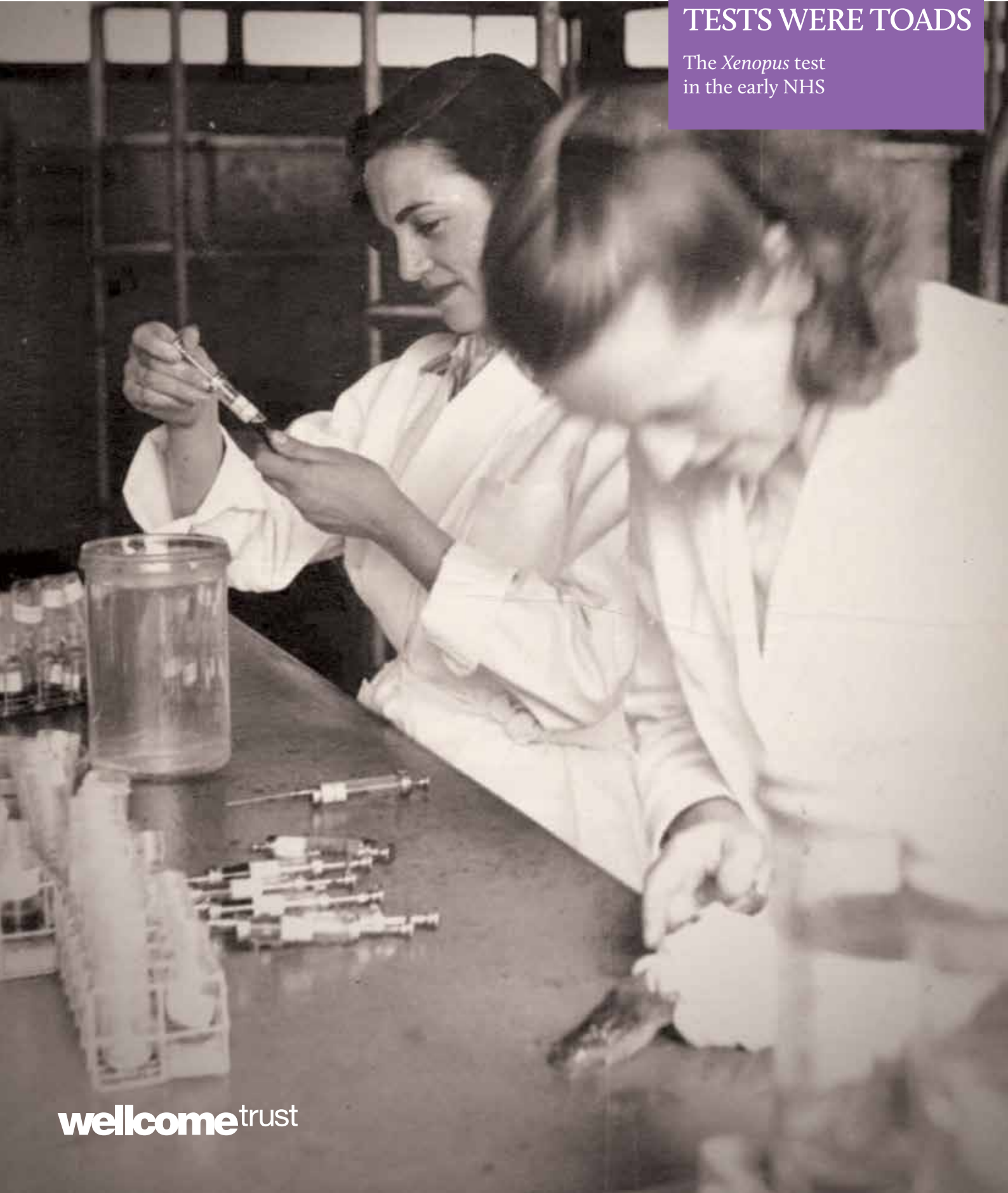


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Wellcome HISTORY

WHEN PREGNANCY TESTS WERE TOADS

The *Xenopus* test
in the early NHS



When pregnancy tests were toads

The Xenopus test in the early NHS

Jesse Olszynko-Gryn



As a young woman in the 1950s, Audrey Peattie injected urine into toads every day. She worked as a technician at an NHS pregnancy-testing laboratory in Watford (17 miles from central London). The toads were *Xenopus laevis*, originating in South Africa, but the urine samples with which they were injected came from women around Britain. NHS doctors posted their patients' urine samples to Audrey for the diagnosis of pregnancy. Pregnancy tests really were reliant on toads in the era of modern science.

I had been researching pregnancy testing's past in libraries and archives in Cambridge, Edinburgh and London for about a year when I came across Audrey's story on a local newspaper website. An obliging journalist put us in touch and I was able to visit her in Watford in August 2011 to discuss her experiences working in the heyday of the 'Xenopus test'. It was such a pleasure to meet Audrey face-to-face – a timely

reminder to those of us who research in the medical humanities of just how fruitful public engagement and oral histories can be, often leading to surprising new perspectives.

Audrey's job involved processing urine specimens for use in the *Xenopus* test, also called the 'Hogben test' in honour of one of its inventors, the British physiologist Lancelot Hogben. A hormone found in the urine of pregnant women – today known as human chorionic gonadotropin (hCG) – can induce the female *Xenopus* toad to lay hundreds of eggs. The Hogben test involved injecting a toad with urine and seeing whether it laid eggs (a positive reaction). Today, *Xenopus* is better known as a model organism in developmental biology and is still found in research laboratories around the world. It is no longer injected with urine, but rather with a commercial hormone that also induces egg-laying. From the late 1940s to

the 1960s, however, it was routinely used as a living pregnancy test. Prior to *Xenopus*, female mice and rabbits had been used, but these had to be slaughtered, dissected and carefully examined for ovarian changes. Because toads were reusable and could be conveniently kept in aquaria, *Xenopus* made pregnancy testing practical on a larger scale than before.

Watford was one of three specialised centres covered by the NHS (the other two were in Edinburgh and Sheffield) that received urine specimens for pregnancy diagnosis from doctors and hospitals around Britain. The Family Planning Association (FPA) also kept a *Xenopus* colony for pregnancy testing in a London laboratory. For a fee, the FPA would test the urine of any doctor's patient regardless of the reason the test had been requested. The NHS, on the other hand, feared that their facilities would be swamped by requests from women who were merely curious

about their condition, and so attempted to restrict their free service to cases of medical urgency. Technicians such as Audrey who worked for the NHS were responsible for processing the urine, injecting the toads, and reading the test results, which were then communicated to doctors.

Working in a laboratory full of urine and toads was an unusual job for a young woman in the 1950s.

