormously. The establishment of the Wellcome Physiological Research Laboratories is the subject of the next case; here the focus is on the importance of scientific research pursued within a commercial context. An examination of the production and promotion of pharmaceutical products by Burroughs Wellcome & Co. in the next case reveals what a significant role science played in the development of this highly successful business. The final case portrays the extraordinary proliferation of advertisements and advertising media after the First World War, as medicines came to saturate mass markets.

INTRODUCTORY EXHIBITS

'Docteur Rasurel'. Lithograph in colours by Leonetto Cappiello (1875–1942); Paris, 1906

A family is shown wearing underclothes sold under the name of 'Docteur Rasurel'.

Iconographic Collections

'Uricure'. Lithograph in colours by Leonetto Cappiello (1875–1942); Paris, c. 1910

The box of pills the old man holds up bears the name 'Uricure'. They were sold for their efficacy against rheumatic diseases.

Iconographic Collections

'La cure marine Maraliment'. Lithograph in colours by Leonetto Cappiello (1875–1942); Paris, 1920

The old man in the nursemaid's lap is being fed with 'Maraliment', a proprietary seaweed soup advertised as good "for children, for old people and for everybody".

Iconographic Collections

'Binaca'. Lithograph in colours by Nicklaus Stoecklin (b. 1896); Basel, 1945

An advertisement for 'Binaca' toothpaste.

Iconographic Collections

FILMS

The most significant change in the advertising of medicines during the twentieth century has been the increasing exploitation of moving images. A selection of examples of film and television advertisements are shown in the exhibition.

Film 1

'Eno's Fruit Salt'. Advertisement in the form of animated film. The product was made by the company J C Eno Ltd. English (c. 1923)

National Film and Television Archive

Film 2

'Embex' headache tablets. Advertisement made by Empire Film Productions at the Nettlefold Studios. The makers of this product have not been identified. English (1942)

National Film and Television Archive

Film 3

Part of *'Taballet'* sequence from a promotional 'magazine' film produced by The Wellcome Foundation Ltd. The title is an amalgam of the words ballet and 'Tabloid' – the brand name for the company's form of compressed medicines. English (1952)

Wellcome Trust

Film 4

'Gibbs S R' dentifrice. This is said to be the first advertisement shown on British television. English (1956?)

The Television Register

Film 5

'Phensic'. Advertisement for the product originally made by the Veno Drug Co. Ltd, later taken over by Beechams Pills Ltd. English (late-1950s/early-1960s)

The Television Register

Film 6

'Alka Seltzer'. One of a series of American advertisements for this product, which are considered 'classics' of this comic genre. USA (1970?)

The Television Register

SECTION I

COMMERCE AND CURE BEFORE 1870

Early modern medicine was a market place of options, broadly based on cash-conscious competition. Seeking cures for their ailments, the sick often turned to nostrums, pills and potions.

Divisions between orthodox practitioners and their less reputable rivals were never clear cut. Numerous patent medicines were sold by the former who attached their names to proprietary pills; while many more were peddled by quacks who plied their trade as much by marketing an image as by selling drugs.

All practitioners promoted themselves; but it was quacks who seemed in least doubt about the benefits of boldly spreading their good news by any means available. Showmanship and an eye for imaginative ways of capturing public attention were crucial to their trade: a 'magnificence of promises' is how Samuel Jonson described it.

During the commercial revolution of the eighteenth century, medicines, like so many material goods, were turned into commodities aimed at a mass market. Pills became the promise of a cure, with a price tag attached. Having formerly surrounded themselves with customers they knew personally, pharmacists increasingly turned instead to advertising their wares to the public at large.

EXHIBITS

I.1 'The Quack Doctor's Prayer'. Coloured etching by Thomas Rowlandson (1756–1827), after George Moutard Woodward (c. 1760–1809); London, 1801

The fashionably dressed quack doctor called Dr Botherem is shown appealing to the shade of Dr Rock (a successful quack doctor of Hogarth's generation) to grant him success in his business. In his prayer he confesses that though his vegetable drops called "Neverfailibus infallialibus" are thought "to issue from the laboratory of Esculapius himself", they are in fact composed of "Beet-root, Lump-Sugar,...and a Dash of Hollands Gin". In a similar image titled the 'Apothecary's prayer', a figure is

shown praying for fevers and catarrhs, and cursing the newly invented waterproof coat.

Iconographic Collections

1.2 'Habit d'apothicaire'. Engraving by Nicolas de Larmessin I (d. 1694) or II (d. in or after 1716); Paris, 1695. 'The apothecary'. Coloured lithograph; London, 1830

These two prints in which the apothecaries are composed of the tools of their trade are part of an enduring tradition in which the human form is made up of other symbolically significant objects. In Larmessin's picture, the apothecary is surrounded by medicinal plants. The tradition is considered to have been founded by the sixteenth-century artist Giuseppe Arcimboldo.

Iconographic Collections

1.3 Medicine vendors in Rome. Oil painting by or after Theodoor (Dirk) Helmbrecker (Haarlem 1633–Rome 1696)

This scene of quack doctors selling medicines is set in Rome: the dome of St Peter's can be seen in the background. It shows a group of travelling vendors who have set up stage in a Roman piazza in order to sell their nostrums. The leader is shown unfurling a testimonial which bears the Medici coat of arms. Asserting this type of association with nobility was a common ploy used by quacks. The character on the left of the stage is a 'foil' physician who, in dog-Latin, rebukes the pedlar for selling useless medicines.

Iconographic Collections

1.4 'Physic'. Coloured etching by Henry Heath; London, 1825

The image depicts the interior of a Georgian pharmacy. The apprentice is seen grinding a medical preparation. The remedy that the apothecary is handing to his customer has a prescription tag attached to the bottleneck. The large glass bottles of coloured water (carboys) seen in the window served as a trade sign. They were sometimes illuminated at night with an oil lamp, which might indicate that the apothecary's shop was open at night.

Iconographic Collections

1.5 'Try our black draught'. Coloured wood engraving; English, c. 1850

The picture is in the style of a Victorian Valentine card. The verse under the image is addressed to the pharmacist, and starts: "Nauseous as your drugs may be, Yet you are nastier far to me". The two notices that can be seen in the shop indicate the growing practice amongst pharmacists of promoting their wares to customers in the hope of encouraging them to buy more than they came for.

Iconographic Collections

I.6 A medicine vendor. Etching by Rembrandt van Rijn (1606–1669); Amsterdam, 1635. An itinerant medicine vendor. Engraving by T Kitchin after David Teniers the younger (1610–1690)

To make a living selling medicines outside large cities, most vendors were obliged to be itinerant. Both these images suggest the way in which these pedlars employed oratorical skills to talk up their products. Teniers' figure is shown near the entrance to a village. In Rembrandt's etching, the pedlar has a sword and slashed jacket. Many medicine vendors made effective use of real or feigned exoticism to attract custom. A second function that any itinerant pedlar served was to pass on news and gossip from one village to the next.

Iconographic Collections

I.7 'The Company of undertakers'. Etching by William Hogarth (1696–1764); London, 1736

This is Hogarth's spoof coat of arms for a livery company of physicians. The title of the etching was originally intended to be 'Quacks in Consultation'. The three figures in the top row are 'irregulars', identified as (left to right) the ophthalmic surgeon and chevalier John Taylor, the bonesetter Sarah Mapp, and the medical practitioner Joshua Ward, promoter of 'Ward's drops and pills'. The legend calls the other 12 physicians 'Quackheads'. Many established physicians authorised the use of their names to sell medicines at great profit.

Iconographic Collections

I.8 'J Taylor' trade card; English [pre-1760]. Receipt from 'Milton Abbot'; English, 1835

J Taylor was an "Apothecary & Chemist" who sold "all sorts of Druggs, Chemicals & Galenicals". His shop was located opposite the church (St Dunstan's, Fleet Street) pictured on the card. Milton Abbot styled himself "Grocer Druggist and Tea Dealer". Along with patent medicines, he sold teas, coffees, foreign fruits and spices. The international range of wares that he stocked is indicated in the receipt's illustrated title. The vogue for trade cards reached its peak in the mid-eighteenth century.

EPB hanging files

I.9 Patent deed for 'Broughton Wright's Sunflower oil'; English, [172?]

This document reveals that Arthur Bunyan was first granted a patent for "the sole privilege of making oil from the seed of Sun Flowers" by George I in 1716.

Broughton Wright had been legally assigned the patent on Bunyan's death, and was now selling a share of the patent. Sunflowers decorate the borders of the deed. Though patenting was meant to make a nostrum an 'open secret', often the recipes were recorded with considerable vagueness. EPB BF39 (a)

1.10 Elizabeth Cheney's testimonial for Dr Radcliff's Purging Elixir; English, 1737[?]
Eighteenth-century newspapers contained numerous advertisements for medicines. As is seen in this example, a standard format adopted was to present a testimonial. The legalistic style of writing and the many specific details included here helped to make it more convincing. Testimonials were commonly written for a small payment; the famous charged more. EPB BF39 (a)

1.11 Advertisement for Holloway's Pills; English, c. 1842
This advertisement is presented in the common format of a testimonial. It describes how William Brooke was cured of "ulcerated sores and wound" by Holloway's medicine after his case had been abandoned by four hospitals. The account was countersigned by the Lord Mayor. Holloway's were the most widely advertised of all Victorian medicines. In 1864 he spent some £40 000 on advertising. EPB BF39 (b)

1.12 Advertisement for 'Curious Issue Plaisters'; English, [late-seventeenth century?]
The advertisement offers advice on how to use the "Orange Peas" and "plaisters". It also gives their price at 4 shillings per 100. Though illustrations in advertisements were not commonly used until the eighteenth century, small eye-catching 'cuts' like this one did start appearing from the middle of the seventeenth. EPB BF39 (a)

1.13 'Dr Morison's Pills'. Anonymous song; English, 1831–36
The cover of this satirical song caricatures the 'before and after' trope used in so much medical advertising. The box of pills that the recovered figure is pouring into his mouth suggests taking one "every 1/4 of an hour". The factory building in the background is satirically labelled "British College of Wealth". James Morison claimed that his Vegetable Universal pills were effective in curing all diseases, and could be taken in doses of up to 30 a day. Hugely successful, he was considered the arch-quack of his time and was heavily criticised in a report on patent medicines in the *Lancet*. His case was not helped by the contempt that he openly displayed for the medical profession. He is said to have died reaching for a box of his own pills. EPB BF35

I.14 Pestle and mortar; North European, 1607. Pestle; Dutch, 1564

The pestle and mortar is inscribed with the name Heinrich. The Dutch mortar bears the name of its maker, Wilhelm Wegewart. As one of the main pieces of equipment used by apothecaries and druggists, the pestle and mortar was commonly taken as a symbol of their trade. Some were elaborately decorated, and obviously served more than just a utilitarian function. Along with crushing, the other basic processes employed were drying, extraction and distillation.