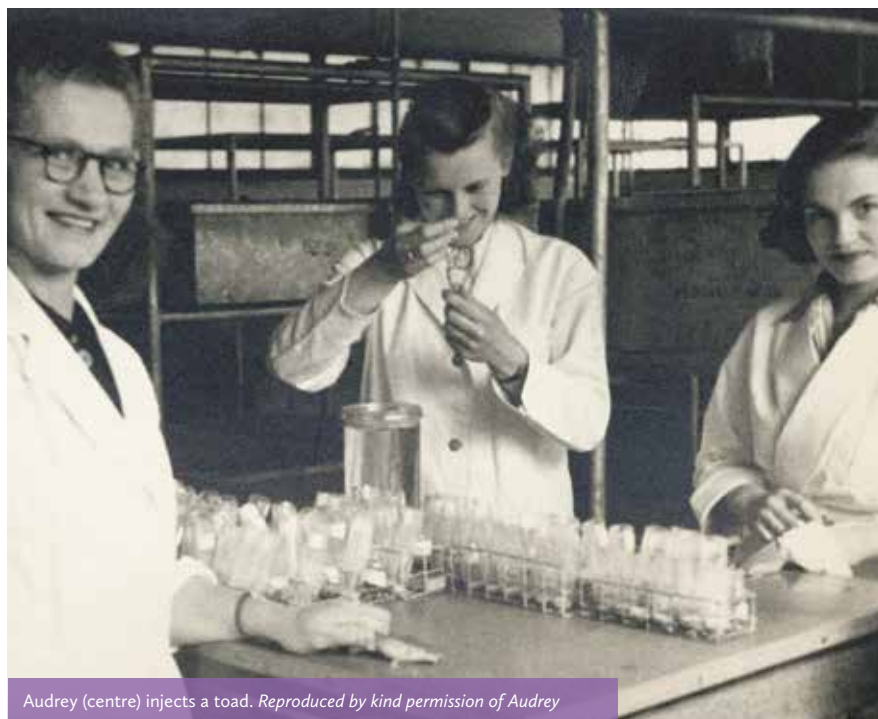
Getting to know Audrey has been a high point of my PhD so far. She showed me her collection of unique photographs of the inside of a pregnancy-testing laboratory and recalled her workplace, vividly describing its sights and smells. These intimate perspectives are invariably missing or dismissed as mere drudgery from published accounts in standard medical journals and textbooks. Audrey and I shared her recollections of how, by the time some urine specimens got to Watford, they were quite old and so smelly that she joked with her colleagues that they “had been given by a horse”. The toads proved to be hardy, but now and again Audrey would find “a little corpse” floating in a tank, which could go “quite horrible and stinky as well”. Occasionally a jar would arrive smashed, which was also “disgusting”. In such cases “you’d get a soggy parcel” and the laboratory was obliged to request a second specimen as “you needed quite a reasonable amount” for a test. In each case, a toad needed to be taken from the tank; Audrey recalled that she “just reached in and got one. You just put your fingers between its legs and then just injected it into the thigh, because they’ve got really fat thighs...we just did it in a very casual way...because we were doing... loads and loads of them every day.”

Working in a laboratory full of urine and toads was an unusual job for a young woman in the 1950s. Audrey was fresh out of grammar school and most of her friends were secretaries, teachers, sales clerks and college students. Her job was, as she recalled, “a rather peculiar thing to have to explain to people”. This anecdote confirms a key finding of my research: until fairly recently, pregnancy testing remained an obscure practice. Although facilities

existed, getting a test was neither a rite of passage for the expectant mother nor an aid to the woman who wanted to terminate an unwanted pregnancy. Rather, laboratory tests were mainly reserved for use in urgent, medical-priority cases that required differential diagnosis – for example, to distinguish the growth of a normal fetus from that of a tumour. Doctors, not women, controlled pregnancy testing and they were not keen on making this laboratory service available

the early 1970s, but it resembled a small chemistry set and so was not user-friendly. It was not until 1988 that the first recognisably ‘modern’ one-step-stick hit the shelves.

Now a wide range of pregnancy and fertility tests can be bought at any pharmacy or even on eBay, and they are frequently advertised in magazines, in contemporary art, on reality television and in romantic comedies. One of the main objectives of my research is to recover the transition from mice,



Audrey (centre) injects a toad. Reproduced by kind permission of Audrey

to every woman on demand. If a woman sent her own urine specimen to a laboratory it would not be tested, and if she went to her family doctor she might well be told to return in a couple of months when the physical signs of an advanced pregnancy were apparent. Both the dubious association with illegal abortion and the potentially enormous financial cost to the NHS were factors that limited pregnancy testing’s availability.

Today we live in a world of cheap and ubiquitous home pregnancy tests and Audrey’s job may seem even more peculiar to us than it did to her friends over half a century ago. Many changes have occurred in the interim. Immunological test kits finally replaced *Xenopus* in the 1960s and were rapidly taken up by private companies and feminist organisations offering diagnostic services directly to women. The first over-the-counter home test was sold in pharmacies in

rabbits and toads to Clearblue and First Response. Beyond that, I hope to also contribute to both social history and the history of medicine, by capturing the imagination of a wider public with pregnancy testing’s fascinating history.

This is why I am so keen to encourage women – and men – to share their experiences of pregnancy testing (anonymously) on an interactive blog. Please do get in touch with me at the address below if you feel that, like Audrey, you too have something to contribute. It has been a real privilege to discover that nearly everyone has a pregnancy-test story to tell.

Jesse Olszynko-Gryn is a postgraduate student at the Department of History and Philosophy of Science and Robinson College, University of Cambridge. His PhD is funded by the Department’s Wellcome Trust Strategic Award. Please do send your pregnancy-test stories to jo312@cam.ac.uk.

The Editor's Eye

Focusing on the stories of the medical humanities



Elizabeth T Hurren

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“Have you ever tried to saw off the top of a skull?” My question to a newspaper reporter certainly got him thinking. We were talking about anatomy: surely, he had insisted, its practice was crude, like butchers in the days of grave-robbing. Not so, I replied, the story is more interesting than standard editorial slants. On reflection, my question about sawing a skull had sounded so normal when it left my lips, but not to the journalist. “No!” he exclaimed. “Quite honestly, nobody has ever asked me that before and I have interviewed thousands of people in this job.” Afterwards he sent me an email of thanks: “For that question, I will never forget you!” Later, over a caffè latte, I thought about all the normal but extraordinary things that we do in the medical humanities. In this issue, we focus on some of those surprising stories that people our working lives.

Talking to the general public about their career experiences in the medical humanities can be a very fruitful research encounter. In our feature article, Jesse Olszynko-Gryn could not have known in detail the hidden side of pregnancy testing without the important contribution of Audrey Peattie. Tessa Johnson gets beneath the image of the domestic goddess in American family life in the Cold War era by working with neglected surveys. Confronting cadavers and social norms we meet Marianne Boruch, our first Professor of English and Creative Writing to feature in *Wellcome History* – a scholar-poet who breaks new boundaries in her work on the history of anatomy and dissection. Looking further back in time, Simon Swain and Uwe Vagelpohl rediscover the histories of older manuscripts, the journeys undertaken from Greek originals to Arab medical treatises. In Sophie Cummings and Elaine Leong’s public engagement work we engage with Lady Johanna St John’s great recipe book and the importance of cures for household medicine at Lydiard House in Wiltshire.

How will future historians piece together researchers’ working lives in an internet era when so much that we write is deleted from email? This important contemporary question is the focus of the Human Genome Archive Project, coordinated by the Wellcome Trust. It aims to preserve archive material that is making and remaking the history of science today. With this in mind, Catriona Gilmour Hamilton reminds us that the history of cancer also involves the research volunteer’s perspective. Elsewhere, Shaul Bar-Haim’s conference report highlights the complex relationship between psychoanalysis, the patient and state power in the modern era, while Ruth Levitt explores the historical relevance of patients buying unsafe medicines; and at Swansea University scholars have been examining resurging debates about disability and wellbeing.

Many of you wrote to say how much you enjoyed the focus on public engagement. With that in mind, I thought it might be helpful to highlight some themes that we are planning to cover in forthcoming issues. Please do get in touch if you have been working on any aspect of the suggestions sent in so far: music as medicine; the poetry of healing; breaking the age barrier; and narratives of sickness. The next submissions deadline is 30 April.

Thank you to all those that have written to me by email, and especially to those who took the time to send a handwritten letter – from the oldest qualified doctor in Britain (aged 100) to a man inspired to write from Kerala on the day he retired from the Indian Air Force. Keep in touch – this editor’s eye enjoys reading them all.

Kind regards,
Elizabeth Hurren

Dr Elizabeth T Hurren is Reader in the Medical Humanities, University of Leicester (E eh140@le.ac.uk).

How to be a domestic goddess

Housewives, tranquilliser use and the nuclear family in Cold War America

Tessa Johnson

L 950s America: those were the good old days. Or were they? Viewing the past through rose-coloured spectacles – longing with a special kind of nostalgia for the white picket fences, home-baked cookies and families with a Mom, Dad and 2.5 children – makes misleading history. When contemporary critics bemoan today's immoral society with its broken families and workaholic mothers, it is this era that they often hark back to. But postwar America was far from idyllic. Gazing historically inside the average suburban American house uncovers families still suffering from the economic fallout of the Depression, and a culture alarmed by the shadow of a constant threat of nuclear war and communism. The 'domestic goddess' cooking the family's meal had a dark secret too. Everyday drug use for depression was very common among American mothers.

My research delves deeper into this darker side of American family life and gender history, analysing data from a long-term study of married suburban couples.

In 1955, the first tranquilliser, Miltown, burst onto the American drug market. It was the first medicine to be marketed to the public in a manner similar to other popular consumer products, and was soon in huge demand. Within a year, a staggering 1 in 20 Americans were regularly prescribed it. Pharmacies frequently ran out of stocks, having to hang window signs declaring "Out Of Miltown – More Tomorrow!" Shops lucky enough to have secured supplies assured their customers "We Have Miltown!" At the peak of its popularity, La Roche, the producer of the drug, took out a full-page spread in the *LA Times*: "Attention physicians: just arrived by air, another shipment of MILTOWN. Your prescriptions can now be filled."

The drug was a potent and prescription-only tranquilliser, most often used by women. Among American housewives, it became as fashionable as the latest style of dress or car. It was discussed at dinner parties and written about in lifestyle



From *Woman's Day* magazine, 1957. clotho98 on Flickr

magazines. Miltown was, from its birth, bound up with ideas of glamour, framed as part of an aspirational lifestyle choice which Hollywood starlets and suburban housewives alike could indulge in. Celebrities promoted its benefits, and bowls of Miltown were even rumoured to be passed around like canapés at Hollywood parties.

Such anecdotes spawned a flurry of Miltown cocktail recipes for star-struck housewives to copy. There was the 'Militini', a martini with a pill replacing the olive. Or those more daring drinkers could try a 'Guided Missile' – a double vodka and two Miltowns. The jewellers Tiffany's even produced ruby- and diamond-studded pill-cases, while Cartier advertised a silver charm bracelet with a convenient holder designed for a single Miltown pill. This was a medicine like no other – until it was surpassed by its descendant, Valium. By 1974, an astonishing total of 53.4 million Americans were taking Valium – a quarter of the whole population.

American women were the biggest consumers of the new tranquillisers. A 1963 study found that 21 per cent of women had taken some kind of tranquillising drug, compared with just 9 per cent of men. These patients, moreover, tended to be middle-class, well-educated, WASP housewives.

Women were determined to have the latest medical fashions, no different from wanting the newest television or washing machine.

With this in mind, I began my analysis of Kelly's Longitudinal Study, a long-term survey between 1935 and 1955 into the everyday lives of 300 initially engaged couples. The form included questions about the participants' mental health – how happy they were, whether they experienced emotional disturbances, whether they consulted a medical professional about their mental health – and how much alcohol they consumed. The participants were the suburban middle class, and the women tended to be well-educated; most were employed before their wedding but 70 per cent intended to give up work when they were married.



They were all living the all-American suburban dream, the personification of the domestic goddess – but on drugs.

The results of my research have been illuminating: women consistently rated themselves less mentally 'well' than their husbands, reported being less happy, and were far more willing to seek help. They preferred to see their doctor rather than a mental health professional, perhaps unwilling to expose themselves to gossip and rumour. This was an important trend since general practitioners and other medical professionals such as gynaecologists actually prescribed tranquilliser drugs more than mental health specialists – distributing up to 70 per cent of the total prescriptions. This was because they were often pressed for time, offering appointments of only around ten minutes, and they did not fully understand either the symptoms of the patient or the drug they were prescribing. Their husbands, although reporting themselves to be happier in general, still complained of emotional disturbances but were disposed to consume more alcohol than their wives as a release from stress – and when they did consult a professional, they were more likely to go straight to the top and speak to a psychologist rather than their GP. This helps to explain why women took so many more tranquillisers than men. Additionally, many husbands believed their wives were happier than they actually

were, under-estimating their wives' tendency to suffer from nervousness, anxiety and even severe depression. The lack of family sympathy for these women at home, coupled with feelings of isolation and loneliness in their marriages, seems to have encouraged them to seek relief elsewhere, especially at the doctor's surgery.