Kindly loaned by the Science Museum

I.15 Tin-glazed ceramic jar; Dutch, 1751–1800. Glass bottle of ‘Noyeau’; possibly French, 1750–1850

The pharmacy jar has three bells (the maker’s mark) painted on its base. Though this example has been left blank, the decoration on the jar’s front often indicated the compound contained. The image on the bottle suggests that ‘Noyeau’ was a wine-based nostrum. One means by which pharmacists could make their wares more attractive was by adding decorative flourishes to the vessels in which drugs were kept.

Kindly loaned by the Science Museum

I.16 Advertising tokens: Sir Samuel Hannay, eighteenth century[?]; I Ching, nineteenth century; Thomas Holloway, 1857 & 1858; Basil Burchell, nineteenth century; Dr Eady, 1815–25. All English

All sorts of media were exploited by advertisers; tokens were used by many medical practitioners from the seventeenth century on. They had the obvious advantage of being durable and, by association with coinage, valuable. Those shown here were for Hannay’s prophylactic products, Ching’s worm lozenges, Holloway’s pills and ointments, Dr Eady’s medical services and Burchell’s sugar plums for worms and anodyne necklace for cutting teeth.

Kindly loaned by the Science Museum

I.17 Boxwood Pill-silverer; English, 1825–1875

The ancient technique of covering pills either with silver or gold leaf was chiefly employed to improve their appearance. It also helped reduce the bitter taste of some medicines. The hardened pills were coated with a sticky edible gum and then rolled in the box lined with the gold or silver leaf. Silver leaf can be seen in this example. The technique was still practised by some pharmacists well into the twentieth century.

Kindly loaned by the Science Museum

SECTION II

SEQUAH AND THE AMERICAN MEDICINE SHOW

Sequah was, for a period around 1890, one of the most famous British medical practitioners outside London. For the previous few years, he, or rather they (for dozens of Sequahs worked across the country), were extremely successful. Employing unusual marketing methods, Sequah Ltd sold an enormous volume of 'Indian' medicines.

Sequah was the major British representative of a fashion that spread from 1880s America: the infatuation with remedies endowed with the superior medical understanding of Indians. Rarely bought spontaneously, Sequah 'Prairie Flower' and 'Indian Oil', like so many quack remedies, were acquired after exposure to an extravagant medicine show. Performed in costumes redolent of America's wild west and to the accompaniment of a brass band, the Sequah show involved tooth pulling and miraculous cures of rheumatism.

Like many quack potions, Sequah remedies were not quite what they were advertised to be. Any effects they had were due far more to the properties of turpentine, weak alkali and alcohol than the Montana herbs and Californian mineral water specified in the recipe that Sequah claimed he had learned from the Apache.

Far from a sensational unmasking of these fraudulent practices, however, the eventual downfall of Sequah Ltd in 1909 resulted instead from changes in commercial law and the unfriendly attention of the Inland Revenue.

EXHIBITS

II.1 Advertisement for Sequah medicines. Coloured lithograph; English, [189-?]

Along with performances in which salesmen talked up and sold Sequah products, eye-catching advertisements like this were pasted up on walls and hoardings to excite the imagination of the public. They were used to arouse interest and anticipation about Sequah, who would later arrive with his medicine show. When the show left town, Sequah medicines could then be bought from local pharmacists. Names of these pharmacists were printed in local newspapers.

CMAC GC/69/10

II.2 'Sequah on Clapham Common'. Anonymous oil painting; English, c. 1890

Dressed in cowboy costume, a Sequah salesman (possibly William Hartley, the company's founder) can be seen proudly holding up an extracted tooth. Part of the Sequah medicine show involved a display of tooth-drawing. The art of dentistry was strongly associated with America. The two other cowboys on stage are seen rubbing a rheumatic patient – another part of the act. In the background is a brass band. As is evident from the picture, Sequah's performances were attended by large audiences. Some 30 000 people were estimated to have come each day to see a show in Leeds in October 1889.

Iconographic Collections

II.3 *The New Kickapoo Doctor*; USA, [189–?]

Kickapoo were one of the numerous 'Indian' medicine firms that flourished in America at the end of the nineteenth century. Like Sequah, they marketed remedies supposedly based on American Indian recipes. Their products included 'Indian Sagwa' and 'Indian Salve'. As with other similar medicines, much was made of their 'naturalness'. "To be diseased is unnatural, and can only occur when Nature's laws have been violated", reads a slogan on the booklet's title page.

CMAC GC/69/10

II.4 'Free Indian Exhibition'. Advertising flyer; USA, [189–?]. *Healy & Bigelow's New Cook Book*; USA, [189–?]

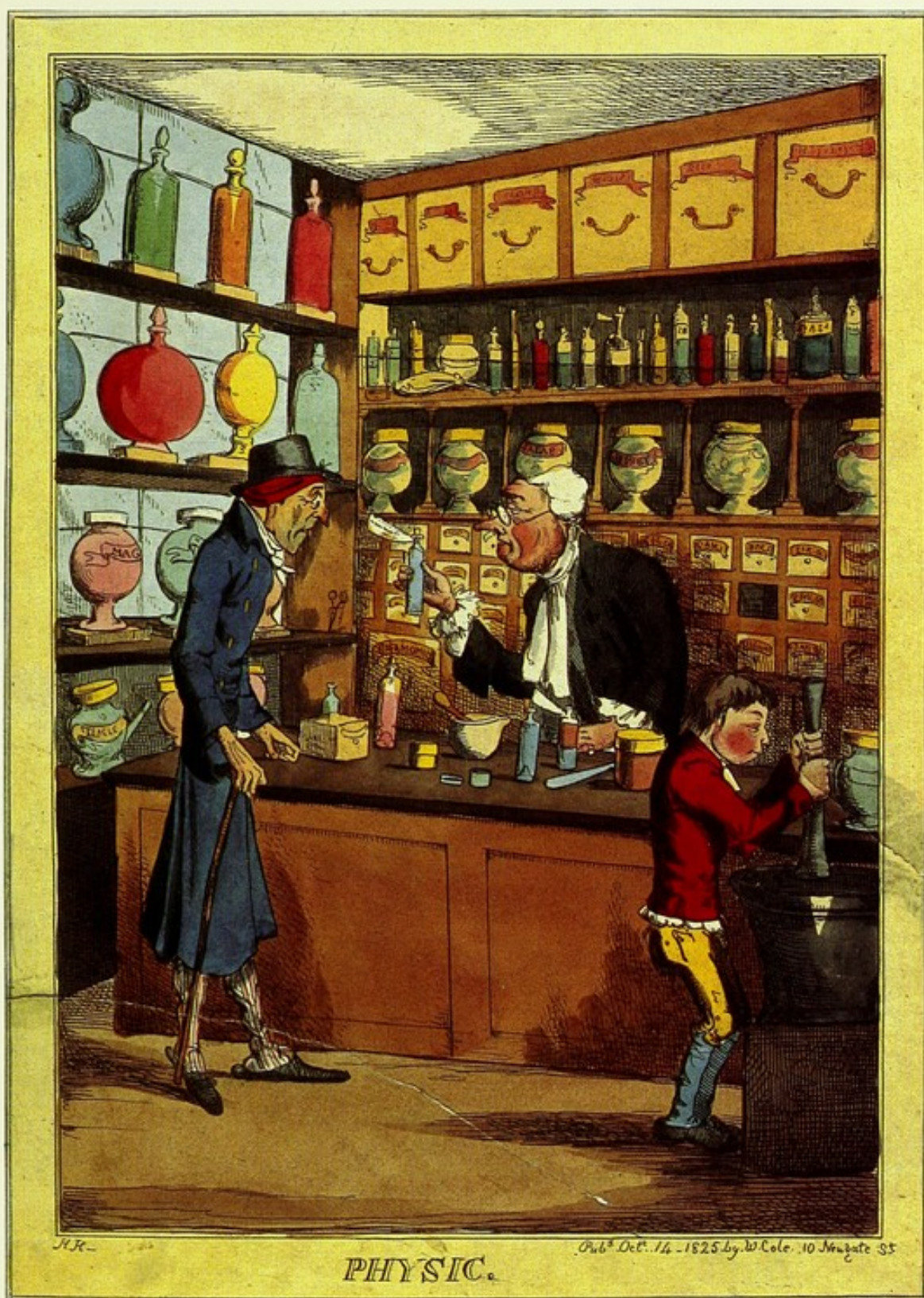
Printed by the Kickapoo Indian Agency in New York, the flyer advertises an "Indian medicine show". Amongst the attractions announced is "Little Bright Eye – Daughter of a Kickapo [*sic*] Chief". The Kickapoo company was a large outfit; in 1884 some 31 units were operating in Illinois alone. The format of the two booklets is similar: each page of recipes or 'useful' facts is set opposite promotional information about Kickapoo products.

CMAC GC/69/6A

II.5 *Dr Morse's Indian Root Pills Almanac*; USA, 1891

Operating from Morristown, New York, Dr Morse's pills were another remedy promoted as being American Indian in origin. A short history of the medicine describes how Morse travelled "among the savage Indian tribes" to learn their methods of "curing diseases in nature's way". The Almanac's contents are a mixture of general information and descriptions of complaints which the pills will cure, accompanied by testimonials from satisfied customers.

CMAC GC/69/6A



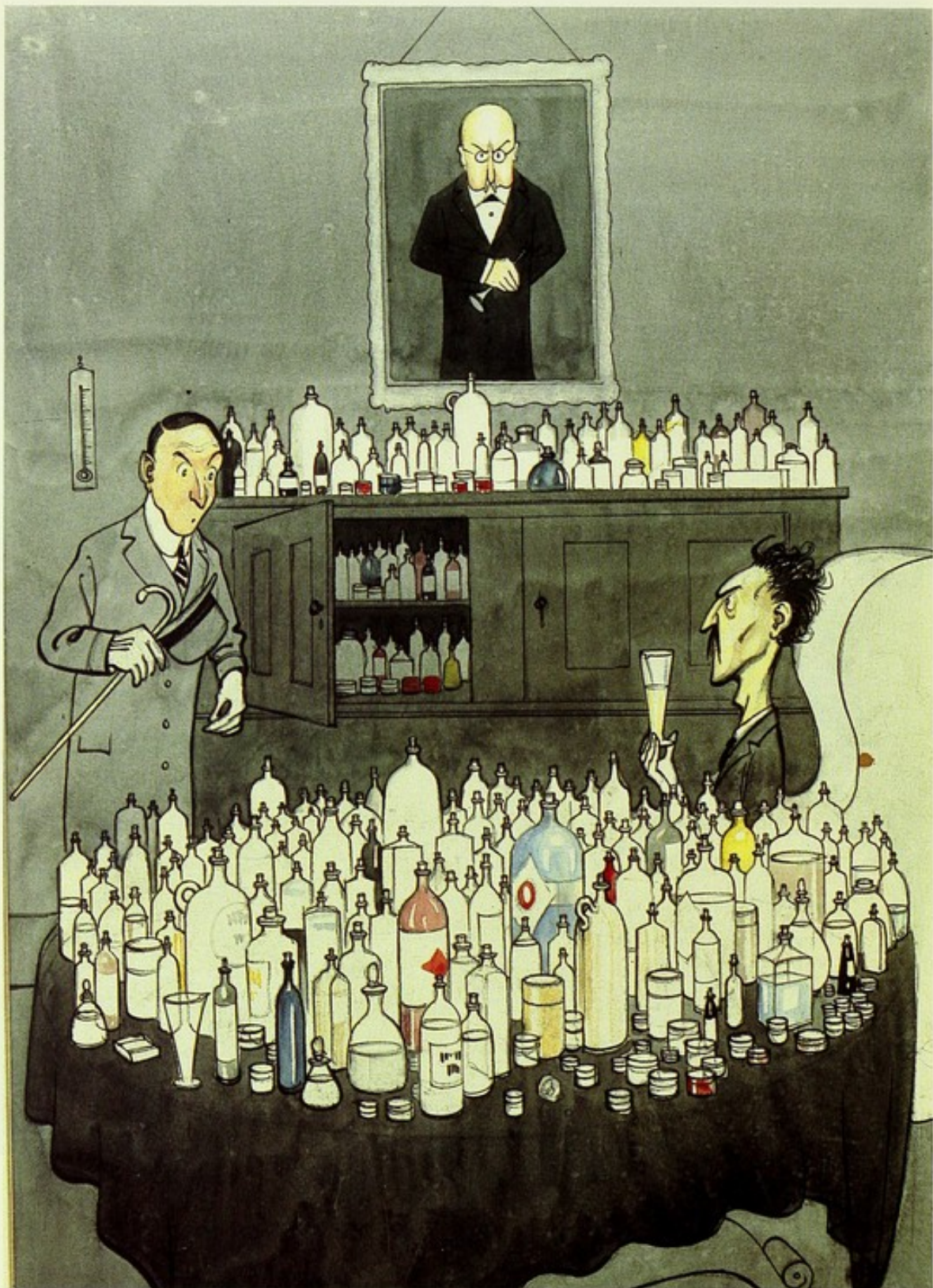
'Physic'. Coloured etching by Henry Heath. Item I.4



A medicine vendor. Etching by Rembrandt van Rijn. Item I.6



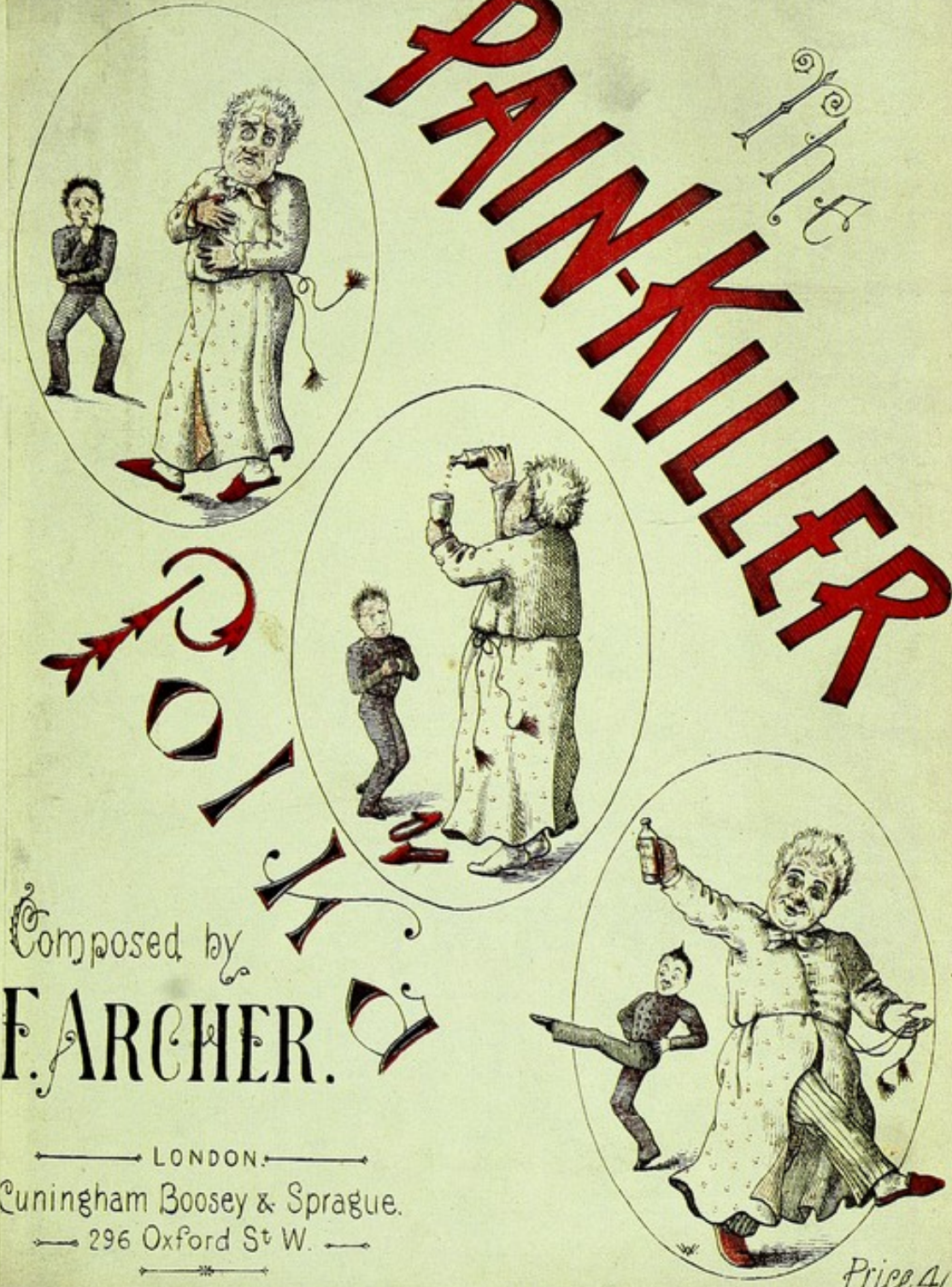
Sequah's Annual. Item II.8



'A member of the Society of Hopeless Hypochondriacs'. Watercolour by H M Bateman. Reproduced by kind permission of the Estate of H M Bateman.
Item III.3

709902(7)

PAIN-KILLER



Polka

Composed by
F. ARCHER.

— LONDON. —
Cunningham Boosey & Sprague.
— 296 Oxford St W. —

Price 4/.