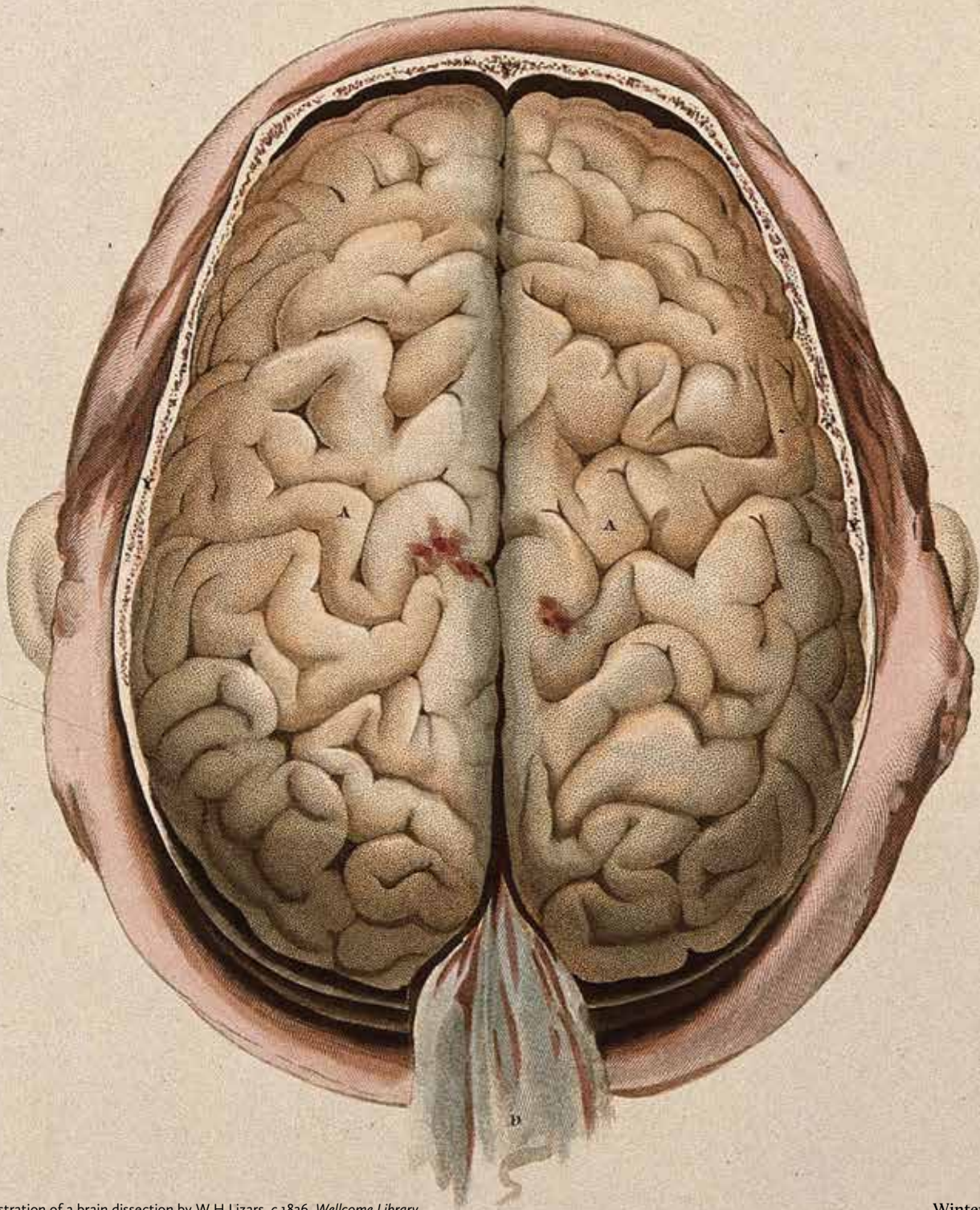
Today it seems startling to read that American women were prescribed tranquillisers twice as much as men even though they were not twice as likely to suffer from emotional disturbances. The housewives of the time were no more depressed or anxious than their modern counterparts, either. Instead, they were living in an era when these drugs were routinely celebrated and glamorised. Widespread prescription drugs were a reflection of general consumption trends by women determined to have the latest medical fashions, no different from wanting the newest television or washing machine. American cultural icons, beautiful images of the domestic goddess in so many contemporary adverts of the 1950s, seldom portray these females as regular drug users in a society whose darker medical side was the cultural norm.

Tessa Johnson has just completed her Master's in the history of medicine at the University of Warwick. She is currently researching regular drug use in postwar America, and she welcomes enquiries from anyone who can make a contribution to her studies (E tessa.johnsongo@gmail.com).

From anatomical dissection to poetic reconstruction

*The words that first jolted –
that still haunt me –
came from American anatomist Jim Walker –
his cheerful –
“Sure – but would you like to visit the lab
right now? We just unwrapped the heads.”*

It dawned on me then, a dangerous truth: if awarded this Faculty Fellowship in a Second Discipline, I'd have to take it. My application was to participate, as a poet, in the Indiana University Medical School's dissection lab on my campus at Purdue University. This is what prompted my conversation with Jim that day. At the same time, I



would be applying to take part in a life drawing class in Purdue's Department of Visual and Performing Arts.

Was I out of my mind? Yes. But wasn't that the point? I needed to get out of my mind – right? And where was that? I had no idea. Before long, the chance was offered. And take it, I did. No choice in the matter. It was too richly troubling not to do it. Too many unthinkable worlds would open.

This profundity befell me in 2008. I was given leave to spend 18 hours a week in class that autumn – 12 hours in Gross Human Anatomy, where, with 16 new medical students, I was issued a locker and scrubs and a copy of *The Dissector* – probably the most unsettling how-to manual on Earth. Mondays, Wednesdays and Fridays, it would be two hours of lecture followed by two hours of dissection – of staring, cutting, taking notes on the cadavers of those who had generously given their bodies for this purpose. Tuesdays and Thursdays, I took pencil, paper, crayon and my questionable skills into the Life Drawing class to try and try again to see on paper with the help of Grace O'Brien, crack artist in her own right. Models young, old, male, female, struck their poses statue-still.

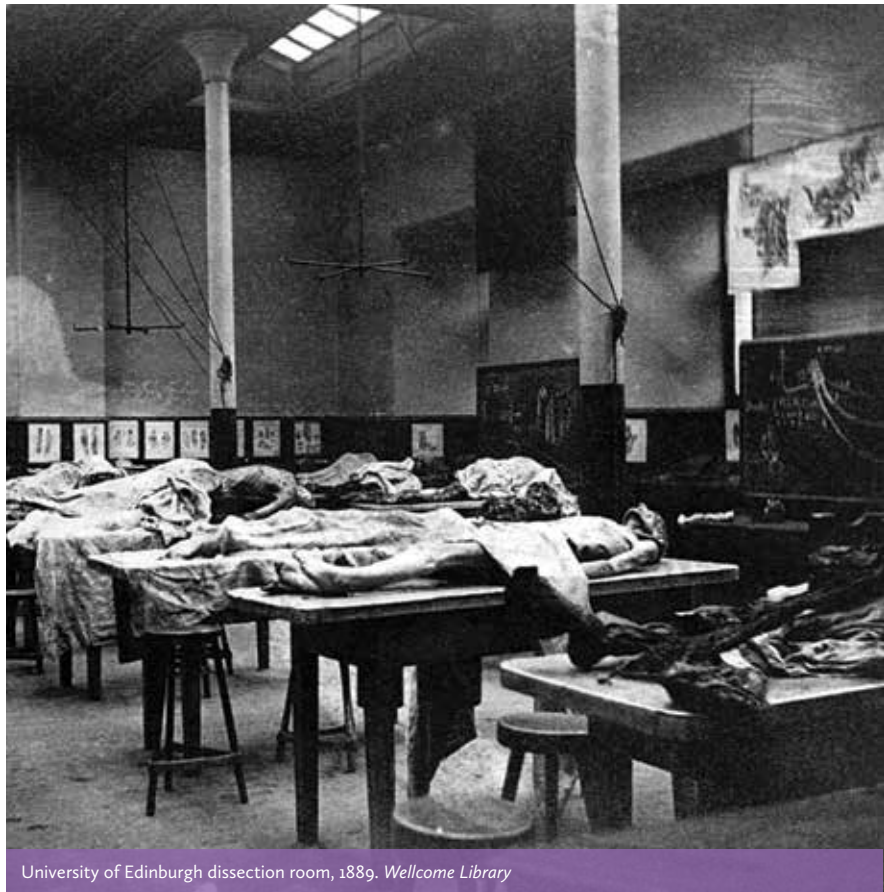
Bodies living and dead, from August into December: unnerved, overwhelmed, I made it home each day and wrote down what I could bear to put into words. In her remarkable book *Kyrie*, fellow American poet Ellen Bryant Voigt got it disquietingly right:

Have you heard a dead man sigh?
A privilege, that conversation.

Those notes I took? When I finally witnessed what my anatomy teacher had first offered – which I'd politely declined a year earlier – this is the entry I made in my journal:

14 November – Cadaver Lab.

The moment is huge: the day the heads are unwrapped – off with the soaked towels. But first, Jim Walker's lecture on head and neck, all the valleys in the bony concave of the skull, the holes in that bone where nerves and blood vessels thread, the layering of skin, bone, sub-cu, the brain stem out of which true cranial nerves emerge. As usual, I'm skimming the surface, barely holding on.



University of Edinburgh dissection room, 1889. Wellcome Library

Finally. We change clothes and enter the lab. The students just starting to take off the towels and there they are: four faces, turning these cadavers into human beings. How even to write about this? They're stunning. Beautiful, darkly radiant, so heart-stopping in their particularity. Here we were, all term, into every corner of their bodies with probe and scalpel, into the most private of places. It is only now – with the face – that they seem human, two women and two men with lives, childhoods somewhere back there, memories of afternoons, of evenings, years of sleep and dream, hard work, sorrow, deceit, remorse, joy, pride, indifference, anger. I can't get those faces out of my mind.

All have their heads shaved. A trace of beard is apparent, a gray fuzz on both men.

I ask Jim: "Does the hair grow after death, as Whitman says?"

"No," he says...

Everywhere the kids are at work, manning the circular saws, the smell of bone-seared, a kind of smoke in the air though not quite a haze. To lift out the brain is a complicated task.

It would be spring before the poems started. On sabbatical from Purdue and awarded a residency at the Rockefeller Foundation's Bellagio Centre in Italy, I began to write. Or was it really me? My favourite of the four cadavers (yes, one has favourites) was 100 years old when she died. Small, with pale blue eyes, she was unfailingly moving to me. I kept scanning my notes and then began. But the truth is she pretty much pushed me aside, insisting that she be the speaker, thank you very much! And speak she did, the poems coming quickly to make what eventually turned out to be a sequence of 32 more or less equal parts.

She had much to say – about her life and certainly the lab where she grew fond of the students and the teacher, having nothing but disdain for me, the nervy interloper, "the quiet one" who wanted "to put a caption" on everything. My cadaver slowly revealed herself, and such a wise-ass: wry and tender, by turns clearly furious, perplexed, always surprising me. She had lived on a farm and in town, educated in and largely out of school. Mostly she was trying to figure out the mystery of dissection itself – the what, and why, and how.

Here is one of those poetic pieces, triggered in part by the journal entry above but altered by my speaker's edgy grip on things:

My father loved to *reckon*. Reckon this, reckon that. By which he meant thinking. And my uncles, always *recollecting* -- about livestock or the war, about weather. That's a mulling back, to pull it out of pure dark until it stands still against all elsewise.

Here they memorize me until my parts could be anyone's -- that's the point, isn't it? -- though not the hands. They're mine completely, my oddball double-jointed thumb prized and passed down from my mother.

Like when they finally unwrap our wrapped heads in this horrid florescence, we are, perfectly, *not* one another. Yes, the quiet one says in her deliberate italics: *so beautiful, like those Renaissance drawings, exactly who they are...*

So, would Leonardo do me up this *exactly* -- excuse me -- that I'm left the most toothless, dumb-witted of hags? His charcoal crooks my head on its little stalk back -- no, not a flower. But some cobalt in his kit that day. A thin watery blue still floods each eye in real time.

Such beauties we are now -- yeah, sure. And until the quiet one figures everyone's sick of her saying it, she's *stunned*. Stunned!

Nothing like my own staring straight up --

Writing poetry is a private act. You do it alone, but it's tricky: too much wilfulness stops the lyric impulse cold. Hence W H Auden's insistence that reading a poem is to overhear it, an idea directly in line with Yeats's well-worn notion that this genre is "one's argument with the self" and not the world. Which is to say, forget the agenda; most poems begin with a stirring, a strangeness; you hang on, silencing the self, paying attention, not knowing what might come next. However important clarity might be, most poets don't start with thoughts of an audience, or worry how to engage that audience. Keats himself observed how we "hate poetry that has a palpable design on us".

But my cadaver wanted to argue with both self and world, to have her say, to be a point of reference between the living and the dead. Surely the muted shock of the dissection lab had deranged me: my speaker's words seemed to come through me, not from me. I was beginning to think like a fiction writer whose characters darken and charm, take over, change the life of the one who imagines them. Or I was starting to see in my blurry side vision the

human importance of poetry as conduit, an underground passage through medicine's cool, meticulous curiosity.

My cadaver soon went public. The following fall at Purdue, a group reading of the sequence took place before a large, enthusiastic audience. My fellow presenters were volunteers, my poetry students in the Master of Fine Arts programme in English and some of the medical students who had dissected that cadaver a year earlier. Thus half of my readers had known my speaker first hand, by heart, and seemed duly pleased, if startled by her transformation. As for the sequence apart, in the world, it ran in *The Georgia Review* in 2010, earning a media award for that journal.

Was I out of my mind? Yes. But wasn't that the point? I needed to get out of my mind – right?

Fast forward to Scotland then, January through June last year, where I was warmly welcomed as a Fulbright Visiting Professor by Professors Dorothy Miell, Jo Shaw, James Loxley and Alan Gillis, and Janet Rennie in the University of Edinburgh's College of Humanities and Social Sciences, together with Professor Susan Manning at the Institute for Advanced Studies in the Humanities. Among other things, I hoped to complete my eighth collection of poems – *Cadaver, Speak* – a book taking its name from the sequence, though the first half of the manuscript remained an unruly thing, poems or almost-poems also about the body but cast in my own voice.

I had assumed the long poem was almost finished but I'd have another chance to understand what was at stake. A second group reading of 'Cadaver, Speak' was on the docket, this time in the most perfect venue on the planet, the Old Anatomy Lecture Theatre in the University's Old Medical School. Through a courtyard, up a flight of stairs, one goes slack-jawed in wonder upon entering that vast, vaulted room, all wood and superb acoustics, high ranked seating in the classic half-round style befitting an anatomy theatre of the late 19th century. Who had peered down from those seats to whatever bodies were dissected and studied so closely? Conan Doyle, for one, I was told. Such silence now; mysterious, enormous. This is it, I said to my husband, who had come with me to check out the room, both of us looking up to absorb the austere beauty of the place and, as was usual for us in Edinburgh, the great fortune of our being there at all.

I was teaching a Master's-level poetry workshop at Edinburgh. Four of my students plus two other poets in the PhD programme in English were willing to do this mad thing, read with me for 'Cadaver, Speak'. Luckily I had also fallen in with a group of extraordinary medical students meeting rather clandestinely in whatever spare room they could scavenge each Monday evening to discuss literature, poems and stories they found involving medicine and illness. They brought Ted Hughes to our attention, F Scott Fitzgerald, John Updike, among others. I added Tom Andrews, Tony Hoagland, Lucia Perillo, Tomas Tranströmer, of course doctor-poet William Carlos Williams. The medical students deeply impressed me, their hunger to read on their own together with no thought to academic credit, well beyond the course some had taken in the medical humanities programme.