'The Pain-Killer Polka'. Song by F Archer. Item III.1



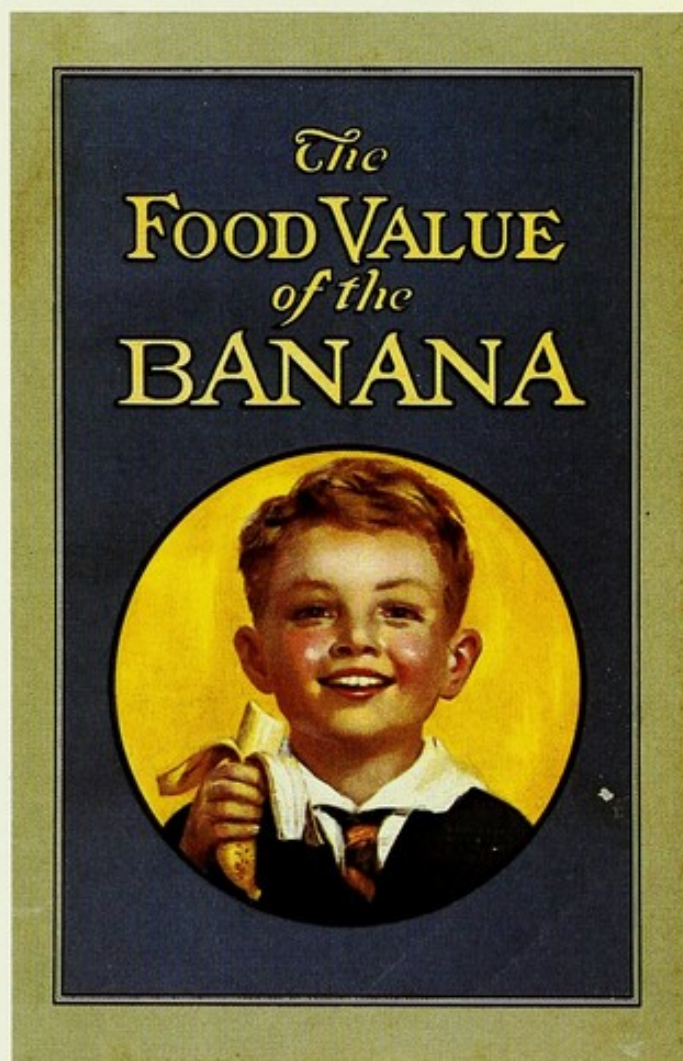
"Tabloid" First Aid for the Mother out Back'. Mock-up of promotional booklet. Item V.12



'Blossom and the "Kepler" Twins'. Mock-up of promotional booklet.
Item V.12



The World of IF.
Item VI.13



The Food Value of the Banana.
Item VI.4

II.6 'Kamame Pink Oil' and 'Kamame Bitters'. Medicine boxes; Canadian, [1890?]

These boxes come from a collection of medical material gathered by James Kasper, one of the Sequah Ltd medicine men. Though claiming to produce its "successful Eastern medicines" in Bombay, the Kamame Medicine Co. was actually based in Windsor, Ontario. "Bitters", it was claimed, "had found its way through the hands of missionaries into the darkest and farthest parts of Africa, and this without advertising". The Kamame company were involved in the introduction of Sequah into Canada.

CMAC GC/69/6A

II.7 'Notice. This is Sequah's last week in Georgetown'; Georgetown, [189-]. Kasper's Georgetown Scrapbook, 1890-91

The handbill was produced for the visit of James Kasper working as a Sequah medicine man in Georgetown, Demerara (Guyana). Other Sequahs operated in Cape Town, Uruguay and much of Europe. The anonymous caricature appeared in a local paper *Argosy* (2 May 1891). In the engraving, Kasper holds a bottle of Sequah medicine, while in the background local doctors leave town for lack of business and the hospital is put up to let. One of the more remarkable aspects of the Sequah story is how an English firm managed to export 'Indian' remedies to the Americas.

GC/69/9

II.8 *Sequah's Annual*; English, 1890. *Sequah Speaks*; English, [1890?]

The Sequah company produced a considerable number of promotional pamphlets. The items in the Annual were typical: half of it is taken up with an article 'The Manitou's Message: A reminiscence of the Prairies' about travelling in Montana. This sort of material helped create the cultural context (often identified with a famous Indian tribes) from which the Sequah products were meant to emanate. The rest of the Annual is taken up with Sequah advertisements and testimonials and a caution about "unscrupulous persons" adopting "Sequah's method of advertising".

CMAC GC/69/7

II.9 *Sequah's Annual*; English, 1891

Priced at two pence, this annual contained, amongst other items, a short story by Wilkie Collins and a cartoon strip: 'The Tale of a Pig'. Sprinkled throughout are also announcements and advertisements for Sequah products. Under the heading 'True Philosophy', 'Prairie Flower' is described as consisting of "Californian and American" spring waters "combined with botanic extracts".

CMAC GC/69/11

II.10 *Chemist and Druggist*, 29 March 1890, p.26

The quarter-page advertisement for Sequah medicines carries three of the company's standard marketing images: an Indian on horseback, another standing and some flowers. Their central importance can be judged by the minimal text that accompanies them. Despite claims for their exotic composition, it is likely that Sequah medicines were made from such common materials as turpentine, camphor, alcohol, weak alkali and vegetable extract.

Modern Medicine Collection ser QV1/030

II.11 Sequah Ltd letter, dated 29 May 1890

This letter was sent from Sequah Ltd headquarters to James Kasper in Shepton Mallet, Somerset. He was one of the 23 men operating as Sequah in England at the time. The reprimanding tone of its contents reveals how tightly finances were handled. Kasper was advised not to burden the company with the expenses of telegrams or transport of samples by passenger train.

CMAC GC/69/1/C

II.12 Sequah receipt, dated 1 October 1890; Weekly expenses for week ending 5 April 1890; and Mr O'Reilly's receipt, dated 13 March 1890

The Sequah receipt bearing two trademarks of an Indian brave and some 'Prairie Flowers' is for 500 Sequah products costing £1/0/10. It was issued in Stroud, Gloucestershire. The receipt for £6/0/0 issued by Mr O'Reilly is for two weeks' rental of a field in which James Kasper sold Sequah products. The weekly expenses from Carlisle and Penrith include such items as telegrams, rentals, lodgings, horse feed and 2 shillings for advertisements.

CMAC GC/69/1/D & 1/B

II.13 Sample bottles of Sequah's 'Prairie Flower'; English, [189-?]

'Indian Oil' and 'Prairie Flower' were the two basic Sequah products. Though recommended for many ailments, the former was mainly for 'outward application' and the latter was basically a laxative. Four shillings bought a bottle of each and a box of tooth powder. In 1890 the company claimed to have sold 1.46 million bottles of medicine. Sequah came under the scrutiny of the Inland Revenue, who were due a stamp duty on the sale of proprietary medicines in Great Britain. These legal problems contributed to the closing of Sequah in 1909.

Kindly loaned by the Royal Pharmaceutical Society of Great Britain of Great Britain

II.14 Reproduction of photograph of one of the Sequah medicine men; Dover, [189-?]

This undated photograph shows one of the Sequah medicine men, taken in Dover. The marketing of Sequah products was very much based on showmanship, with the salesmen's attire being an integral part of the image. An account from a Sequah booklet describes how "gilded carriage, band and attendants arrayed in picturesque Cowboy costumes" and feathered headgear arrived in towns and cities to sell Sequah medicines.

Reproduced by kind permission of Dr Ben Z Swanson, Jr.

SECTION III

COMMERCE AND CURE: 1870–1914

Pharmaceutical firms reaped enormous rewards from nineteenth-century industrialization. Drug companies were some of the most profitable businesses of the entire manufacturing sector. The evolution of the industry into its modern form was based on a vast new scale of production employing new methods of manufacture, in particular new types of tableting machines. Production concentrated less on universal and more on complaint-specific remedies.

Whereas apothecary shops served both doctors and patients directly, pharmaceutical companies tended either to supply doctors with ‘ethical’ medicines or exploit the market for popular patent medicines – both from a distance. In a system based on mass-produced commodities, the traditional roles of ‘know-how’ and service to customers dwindled.

Commercialization and the establishment of mass advertising led to the development of a market for standardized preparations. Patterns of prescribing medicines were evolved to suit the new industrial methods; while the pharmacists’ shop-laboratories of the early nineteenth century became instead outlets for medicines produced elsewhere.

EXHIBITS

III.1 ‘The Pain-killer Polka’. Song by F Archer; English (c. 1899). ‘Nostrums, The Great Advertisement Song’ by E W Royce and W Meyer Lutz; English (1881)

Satirical songs concerned with medicines and their pedlars form a strong musical tradition. The back cover of the ‘Polka’ carries an advertisement for “Perry Davis’ Pain Killer”. This juxtaposition of serious advertisement and satirical song suggests how the public eagerness to buy advertised remedies was often coupled with considerable doubts about their likely effectiveness.

EPB BF35

III.2 W W Ragg chemist’s sign, late-nineteenth century

Ragg’s shop sign includes the arms of the Pharmaceutical Society. The implications of its inclusion might not have been approved of by the Society. Shop signs were one of the easiest and most direct ways for pharmacists to advertise their wares outside their premises. Ragg’s shop was situated in Church Street, Edmonton.

Kindly loaned by the Royal Pharmaceutical Society of Great Britain

III.3 'A member of the Society of Hopeless Hypochondriacs'. Watercolour by H M Bateman; English, 1915

In this satirical picture, a hypochondriac is seen surrounded by a huge collection of medicines. One of the criticisms frequently made about medical advertising was that, in order to drum up business, it encouraged more gullible members of the public to imagine themselves suffering from any number of specious ailments.

Iconographic Collections

III.4 Advertisement for 'Vibrona'; English, [191-]. Bottle of Stearns wine; USA, 1890-1920

The 'Vibrona' advertisement was included in a 1913 Railway Magazine. The bottle is still in its original paper wrapping. Wine- and alcohol-based products formed a significant part of the pharmaceutical market of this period. They obviously had the potential to alleviate pain and discomfort even if they did not tackle the causes of a medical problem. From a commercial point of view, they were also attractive in being potentially addictive.

Modern Medicine Collection pam QT235 191* W67b; bottle kindly loaned by the Science Museum

III.5 Promotional material for 'Carter's Little Liver Pills': card dominos, [189-?]; 'Happy Days' booklet, 1882; *A Painting Book for Boys and Girls*, [191-]. All English

Carters made a number of 'little' pills, the best known being liver pills. These were recommended for headaches, dizziness, biliousness, constipation and sallow skin. The Carter Medicine Co. produced a large range of promotional items such as those shown here. The 'Happy Days' booklet, however, was eager to stress that the popularity of their remedies derived from their "intrinsic merit alone" and not "the advertising which brought them into notice". The domino set carried one of their catch phrases "Small pill small dose small price". A stamp on the front of the *Painting Book* indicates that it passed through the hands of H Shackleton in Abergavenny.