Andreas Vesalius. Lithograph by A Mouilleron after E J C Hamman, 1849. Wellcome Library

It is *how* they read that so engaged me – for empathy, yes, to see and feel from an inside perspective, to narrow the gulf between doctor and patient. What wasn't predictable was the way the very tools of poetry informed them about medicine itself. Sylvia Plath's famous 'Tulips', for instance, set in hospital, written with a painful recovery in mind, fiercely morphed those gift flowers at bedside into "sudden tongues" and "red lead sinkers"; they opened "like the mouth of some great African cat" – images that take fear and define it, even control it. I asked the students if diagnosis worked as metaphor does, a habit of knowing, of *finding out* in a more surprising sideways way, an obsession of mine for months now. Four from the group volunteered for 'Cadaver, Speak'. So my readers would again be young poets and young doctors-to-be.

We got to work. Over biscuits and fruit at our first meeting, we read through the sequence. I'd assigned three sections to each, taking on the first and last bits myself, my cadaver's voice shared among us, her wily take on this collision of past, present and future by way of the dissection lab. Their voices – Scots in the group, others from England, a Chilean, an American – layered and laced in almost musical ways. Any apprehension I had about their being understood (given my clueless American ear) quite dissolved when I realised the obvious: those listening would be Scottish, English, and full up to exhaustion with television and films from the USA. They'd know these voices, even relish the various inflections. The students and I met individually too, discussing what and how they would read,

imagining my cadaver's words before such an audience and in such a place.

Then we didn't have to imagine. "The simplicity of just having us reading it, combined with the history of the location was very powerful," Francesca Heard, one of the medical students, reflected later. But simplicity isn't so simple. In a late rehearsal, we were wisely advised by theatre scholar Professor Olga Taxidou, who urged the shyer readers to find one or two moments in each piece to pause, to look up or shift their voices in order to draw in their listeners, even as she praised their crucial, quieter thread in the weave, as compelling as the sound of those already confident on stage. I had worried about my more timid readers, whether they would reach the audience at all. Here Olga was telling them to cherish their uncertainty but to throw in points of contrast, to heighten its poignancy. Nuance and shading were key, the riveting thing. I learned much that afternoon, as teacher, as writer – about going *with* the grain, not completely against it, about tonal range and variation, about the human complication I'd hope for in my speaker, her reserve of courage and strength coming through in ways at times more hidden, through hesitation, second thoughts.

Clare English of BBC Scotland had questioned me about 'Cadaver, Speak'. Later it was edited for radio by Serena Field. The taped interview took place in Edinburgh's remarkable Surgeons' Hall Museum, whose director, Emma Black, had graciously opened it to us. We spoke among shelves of ghostly jars – knee joints and ribs and damaged hearts floating eerily in their elixirs. I invited our listeners to the reading.

People did turn up, about 150 that night: medical professionals, students of every stripe, artists, scholars, writers and teachers, others from the community, Edinburgh and even farther afield, who had heard about the reading and got curious. Many lingered on at the reception to share their experiences in medicine and beyond.

We played Bach at the start, and a bit of Arvo Pärt's poignant 'Spiegel im Spiegel' via cello and piano, after Dorothy Miell, Vice Principal of the University, made her remarks.

Then the sequence came to life, into present tense. Russell Jones, one of the poets, recalled that "reading at 'Cadaver, Speak' was a process of realisation. All merged to create a sense of disturbance, acceptance, sadness, joy." One by one, we readers took turns channelling my speaker who looked inward and askance in exactly the spot so many before her had been dissected and undone.

But we were putting her back together, in her own words.

Marianne Boruch, a former Guggenheim Fellow, is a Professor of English at Purdue University in West Lafayette, Indiana, where she developed the MFA Program in Creative Writing, serving as its first director for 18 years. Her published work includes: seven poetry collections, most recently *Grace, Fallen from* (Wesleyan, 2008) and *The Book of Hours* (Copper Canyon Press, 2011); two collections of essays on poetry; a memoir, *The Glimpse Traveler* (Indiana, 2011); and poems in the *New Yorker*, the *London Review of Books*, *Poetry*, the *Edinburgh Review*, *Poetry London*, *Poetry Review*, *Paris Review*, *American Poetry Review* and elsewhere. Her eighth collection of poems – *Cadaver, Speak* – is forthcoming from Copper Canyon in 2014. She hopes to return to the UK when *Cadaver, Speak* is published, to give readings and workshops, and do further writing and research. Extracts from her current work have been copyright cleared by *The Georgia Review*, 44:2 (2010). She can be contacted via email (E mboruch@purdue.edu).

Rediscovering medical history through ancient texts

Galen's commentary on the Hippocratic Epidemics

Simon Swain and Uwe Vagelpohl

Philiscus lived by the wall.

He took to his bed with acute fever on the first day and sweating; night uncomfortable.

Second day. General exacerbation, later a small clyster moved the bowels well. A restful night.

Third day. Early and until mid-day he appeared to have lost his fever; but towards evening acute fever with sweating; thirst; dry tongue; black urine. An uncomfortable night, without sleep; completely out of his mind

Fourth day. All symptoms exacerbated; black urine; a more comfortable night, and urine of a better colour.

...

About mid-day on the sixth day the patient died.

Background: Wellcome Library

This is the beginning of a medical case history that dates back to the fifth century BCE. It is preserved in the first book of a Hippocratic treatise entitled *Epidemics*. It describes the short and ultimately fatal disease of a man named Philiscus, an inhabitant of the Greek city of Thasos on the island of the same name. We follow the progression of his illness through the eyes of an anonymous observer who records various symptoms for each day. Other than that he lived in Thasos by an otherwise unspecified “wall”, the case history apparently offers little information about Philiscus himself. There is, however, more to his story. Thanks to a brief reference elsewhere in the *Epidemics*, we also know that he was the son of a man named Antagoras. Making these fragmentary connections takes us from ancient texts to a lost medical history awaiting rediscovery.

Contemporary inscriptions from Thasos tell us that this Antagoras held a ceremonial office in his town in the late fifth century BCE. Antagoras also happened to be the son of another patient discussed in this book, the (unnamed) wife of Epicrates. This name is again amply attested in inscriptions of the time, which list the political positions he held. In conjunction with these inscriptions, the *Epidemics* gives us a broad picture of Philiscus. He was a member of a prominent family in town, with a father and grandfather who held ceremonial and political office. Philiscus and his grandmother were both treated by the same physician (or group of physicians) who compiled the set of case descriptions from Thasos that figure prominently in the *Epidemics*. It is tempting to think of this physician (if he was indeed the same person) as a family doctor who attended to several generations of the family. The treatment Philiscus received was apparently limited to a clyster on the second day. His physician otherwise seems to have monitored the disease without intervening any further.

This case illustrates the kind of information we can recover from ancient medical texts. This one offers hints, not just about the diseases he and his contemporaries suffered from – in this case, probably malaria – and the treatments they received, but of the personal circumstances of the patient and the relationships between the inhabitants of this small but prosperous city-state in the Aegean Sea. In combination with archaeological findings from the site of ancient Thasos, we are even able to pinpoint the probable residences of some of the patients mentioned in the *Epidemics*.

In a wider sense, Philiscus' case demonstrates the crucial role played by texts. They are our most important (and often only) source of information about medical practice, notably in terms of theory and the social history of

medicine from Antiquity to the Middle Ages. Recovering and interpreting ancient and medieval medical texts is crucial for understanding how medicine was practised in the past and how it impacted on people's lives. None of this is new or surprising. Texts have always been pivotal keys to the past. Yet before the medical historian can turn the key and open the door to a better understanding of older forms of basic healthcare, it is vital that the key first be found.

The task of recovering a text can be as complex and convoluted as writing medical history itself. Few texts are better suited to illustrate this process of discovery than one currently being edited and translated with the generous support of the Wellcome Trust: the Arabic version of Galen's commentary on the Hippocratic *Epidemics* from which we have quoted Philiscus' case history. To understand its significance, let us return to the *Epidemics* to retrace its fascinating history.

The Hippocratic corpus is a set of ancient Greek medical treatises written by a number of different authors and transmitted under the name ‘Hippocrates’. Together they mark, in many respects, the beginning of medical history. They remained reference texts for medical theoreticians and practising physicians for more than two millennia. One of the most important components of this corpus is the seven books of the *Epidemics*. These contain a broad range of disparate material, including numerous case histories, observations, medical maxims and prognostic advice.

The often very detailed case histories, some of them precise enough to identify the underlying disease, are particularly fascinating. They were without precedent at the time. In many respects they continue to represent a milestone in the transition from archaic medicine, in which illness and healing were attributed to magical or divine influences, to ‘rational’,

Physician talking to a patient with servants preparing medicaments. Persian cover of Avicenna's *Canon*, 1632. Wellcome Library



evidence-based medicine, in which diagnosis, prognosis and therapy relied on empirically verifiable indicators. It is not a coincidence that this transition to some degree coincided with the transition from oral to written modes of recording and teaching medicine.

Many ancient medical authorities were drawn to this text and commented on it, and they already drew distinctions between supposedly authentic and inauthentic parts of the *Epidemics*. According to the celebrated Roman physician Galen (d. c.216 CE), only Books 1 and 3 were written by 'Hippocrates'. He regarded Books 2 and 6 as compilations of authentic Hippocratic material produced by Hippocrates' son Thessalus, and dismissed Books

4, 5 and 7 as inauthentic. Galen also wrote an extensive commentary on the books he deemed authentic. Among his many commentaries on Hippocratic writings, this is his longest and one of his most important.

It took the form of a lemmatic commentary: Galen quoted a small portion of the text (a 'lemma'), commented on it and then proceeded to the next lemma. In this way, he incorporated almost the complete text of the *Epidemics* in his book. Galen's commentary played a crucial role in the history of the Hippocratic text. It drew on numerous Hippocratic manuscripts and was informed by many of his predecessor's writings, most of which are now lost. Essentially Galen provided

readers with the context and theoretical background he thought necessary to interpret Hippocrates' often abbreviated and obscure statements.

In his comments on the case of Philiscus, Galen explains at length that the fatal outcome was obvious early on. He then explains why in his view the patient died on the sixth day of his disease, rather than any other day, and clarified some of the terminology Hippocrates used. The theoretical context in which Galen situates Philiscus' case was humoral medicine and the system of critical days that punctuate the course of diseases and determine their development. While these concepts do indeed appear in some Hippocratic writings, it was Galen who personally moulded the often diverging strands of medical thought represented in this and other Hippocratic texts into a consistent theoretical system. This system was to remain the almost universally accepted medical paradigm until well into the 19th century.

Thanks to its comprehensiveness and theoretical sophistication, Galen's commentary quickly supplanted older, rival writings on the *Epidemics*. It also became an important vehicle for the transmission of the Hippocratic text itself. Syriac and Arabic scholars, for example, came to know the *Epidemics* only as part of translations of Galen's commentary.

Today we are in the unfortunate situation that the Greek original of Galen's commentary has not survived complete. Of the four books Galen commented on, two are extant in full (1 and 3), three-quarters of Book 6 are extant, and we only have fragments of Book 2. In addition, the reconstruction of the extant Greek text of the commentary has been complicated by the poor condition of the Greek manuscript sources. On the other hand, we have a witness for Galen's text that has been preserved intact: a medieval Arabic translation.

The commentary was translated into Arabic in the mid-ninth century, based on a Syriac intermediate version. The translation formed part of a comprehensive effort (from the second half of the eighth century to the second half of the tenth) to make the entire Greek medical, scientific and philosophical heritage available in Arabic. The author of this particular translation was the celebrated Hunayn ibn Ishāq (d. c.870), an accomplished

translator and practising physician. This text was only one of more than 100 Galenic works Hunayn translated into Arabic. It is not uncommon for an ancient Greek medical text that has been lost partially or completely to survive in an Arabic translation; this illustrates the importance of the Arabic 'transmission channel' for ancient medical knowledge.

Each text made available to historians becomes a key to not just one but many doors.

Obviously, the parts of the commentary that are lost in Greek are particularly interesting, not only in themselves but also as sources for other lost ancient medical texts. For example, by discussing variant readings and quoting interpretations of the Hippocratic text from a variety of sources, Galen's commentary preserves material from or about other ancient medical authorities that is otherwise lost. Beyond preserving lost Greek material, the importance of the Arabic tradition of this commentary also rests on the fact that it was based on Greek manuscripts several centuries older than the relatively late manuscripts available to us and to the Renaissance scholars who prepared the first printed editions of the Galenic and Hippocratic corpus. Hunayn translated Galen's commentary on the *Epidemics* around the mid-ninth century from a Syriac version that was produced slightly earlier. This means that the Greek manuscripts available to the Syriac translator (which may also have been used to proof the Arabic translation) date at least to the first half of the ninth century and are therefore 300–500 years older than the Greek manuscripts of the commentary that have come down to us. The inferior quality of the Greek text preserved by these manuscripts shows how a text can suffer during such a long time: manuscripts deteriorate or become damaged; succeeding generations of copyists commit errors; some misread their sources or attempt to 'correct' a text; or, as happened with parts of this commentary, they were physically lost in Greek because general interest declined and texts were simply not copied any more.

In the case of the Hippocratic text embedded in the commentary,

another development led to further modifications. Late medieval scribes sought to harmonise the differences between the text of the *Epidemics* transmitted inside the commentary and the independently transmitted Hippocratic text – but the Hippocratic lemmata preserved in the Arabic translation hand antedate this process of textual cross-contamination.

None of this would matter much if the Arabic translator had not also been a very careful philologist and an expert in Hippocratic and Galenic medicine. We know about Hunayn's methods from his own writings, in which he described the painstaking process of collecting Greek manuscripts from all over the Middle East and then carefully collating and translating each text. The resulting translations are so close to their Greek original that they have become invaluable witnesses for modern scholarly editions of the Greek text of many Galenic works.