Modern Medicine Collection QV 26 FN7 1882 C32h; QV26 BE5 191* C32p

III.6 *Chemist and Druggist*, 30 July 1892; reproduction of page from *Chemist and Druggist*, 15 February 1879

As the contrast between these two pages indicates, advertisements made dramatically more impact with the introduction of colour printing. Whereas the advertisements in the 1879 issue imparted information, that in the 1892 issue clearly had more chance

of arresting the reader's attention. It was not until the 1890s that advertisements came commonly to be integrated throughout the text rather than gathered in one section.

Modern Medicine Collections ser. QV1/030

III.7 Advertisement for 'Nubolic Disinfectant Soap'. Back cover of *Pets and Hobbies*. Leeds, [c. 1890]

This advertisement appeared on a familiar promotional item: a children's colouring book. *Pets and Hobbies* had verses by W H Gunston and was illustrated by Alice Reeve. Hygiene products were a commercial area in which advertising budgets were at their highest. A & F Pears were the most prolific, spending £100 000 on advertising in 1889. Where the differences between brands were relatively slight, effective advertising could result in enormously increased sales.

Iconographic Collections

III.8 Harness' 'Electropathic Belt'; English, [189-?]. Standard Ring Co.'s 'Uricura' rings; English, [191-?]

These advertisements used a number of standard strategies of the time. Both made much of the electrical basis of their powers, electricity being a very fashionable scientific concern. Harness' belt was offered as an alternative to "poisonous drugs, quack medicines and Bogus cheap toy appliances". One of the "1000 recent testimonials" the company had received was reproduced in the writer's own handwriting on the leaflet; it was from the trustworthy-sounding (Rev) Edward F Shaw, FRAS. The advertisement for 'Uricura' rings used another common trope of comparing pre-cure misery with the happy results of its completion.

Modern Medicine Collections

III.9 *The Light Car*, 8 July 1914

Carrying the heading 'Aesculapius and the Light Car', this special issue of *The Autocar* was aimed at "doctors who are contemplating the purchase of a motor car". In it, the 'light car' was very advantageously compared to motor cycles and 'horse drawn conveyances'. The 'Lagonda Light Car', for example, was advertised as "An ideal doctor's coupé for £150".

Modern Medicine Collections pam W21 1914 128a

III.10 Allenburys' Foods calendar blotters; English, February 1912 and July 1913

These calendar blotters are examples of the attempt to make advertising material as useable as possible. They would have been distributed free of charge to the medical profession in the hope of making them a fixture in their working environment. The

product advertised was “A progressive dietary adapted to the growing digestive powers”. Such dietary supplements were one of the commodities that came to be monopolized by large-scale pharmaceutical manufacturers.

Modern Medicine Collections

III.11 Advertisement for ‘Coeurets Digestifs de Spa’. Colour lithograph; Paris, [c. 1935?]

This advertising board was supplied with a string from which to suspend it, and was probably used in a chemist’s shop. The medicine is presented in the form of heart-shaped pills in a heart-shaped bottle and is advertised as effective against indigestion, anaemia, migraine and insomnia (though, curiously, not heart diseases).

Iconographic Collections

III.12 ‘Unqualified Assistance’. Wood engraving after a drawing by Bernard Partridge; from *Punch*, 15 May 1912

This cartoon concerns the conflicting political attitudes surrounding the introduction of the National Insurance Act of 1911. Behind a pensive-looking Lloyd George dances a gleeful medicine bottle labelled “Magic Cure-all”. A poster carried by protesting doctors can be seen through the window: it reads “Doctors demand a living wage”.

Iconographic Collections

III.13 H. Silverlock book of pharmaceutical labels; English, late nineteenth century

This book of labels was made up by the printers H Silverlock in order to show samples to pharmacists. The labels chosen by a pharmacist were applied to the bottles of drugs they made, sometimes to their own recipes. The labels in the book include products relating to photography and veterinary as well as ordinary medicine.

Kindly loaned by the Royal Pharmaceutical Society of Great Britain

III.14 Advertising clappers and accompanying letter for Steedman’s Teething Powders; English, 1901

This specimen ‘Advertising Clapper’ was produced by the publisher Albert Hildesheimer. Steedman’s & Co. were particularly energetic in advertising their products. In the 1950s a causative link was established between Pink Disease and the use of mercurial preparations such as Steedman’s Powders.

Kindly loaned by the Royal Pharmaceutical Society of Great Britain

III.15 Photographs of 'Cox's Dispensary', Cambridge (pre-1876); and Heppel & Co., London, 1912

These photographs contrast the relatively modest premises of Cox's with the "high-class, modern, metropolitan" establishment of Heppel & Co. Photographs like these were often taken to commemorate a specific event, and, as in that of Cox's, included the proud proprietor. To the left of the door there seems to be a caged bird. This branch of Heppel & Co. was decorated in an idiosyncratic 'Jacobean' style. The elaborate use of coloured leaded glass, English oak, bronze, granite and marble marked something of a high point in early twentieth-century pharmacy design.

Reproduced with kind permission of the Royal Pharmaceutical Society of Great Britain

III.16 Tin of plaster of Paris bandages; English, 1880–1920. Bottle of chinagreen crystals; German (1870–1920?). Bottle of quinine ethyl carbonate; English (1870–1920?). Bottle of unidentified drug, late-nineteenth century[?]

The bandages were produced by St Dalmas, the chinagreen crystals by Bayer & Co. and the quinine product by British Drug Houses Ltd. Putting pharmaceutical products in eye-catching, memorable packages was an obvious way of promoting them, especially when the market contained numerous similar products. Commercial pressure gradually ensured that as much thought went into the packaging as the product itself.

Kindly loaned by the Science Museum

SECTION IV

INDUSTRIAL RESEARCH:

THE WELLCOME PHYSIOLOGICAL RESEARCH
LABORATORIES (WPRL)

Biologically produced medicines transformed the pharmaceutical industry around the turn of the century. The production of diphtheria anti-toxins played a particularly significant role in forging links between public health and scientific medicine.

The Wellcome research facilities, the first in Britain to be associated with a pharmaceutical company, were set up in central London in 1894. Their initial purpose was to produce large quantities of high-quality diphtheria anti-serum. Five years later they moved to larger premises in Herne Hill, south London. It was from this date that the name Wellcome Physiological Research Laboratories (WPRL) was adopted. From then on their research and production activities expanded considerably.

The WPRL both produced anti-toxins and tested newly developed pharmaceutical compounds. The establishment of the laboratories marked a significant point in the evolution of closer ties between science and industry. Despite claims to the contrary, the separation of 'pure' research from commercial projects was never entirely clear, exposing a marked ambivalence about the role of science and its practitioners in commercial medicine.

The research conducted at the WPRL had significant results both in the area of drug development and for medical science more generally. But just as important was their role in crafting an image of medical science that could be used as a marketing tool for business. The identification of modern drugs with scientific credibility on which so much advertising was based was crucial to the further development of the pharmaceutical industry.

EXHIBITS

IV.1 Stableman's record card, January 1898

These cards were used to record the amounts of blood taken from the 14 horses kept in the Wellcome Stables. Serum was produced from the blood of horses that had previ-

ously been inoculated with diphtheria toxin. An improved method using these cards, in which the injections and bleedings were regulated, was introduced by A T Glenny. This particular card also records the death of the horse 'Yerby' on 31 January.

Kindly loaned by The Wellcome Foundation Ltd.

IV.2 Earliest surviving test sheet for anti-toxin serum, 1897

This sheet records the results of a test on a guinea-pig. The serum tested was extracted from the blood of a horse called 'Rearer', which was bled on 12 June. The observational reports on the test animal for 30 August record "Large Swelling, Very Large Swelling and death at 6 A.M."

Kindly loaned by The Wellcome Foundation Ltd.

IV.3 *The Abolitionist*, vol.I, no.17, 15 August 1900

The article entitled 'Ethical Pharmacy' describes the activities of Burroughs Wellcome & Co. in the production of sera and anti-toxins. It argued that such products would be "the objects of as much ridicule and disgust" in 20 years time as the quack remedies of two centuries before were then. It was publicity about the WPRL work published in the *Chemist and Druggist* that attracted the attention of anti-vivisectionists. The reply from the company, written to a Mr Harris who had sent in the article, derided these opinions as 'nonsense'.

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IV.4 Photographs of a horse being bled (c. 1905) and stables at Brockwell Hall (c. 1910). Pharmaceutical jar

The different styles of dress of the three men bleeding the horse suggest that, from left to right, they were a stableman, a scientist and a technician. The ceramic jar is of the type used in the preparation process; three similar jars can be seen in the photograph. Stables for keeping the horses were provided near the laboratories. Some which were originally part of the country estate were remodelled for the purpose. Much care was taken that they were lofty, well lit and ventilated and made of materials that could easily be cleaned.

Photographs reproduced with kind permission of The Wellcome Foundation Ltd;

jar kindly loaned by the Science Museum

IV.5 Photographs of pharmacological laboratory (1909) and principal chemical laboratory (1910). 'Worked up' photograph of laboratory (1910). All at Brockwell Hall

The WPRL were equipped with numerous laboratories which, at different times, bore

different names. A description dating from 1914 listed a number of bacteriological, chemical and physiological laboratories where a variety of research and testing was conducted. There were also a number of others devoted to the production of the antitoxins sold by Burroughs Wellcome & Co. The 'worked up' photograph was produced for a lantern slide, presumably for presentation purposes. A note on the back reads "alter face so as to destroy likeness". Loaned and reproduced by kind permission of The Wellcome Foundation Ltd.

IV.6 A T Glenny's (1882–1965) laboratory note-book, 1899

This is thought to be A T Glenny's earliest Wellcome laboratory note-book. He joined the WPRL in August 1899, straight from a local school. His early interests were in quantification and standardisation. As well as the sketches of apparatus for the distillation of acetone and Fletcher's gas regulator shown, the note-book also contains notes on "Tests for Starch" and "Experiments on Saliva and Milk". Though they rarely survive, laboratory note-books can provide a particularly intimate account of a scientist's working life.

Kindly loaned by The Wellcome Foundation Ltd.

IV.7 Record book of tests on Diphtheria Antitoxic Serum, 1897–1903

The first product produced at the WPRL was an anti-diphtheritic serum. At the time diphtheria was claiming some 8000 young lives a year. A note at the beginning of the book relates that the laboratories "removed to Brockwell Hall on April 27 1899". It was at this point that they became officially known as the WPRL. They had originally been sited in Central London, with stables in Lisson Grove. Diphtheria anti-toxin was the first biological therapeutic to emerge from scientific medicine.

Kindly loaned by The Wellcome Foundation Ltd.

IV.8 Letter from Under Secretary of State, Home Office to Henry S Wellcome, 21 March 1901

This letter relates to the application of Burroughs Wellcome & Co. for the WPRL to be registered to perform experiments under the 1876 Cruelty to Animals Act. In it, the company was asked to specify the nature and number of experiments requiring such registration. According to the Home Office, the production of serum did not require the premises to be registered, but testing and standardising it on guinea-pigs did. After 18 months of disputes, the WPRL was finally registered in 1901. The arguments exposed conflicting ideas about the appropriateness of mixing medical science with commerce.

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IV.9 G Barger and H H Dale, 'Ergotoxine and some other constituents of Ergot' (1907); Barger and Dale, 'Chemical Structure and Sympathomimetic Action of Amines' (1910); H H Dale 'The action of certain esters and ethers of Choline...' (1914)

These are reprints of some of Henry Dale's most significant scientific papers from his period at the WPRL. That concerning ergotoxine bears the WPRL address. In it, he described his isolation and identification of the physiological effect of ergotoxine. These experiments were initiated by Henry Wellcome. They were important steps in Dale's research career, which culminated in the award of a Nobel Prize in 1936.

EPB collection

IV.10 Henry H Dale's (1875–1968) experimental apparatus, 1920–30

This tripod and water-bath are thought to be part of the original apparatus used by Dale for testing *Ingundin*. In 1914, Dale left the WPRL, where he had been director since 1906, to join the National Institute for Medical Research of the Medical Research Committee. There he continued to develop the work he had begun at the WPRL. The quality of the work he conducted in both places helped establish his reputation as one of the most noted medical researchers of the twentieth century.

Kindly loaned by the Science Museum

IV.11 *Tuberculins: Notes on Their Preparation and Use* (London, [1913?])

This booklet describes the "methods of preparation and standardisation adopted in the Wellcome Laboratories". Much emphasis is given to the scientific rigour of the methods employed, with the use of the "strictest bacteriological control" and "uniform activity and absolute freedom from contamination". The same image of "the latest scientific methods" was stressed in the price list included in the booklet. This role of science was central both to the way the Burroughs Wellcome & Co. was run and the image with which its products were marketed.

Kindly loaned by The Wellcome Foundation Ltd.

IV.12 *Bacterial Disease Prophylaxis and Treatment*. Two copies (London, [191–?])

Burroughs Wellcome & Co. produced a number of promotional booklets aimed at different audiences. This publication was for a technically literate audience. It describes the biological products used in treating bacterial diseases: sera, toxins and vaccines used for immunisation, as well as other diagnostic products. The images in

the opening displayed show the skin reacting to the Schick Test for susceptibility to diphtheria. A name appears on one of the front covers, possibly indicating that it belonged to A T Glenny, one of the WPRL scientific staff from 1899 to 1947.

Kindly loaned by The Wellcome Foundation Ltd.

IV.13 Photograph of the scientific staff of the WPRL, 1914

Front row, left to right, are G H J MacAlister, G Barger, H H Dale, R A O'Brien, H J Sudmersen. Back row, left to right, are G S Walpole, A T Glenny, J H Burn, J B Buxton and A J Ewins. At the time this picture was taken, Dale was Director of the laboratories. Of the scientists who worked with Dale before the First World War, seven were to be elected to the Royal Society. As Director, Dale determined both the nature and quality of the research work done at the WPRL, which in particular concerned the chemical structure and physiological activity of both pharmaceutical substances and those produced by the body.

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IV.14 *British Medical Journal*, 6 January 1906

This full-page advertisement for Wellcome Brand Serums makes prominent reference to the WPRL, where the sera were prepared. Though headed by an image alluding to classical mythology, the advertisement also conveyed a sense of technical precision and scientific purity that was so central to Wellcome's progressive marketing strategy.

Modern Medicine Collection (2) ser.3

IV.15 *Price List of Fine Products*. Burroughs, Wellcome & Co. (London, 1898). Tube of Dry Anti-diphtheria Serum, [c. 191-?]

The entry for 'Serums' in this price list described them as "one of the most remarkable characteristics of modern medicine". It also reported that "Burroughs Wellcome & Co. have been from the first intimately associated with" their development. In 1894 Wellcome produced their first serum for treating diphtheria. By 1898, the company was selling sera against streptococcus, tetanus, typhoid, venom and diphtheria. A vial of the dry anti-diphtheria serum is also shown. In 1898 it cost one shilling. A note attached to the front of the price list indicates that it was used as evidence in the 1903 court case in which Henry Wellcome secured sole rights to the pharmaceutical use of the word 'Tabloid'.

Kindly loaned by The Wellcome Foundation Ltd.

IV.16 *The Wellcome Physiological Research Laboratories*. Descriptive catalogues for displays at Franco-British Exhibition (1908) and Anglo-American Exhibition (1914) International trade fairs provided significant venues at which to promote a company's reputation. Prize-giving allowed companies like Burroughs Wellcome & Co. to accumulate awards which then became part of their image. A list of their previous awards was given at the back of the catalogues. The show case in the drawing was part of the company's stand, situated in the 'Palace of British Manufacturers – Chemical Industries Section'. Its top was decorated with images of the laboratories; its contents were an elaborate display of the chemical products; while scientific information was displayed along the base. The 1908 catalogue was written by Henry Dale, the WPRL's Director.

Kindly loaned by The Wellcome Foundation Ltd.

IV.17 *ABC Medical Diary* (London, 1896). *Wellcome's Medical Diary and Visiting List* (London, 1900)

In daily use, medical diaries formed an ideal promotional vehicle for pharmaceutical companies. Burroughs Wellcome & Co. made particular use of them. They contained a selection of different types of medical information such as pulse rates, space for visiting lists and, not surprisingly, a list of Burroughs, Wellcome & Co. remedies. The opening in the 1896 edition displayed shows an article on Anti-Diphtheritic Serum, which in particular stressed "the purity of the product". The opening in the 1900 edition shows an artist's impression of the WPRL, where the serum was produced.

Kindly loaned by The Wellcome Foundation Ltd.

SECTION V

INDUSTRIAL PRODUCTION AND PROMOTION: BURROUGHS WELLCOME & CO.

On 27 September 1880, Burroughs Wellcome & Co. was founded with a deed of partnership between the two American pharmacists who gave it their names. The type of 'compressed medicines' that they manufactured had initially been developed in the USA a decade earlier. In 1889 the company's factory was moved to Dartford, on a site previously occupied by Phoenix Paper Mills.

Burroughs Wellcome & Co. made early use of mechanized industrial techniques like conveyor belts. In the first decade of the twentieth century the factory was enlarged, and new analytical laboratories for testing raw materials were added to the works. In general, an important element quickly introduced into much of the manufacturing process was a range of analytical controls – a total of seven were operated from research laboratories on site.

Effective publicity was just as vital a part of the company's success as innovative production techniques. Prodigious amounts of effort and money were spent on marketing the company through advertising, exhibitions and promotional products. It was not uncommon for up to 20 pages of advertising to be placed in a single issue of a trade journal.

Burroughs Wellcome & Co. was one of the first pharmaceutical firms to become science based. Not surprisingly, their marketing strategy placed a special emphasis on the role of scientific progress. Though separated from the commercial enterprise, the medical museums and research laboratories inevitably contributed to this carefully crafted image. Burroughs Wellcome & Co. is an early example of a business successfully 'selling science'.

EXHIBITS

V.1 'Hazeline Snow' shop counter or window display, [191–?]

Shop window furniture that carried eye-catching images and brand names in large print were used by pharmacists with increasing frequency from the late nineteenth century. Many products carried a pithy slogan; that for 'Hazeline Snow' was "It melts on the skin making it soft and white". Sold into the 1980s, the great popularity of the product

clearly pre-dates the fashion appeal of tanned skin.

Modern Medicine Collections

V.2 'Hazeline' cream tube and box, [191-?]

An 1895 advertisement for this product described it as "an elegant soothing emollient and mild astringent ointment". It was also claimed to be of benefit in treating "loss of hair". In 1898 this small tube cost 4/6d. Both the tube and box show an inclination to cover every available surface with promotional information; even the cap of the tube carries the company name. Considerable use was also made of 'stuffers' – folded paper with promotional information in up to a half dozen languages.

Kindly loaned by The Wellcome Foundation Ltd.

V.3 Folder of 'Pioneer' series of advertisements (no. 1–200; Dec. 1919–Oct. 1922)

This example is typical of some 650 advertisements for Burroughs Wellcome & Co. products produced under the series legend "Pioneers and Empire Builders". The format was unvarying: a product brand identified in large type, a promotional sentence, often stressing scientific methods of preparation, and an illustrated description of some ancient phenomenon. This mixture of commerce and education captured two strong interests of Henry Wellcome. Wellcome was in fact responsible for designing many of the company's early advertisements himself.

Kindly loaned by The Wellcome Foundation Ltd.

V.4 Baby feeding bottle, [190-?]

The bottle is fitted with a spirit thermometer so that milk could be fed to a child at a regulated temperature. An instructional note on the bottom reveals that the movement of the spirit is not as rapid as the mercury in the thermometers "attached to the 1s 6d and 2s 6d bottles". The company name is worked into the glass.

Kindly loaned by The Wellcome Foundation Ltd.

V.5 'Tabloid' Phenacetin compound bottle and box, [190-?]

Phenacetin was largely sold for its analgesic properties. A price list from 1898 explained that this compound also included "the well-known cardiac tonic caffeine". As with many Wellcome products, the box was covered in promotional text, in particular urging customers to be wary of imitators of the 'Tabloid' trademark.

Kindly loaned by The Wellcome Foundation Ltd.

V.6 'Tabloid first-aid for all emergencies'. Burroughs Wellcome & Co. advertisement. [c. 1930?]

A major product in Burroughs Wellcome & Co.'s range was first-aid kits; they occupied ten pages of their 1898 price list. As this advertisement indicated, they were made for use in a great variety of exotic and testing locations: high altitude, Antarctica, at sea and in the jungle. This advertisement was mounted for suspension in a pharmacy (Boots Chemist's shop in Haddington, East Lothian). Wellcome regularly presented medicine chests to such famous explorers and travellers as H M Stanley and Shackleton, knowing that the company was likely to receive due credit.

Iconographic Collections

V.7 National Antarctic Expedition Medicine Chest, 1901. 'Tabloid' medicine case belonging to George V (1865–1936). *Wellcome's Pharmacist's Diary* (London, 1913)

The Wellcome company used medicine chests not only as a product but also as a vehicle for promotion. Shown here is one that was taken on the 1901 Antarctic expedition and another used by George V. The company even made a miniature chest for Queen Mary's doll's house. Endorsements from famous owners were effectively used in advertising campaigns. The pharmacist's diary is open at a page showing "Some famous aviators who use 'Tabloid' First-aid". Close inspection of the photographs reveals the position on each plane of the Burroughs Wellcome & Co. medicine chest.

Kindly loaned by The Wellcome Foundation Ltd.

V.8 *Chemist and Druggist*, 12 November 1949, p 37. Reproduction of the *British Medical Journal*, 3 August 1895

From its foundation, Burroughs Wellcome & Co. made extensive use of advertising. The reproduced page from the *BMJ* illustrates an early advertising style adopted by the company in which the impression of scientific significance was conveyed by dense technical text, which might be mistaken for a learned article. Aimed at pharmacists, the *Chemist and Druggist* advertisement in fact promoted Wellcome's new line of advertisements for its product 'Kepler' malt. "Show this advertisement", reads the slogan, "and you'll show profit".

Modern Medicine Collection

V.9 Burroughs Wellcome & Co. Trade Marks book (1879–1893). Sample of ‘Tabloids’ of Compressed Tea’, [191–?]

The trademark book is stamped with the name of the patent agent, Philip M Justice. The first marks are in the name of Silas M Burroughs; the first under Henry Wellcome’s name is for ‘Tally Ho’ perfumery (1880); and the first under the company name Burroughs Wellcome & Co. is for ‘Aqua Viva’ (1881). Records for ‘Tabloid’ products first appear in 1884. The opening shown is for the ‘Tabloids’ of compressed tea. A tin of the product is also displayed. In the competitive pharmaceutical world the legal protection of trademarks was increasingly fiercely fought for. In 1903, Wellcome won a legal battle to protect his sole rights to the use of the term ‘Tabloid’.

Kindly loaned by The Wellcome Foundation Ltd.

V.10 ‘Hazeline Rose Frost’ bottle and box, [192–?]

A note included in the box is headed with a quote from Carlyle: “The strong thing is the just thing”. The product was a rose-tinted skin cream. This sample was produced for a Chinese-speaking market; it sold very well in the Far East. Curiously, the shape of the bottle means that it can only, rather inconveniently, be removed from the bottom of the box.

Kindly loaned by The Wellcome Foundation Ltd.

V.11 Framed display of pills, [196–?]

The range of products in this display include items for photographic and veterinary as well as human use. The form in which B, W & Co. produced its pills was from early on central to its marketing policy. The word ‘Tabloid’ (taking its elements from the words tablet and alkaloid) came to Henry Wellcome one night in 1884. It was patented the same year, and subsequently entered both common usage and indeed the dictionary.

Kindly loaned by The Wellcome Foundation Ltd.

V.12 ‘Blossom and the “Kepler” Twins’ (1925); “‘Tabloid” First Aid for the Mother out Back’ (1924). Mock-ups with art work for promotional booklets

The illustrations in both are by C W Hesling (‘Hez’). ‘Blossom’ was clearly aimed at a children’s market, and describes the dream of a recovering child in which the product ‘Kepler’ appears prominently. ‘Kepler’ was a solution of cod liver oil in malt extract used as a dietary supplement. The Wellcome company produced both a ‘Tabloid’ range of ethical medicines for doctors and milder products for the popular market such as ‘Kepler’. The first aid booklet was “for the mothers of the Empire,

who toiled bravely in the loneliness and solitudes of the 'Back o' Beyond'.

Kindly loaned by The Wellcome Foundation Ltd.

V.13 *Medical Formulae of New and Improved Chemical and Pharmaceutical Preparations* (London, 1881). Three examples

These pocket-sized booklets served as product lists for the medicines produced and sold by Burroughs Wellcome & Co. The introduction stated that they would be "pleased to present trial specimens of our preparations to members of the profession upon request".

Kindly loaned by The Wellcome Foundation Ltd.

V.14 *Burroughs Wellcome & Co. medical price list* (London & Dartford, 1895)

The main image on the busy cover of this price list is of the manufacturing plant at Dartford. A selection of the 141 gold, silver and other medals awarded to the company are also represented, as is a picture of their Snow Hill Buildings. The list was obviously also designed as a promotional vehicle, and features a number of glowing testimonials from amongst others the journalist Thomas Stevens and the explorer H M Stanley.

Kindly loaned by The Wellcome Foundation Ltd.

V.15 Menus from 'Medical Representatives Annual Conference Dinner' (22 October 1957) and 'Sales Conference Dinner' (20 October 1960)

The illustrated cover of the 1957 menu shows some Blackpool landmarks. The vehicle mounting the roller-coaster is labelled 'sales' and one of its occupants has a briefcase with the company's initials on it. The ferris wheel in the background carries many of the company's better known products.

Kindly loaned by The Wellcome Foundation Ltd.

V.16 *Inauguration of the Wellcome Club & Institute: Souvenir Programme* (London, 1899); *General Rules and Instructions for the Employees* (London, [191-?]); *Styles of addressing* (London, [191-?])

The Wellcome company was one of the first in the country to have a staff club. Its aims were "to promote harmony and happy social intercourse amongst the employees". Women and men had separate club houses. It was Silas Burroughs who showed particular interest in the welfare of the work force. The *General Rules* was prefaced with a short essay titled 'Supporting the House'. The 38 rules included advice to be "straightforward and sincere" and a ban on talk while at work "on any subject not

connected with the firm's business". An example of the manner in which employees should address titled individuals in foreign countries was that for the President of the USA: "The Hon.- - (first Christian name in full), President of the United States of America".

Kindly loaned by The Wellcome Foundation Ltd.

V.17 Photographs of Wellcome Chemical Works; Dartford (c. 1905–1910) and Packing 'Tabloids' at Dartford (1909)

The Dartford Works were opened in July 1889, having been adapted from the Phoenix Paper Mills. An eight hour day was adopted on the opening of the Works. Silas Burroughs lived in the area and close ties between the company and the community started early. A tablet representing the role of the company was incorporated into the Borough's coat of arms.

Reproduced with kind permission of The Wellcome Foundation Ltd.

V.18 Sales box of Compound Menthol Snuff, [191–?]; tin of 'Enule' Glycerin, [1900–1920]; tin of various 'Tabloid' preparations, [1900–1920]; two Hypodermic cases, [1900–1920]

The snuff was prepared with menthos combined with cocaine, ammonium chloride and camphor. 'Enule' was the Burroughs Wellcome & Co. brand name for rectal suppositories. Henry Wellcome's graduation thesis had concerned the design of urethral suppositories. Many of products were sold in attractive, compact metal tins like those shown. The examples of cases of hypodermic preparations represent Burroughs Wellcome & Co.'s response to an increasing demand for this method of applying medicines. The cases were available in a number of finishes – various types of leather and skin, aluminium, steel and even silver, which in 1898 cost over £10.

Kindly loaned by The Wellcome Foundation Ltd.

[Trade Marks of the Wellcome Group of companies: 'Enule', 'Hazeline', 'Hazeline Snow', 'Hazeline Rose Frost', 'Kepler', 'Tabloid', 'Tabloids'.]

SECTION VI
COMMERCE AND CURE
SINCE THE FIRST WORLD WAR

In providing a huge testing ground for medicines, the First World War had a considerable effect on the pharmaceutical industry. After it, changes in the scale of production were accompanied by the development of an economic imperative to conquer worldwide markets. The introduction of new networks of distribution began to make this possible.

During the twentieth century, large numbers of independent pharmacists have been taken over by chain stores, with a gradual demise of the practice of making drugs on shop premises. An economic system suited to the needs of industry emerged instead. In it, trademarks assumed a principal role: they provided legal guarantees for a product made far from where it was bought and acted as a means to distinguish particular brands within a crowded marketplace. Though not admired by all, the power of advertising ensured that trademarks became the dominant system of medical nomenclature.

In the establishment of the modern pharmaceutical industry, no factor was more important than marketing to the masses. From the late nineteenth century, advertising had rapidly become professionalised; and during the First World War, the industry ripened considerably, learning in particular how to target appeals to specific emotional responses. From then on, waves of new promotional strategies arrived with every succeeding decade.

The rising tide of both new advertisements and new promotional media was only checked by the growing ethical concern about medical advertising and the legal response to it. After a relative lull in the 1950s and 1960s, the last two decades have again witnessed a vast expansion in medical advertising.

EXHIBITS

VI.1 'Veramon and Medinal'. Drawing and printed advertisement by Leonhard Friedrich Waldemar Fries (twentieth century) for Schering Ltd, London

The practice of commissioning professional artists to produce advertising images began at the end of the nineteenth century. It was exploited with particular success by French poster designers, most famously Toulouse-Lautrec. In England, the soap

manufacturer A F Pears purchased a work by Sir John Millais in 1887 to use in their 'Bubbles' advertisement. As Fries' advertisement indicates, commercial art tended to be simple and bold.

Iconographic Collections

VI.2 'Vitamar' display box, [191-?]. 'Oil of Evening Primrose' display box, [199-]

Though much has changed in the way that shops promote their wares, the use of large dummy containers has endured. 'Vitamar', produced by Callard & Co., was promoted as being "essential to the feeding of under-developed children". The image that the Healthcrafts product is attempting to create is clearly one of naturalness.

Modern Medicine Collection

VI.3 'Presto Health Herbs' box, [193-?]. *The Famous Book of Herbs* (St Albans, 10th edn, 1931)

Although pressed into tablet form, these drugs were still promoted on the basis of being 'natural': "entirely free from mineral drugs; a pure combination of herbs and roots". The images used on the box were meant to invoke an earlier age when people had been "in harmony with nature". This booklet combines promotional material and a price list for herbs sold by Heath & Heather Ltd. The preface claimed that some eleven million copies of the book had been distributed in ten years. The fashion for 'reviving' herbal remedies emerged in the early-Victorian period and gained particular popularity in this period.

CMAC SA/BMA/ C454; Modern Medicine Collection

VI.4 *The Food Value of the Banana* (Boston, 4th edn, 1928)

This booklet was produced by the Research Department of the United Fruit Company in Boston, USA. Bananas are just one example of a food that was treated to scientific analysis in order to ascertain and then publicise its dietary and health value. Filled with references to articles in medical and scientific journals, the booklet promotes not just the mineral and vitamin content of bananas, but also their "therapeutic value". There are also numerous suggestions of the "Many Ways of Using Bananas".

Modern Medicine Collection pam QU160 1928 U58f

VI.5 Advertisement for 'Brown's D M Standard Bread', [193-?]

The D M stood for Doctors' Manifesto. The bread was sold on the health properties of its ingredients: "all the GERM and the SEMOLINA as instructed by Nature". The advertisement was designed "to show the careful House-keeper what the STANDARD

BREAD should look like". "NOTICE THE COLOUR" it proclaims. The study of nutrition was one of the medical sciences that for a while became very fashionable.

Modern Medicine Collection

VI.6 *The Yadil Book* (London, 3rd edn, 1923) pp.150–151. Bottles of 'Yadil', [192–?]

This publication was used to promote the antiseptic substance 'Yadil' produced by Clement & Johnson Ltd. The company claimed that 'Yadil' was of entirely "harmless vegetable origin", based on garlic oil. Great claims were made for the efficacy of the antiseptic; on the page shown, for example, the use of 'Yadil' is predicted to result in the emptying of hospitals. Two bottles of the drug are also shown, one in its original wrapper.

Book kindly loaned by Dr Tilli Tansey, samples by the Science Museum

VI.7 Newspaper cutting from *Daily Mail*, 24 July 1924. 'Medical Research Committee Newspaper Cuttings Book'

The article shown was a follow-up article to Sir William Pope's initial exposure of 'Yadil' on 22 July. Pope revealed that 'Yadil' was not the harmless vegetable preparation that its makers claimed it to be, and that it actually contained a small amount of the poison formaldehyde. In the article shown a number of other notable medical men supported Pope's contentions. The 'Yadil' exposure put its makers Clement & Johnson Ltd out of business and sent shock waves throughout the world of medical advertising.

Kindly loaned by the National Institute for Medical Research

VI.8 Clipping from *Weekly Dispatch*, 28 December 1924

In this article the leading surgeon Sir William Arbuthnot Lane is quoted as declaring that modern women had "lost most of the physical characters which are such a marked feature in the magnificently built savage". The practice of 'puffing', in which doctors were deemed in effect to be advertising, was at this time being critically scrutinized by the British Medical Association. This clipping is from their papers. Arbuthnot Lane later resigned from the BMA after a dispute about his use of 'puffs'.

CMAC SA/BMA D107

VI.9 *Daily Express* advertisement for 'Curicones' and accompanying letter, 1935

This advertisement for a cure to 'all rheumatic complaints' was brought to the attention of the British Medical Association by a suspicious doctor in the Isle of Man. The reply from the BMA stated that the claims in the advertisement were "both inaccurate and

misleading". The BMA was at the time trying to tighten the laws controlling advertisements of patent medicines. They were, however, finding obstructions in the form of powerful vested business interests.

CMAC SA/BMA C455

VI.10 *Chemist and Druggist*, 18 September 1937

Attention to the appearance of pharmacists' windows increased dramatically during the twentieth century. As these pages from the *Chemist and Druggist* indicate, there was no shortage of advice on style and technique. Another article in the magazine urged shopkeepers to "give closer attention to the window plan, as distinct from the design of its elevation". Prizes were also awarded for the best dressed windows. Set against this trend, a few 'high-class' pharmacies made a virtue out of not producing gaudy displays of merchandise.

Modern Medicine Collection

VI.11 'Beechams Powders' Cardboard hanger, [191-?]. 'Owbridge's Lung Tonic' paper bird, [1900-1920?]

The search by advertisers for new ways of promoting products has, since the late nineteenth century, been relentless. These two examples show the use of decorative and utilitarian household items. On the hanger is written "Hang on to Health with Beechams Powders". On the other side is the famous advertising slogan: "Worth a Guinea a Box". Beechams provides an example of a company that developed from a local pharmacy to a wholesale industrial giant.

Modern Medicine Collection

VI.12 'Andrews' Liver Salt' promotional playing cards, [193-?]. 'Homocea' promotional game, [191-?]

Games provided a popular promotional vehicle. The marketing objective was to link the fun of the game to the advertised product. It also provided a means of targeting a younger public. Like much advertising copy, that used by Andrews was based on a pun. Here an image of a glass of Liver Salt is labelled "The Picture of Health". 'Homocea' was meant to help with every ailment from neuralgia to toothaches and colds. The game was a "skill and memory test".

Modern Medicine Collection

VI.13 Gibbs Dentifrice promotional material: *The World of IF* picture book, 1930. 'Ivory Castle Game', [193-]

The children's booklet was the fifth in their series of 'Ivory Castle Fairy Books'. It contains a story littered with references to 'Giant Decay' and 'Gibbs Fairies'. In the

board-game (a version of Snakes and Ladders), the identification of the land of 'Health and Happiness' with Gibbs' Dentifrice is indicated by the company flag flying from the castle. The advertising slogan used was: "Your teeth are Ivory Castles – defend them with Gibbs Dentifrice".

Modern Medicine Collection pam WR26.BE5 1930 G44w

VI.14 'Irving's Yeast-Vite tablets' calendar/blotter, 1930. 'Wincarnis' 'Motor & cyclist Map of England', [192–?]

'Yeast-Vite' was rather grandly promoted as "The Greatest Medical Discovery of the Century". For the doctors, chemists and pharmacists, at whom they were aimed, blotters were a very effective advertising medium. 'Wincarnis' was marketed as a "delicious tonic & restorative recommended by over 8000 medical men". The fact that a full map of the country was based on a series of sheets allowed the advertising material to be turned into a commodity that might itself be collected.

Modern Medicine Collection pam WR26.BE5 1930 G44w

VI.15 'Triludan' promotional leaflet, 1983. 'Cortophin and Cortophin-2N' promotional leaflet, [197–?]

The practice of advertising medicines exclusively to the medical professions developed at the end of the nineteenth century. As these later examples indicate, a certain amount of scientific literacy could be assumed in preparing them. The 'Cortophin' leaflet contains a good deal of technical information, while that for 'Triludan' shows a stylised molecular model.

Modern Medicine Collection pam WK500 1961 068c; pam QV157 1983 M56t

VI.16 Advertisements for 'Metosyn', 'Minocin', 'Benoral', 'Vivalan', 'Ponderax', 'Maalox', 'Stugeron' and 'Lioresal', 1970s to 1980s

These advertisements were all included as loose sheets in the pharmaceutical magazine *Chemist and Druggist*. Their format is fairly consistent. A striking image is coupled with a slogan that then explains the link between the idea of the image and the product: the boomerang-shaped leaflet, for example, reads "some skin patients just keep coming back!".

Modern Medicine Collection pam QV69 1975 P53a, pam QV76-5 1983 C56d & C56d 2

VI.17 Photographs of the Penton Pharmacy, London, c. 1930, and Steedman's Powders delivery van, 1922

As the photograph of this pharmacy indicates, many chemists attempted to fill every available inch of window space either with products or advertisements. Delivery vans were also a favoured site for advertisements. John Steedman established a pharmacy in 1812, and by the end of the century had become one of the best known proprietary medicine manufacturers.

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VI.18 Advertisements inserted into *The Practitioner*, 1958–1984

In an attempt to save them from being thrown away, many of these advertisements were designed to serve as bookmarks. The proliferation of promotional material has led advertisers continually to experiment with novel materials, colours, shapes etc. Another common ploy is to make the shape or image of the advertisement refer either to the ailment or the drug's curative properties.

Modern Medicine Collection

VI.19 Yardley Statuette; Dresden, 1936

In 1913, Yardley adopted Francis Wheatley's image 'primroses' as a trade mark for its Lavender products. Wheatley's original painting (1793) is part of his series the 'Cries of London'. This Dresden figurine was produced for shop window or counter display in retail outlets. They have since become collectors items.

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VI.20 Bottle of 'Papine', 1920–50. Box of 'Roboleine', 1920–40. Bottle of 'Bishop's Citrate of Lithia', 1900–30

Three different strategies for promoting pharmaceutical products can be seen in these packages. 'Roboleine' was sold on the basis of its advertised effect of "restoring vigour"; 'papine' was promoted on the basis of the public perception of the effects of opium; while the explanatory note attached to the bottle of the 'Bishop's' product described in detail its physiological action.

Kindly loaned by the Science Museum

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