Besides serving as an important source for reconstructing the Greek original, these Arabic translations are also a crucial source for medical history in their own right. Embedded in Galen's commentary and in the context of his interpretation, the Hippocratic *Epidemics* exerted a widespread influence on medical theory and practice in the Islamic world, especially in the nascent field of clinical medicine. Numerous Arabic medical authors discussed and quoted it; together with other texts, the commentary became the starting-point for original research in all medical fields. It became particularly prominent in contemporary medical teaching, for example in the form of abridgements and summaries in question-and-answer format, which were frequently referred to by later medical scholars. Medical practice in Islam especially profited from the Hippocratic case histories and their explanation by Galen. They inspired similar collections of medical observations by the prolific medical author and practitioner al-Rāzī (d. 925) and others. The discoverer of the pulmonary circulation of the blood, the Damascene physician Ibn al-Nafīs (d. 1288), wrote an entire commentary on the Hippocratic *Epidemics*, based on lemmata extracted from Galen.

The usefulness of the Arabic version of Galen's commentary is not limited to medical history. It also promises advances in other fields, for instance

the history and theory of translation. Many details of the history of the Greek–Arabic translation effort, of which this text formed only a small part, are still unknown. Unlike many other translations, this one is securely dated and, on the basis of internal and external evidence, firmly tied to Hunayn. Analysing this text, its terminology and its style will produce important results for the study of Greek–Arabic translations, the development of translation methods and the evolution of a stable Arabic medical and scientific terminology.

The philological work involved in recovering this and similar ancient and medieval texts is fascinating in itself and important for the history of medicine and science. Each text made available to historians becomes a key to not just one but many doors: medical history, social history, the history of ideas, translation, the transmission of knowledge across chronological, linguistic and cultural boundaries, and others. The Arabic medical tradition in particular promises exciting new findings: a large number of medical texts, ranging from translations of Greek material to textbooks, manuals of medical practice and treatises on a wide range of topics, remain unedited and understudied.

Other ancient and medieval medical texts may still await rediscovery: the holdings of numerous libraries in the Islamic world remain sporadically documented or entirely uncatalogued. It is tantalising to think that they may yet hold many more unique medical sources, including more translations of ancient Greek texts that have been lost in the original.

Dr Uwe Vagelpohl studied philosophy, Arabic and Islamic Studies in Bamberg, Cairo and Berlin before completing his PhD in Middle Eastern Studies at the University of Cambridge. He has held research positions at the University of California at Berkeley (2004–05) and Hampshire College (2005–08). He is currently a Wellcome Trust-funded Project Researcher at the University of Warwick, working on an edition of the Arabic version of the first two books of Galen's commentary on Hippocrates' *Epidemics* with the help of Professor Swain. **Professor Simon Swain** works on the Greek culture and society of the Roman period. He has specific interest in the transformation of Greek culture in the later Roman Empire, and in the Arab legacy of Greek thought. He is currently Head of the Arts Faculty at the University of Warwick and was for many years Head of the Department of Classics and Ancient History. He welcomes enquiries from all those interested in the rediscovery of ancient medical texts (E.s.c.r.swain@warwick.ac.uk).

Johanna's Miracle Garden

Making a play from a recipe book

Sophie Cummings and Elaine Leong

Lydiard House, the ancestral home of the Viscounts of Bolingbroke and the St John family, is a classic Palladian villa on the western edge of Swindon. On a warm August afternoon in 2012, a public audience crowded into Lydiard's beautiful walled garden for the opening of *Johanna's Miracle Garden*. Starring local teenagers, the play told the story of Lady Johanna St John's 'cure for all ills', written in her 17th-century recipe book, a prized family collection of handwritten household cures.

Lady Johanna was a fascinating and formidable woman. She combined running her household, raising her children and entertaining the King with compiling her book of medical cures. The play and other related activities brought art, history and medical science together to provoke interest, learning and debate about the historical and social origins of modern medicine.

Playwright Mike Akers weaved together early modern medical theory, historical fiction and comedy to create an enchanted world where brainy alchemists, hippy herbalists and spooky superstitionists all competed to deliver the ultimate panacea. The winning cure would not only be used to heal Johanna and her children but also be given pride of place in her recipe book. Akers's light-hearted dialogue gives a flavour of the play:

Hardyman [Steward at Lydiard]: George, what does it say in the booke?

George [Household servant]: To treat malignant infection, strap a dried toad under each armpit, this will draw out swelling and gradually conquer the infection.

Hardyman: Has it been tried before?

George: It doesn't say.

Hardyman: Ah well. Lads, the toads please!

As audiences followed each therapeutic attempt, they encountered ancient medical authorities, early modern

medical writers, and historical characters from 17th-century Lydiard. Galen and Hippocrates rubbed shoulders with Paracelsus, in the hands of Thomas Hardyman, steward at Lydiard in the 1650s, who assisted Johanna in preparing the household cures. Funded by a Wellcome Trust Small Arts Award, *Johanna's Miracle Garden* is the first in a suite of public engagement events, 'Science and Superstition', designed to bring to life the medical history of Lydiard House and the St John family. Participants encountered the domestic world of a renowned society hostess as a medical practitioner, creating new and wider audiences for the latest research.

At the heart of this community project is a small battered leather-bound notebook. The recipe book is filled to the brim with instructions for making a wide variety of medical remedies addressing all sorts of ailments and sicknesses, from agues to coughs and fevers. This treasure trove of health-related knowledge was compiled by Johanna during the second half of the 17th century. Typical entries include everyday cures for common ailments like nosebleeds, showing a trial-and-error style of household medicine:

For Bleeding at Nose

The Haire of the party burnt or the stink of a candle newly put out

For Bleeding at Nose

A sheet of white paper, wett it in vinegar & dry it in an oven – when it is dry, wett it again and dry it is as before, so doing 3 times, then make it into a powder and snuff up some of it into the nose, often, as well, when it does, and when it bleeds

The book was highly prized by Johanna, who, in her will dated March 1704, bequeathed this "great receipt book" to her daughter Lady Anne Cholmondeley. Early modern recipe books are common finds in British and North American archives, but what makes this one so

unusual is that it is accompanied by a rich archive of contextual information.

Johanna was the eldest daughter of Oliver St John, a prominent Parliamentarian and supporter of Oliver Cromwell. Johanna (1631–1705) married her distant cousin Sir Walter St John, MP for Wootton Bassett and Wiltshire. Sir Walter and Lady Johanna divided their time between their mansion in Battersea and their country estate, Lydiard House. Remarkably, an extensive set of correspondence between Johanna and her Lydiard steward, Hardyman, has survived. These letters indicate that Lydiard Park, far from being simply a summer home for the St Johns, supplied them with all sorts of foodstuffs, from fruits, herbs and flowers grown in the gardens to cheeses, butter and poultry from the nearby farms.

The play provoked debate about the historical and social origins of modern medicine.

Most interestingly for historians of medicine, the correspondence also reveals that Johanna was in the habit of sending recipes gathered from her London acquaintances to be made up at Lydiard Park, where she relied on a team of expert distillers and herb gatherers. When taken together, Johanna's great receipt book and letters reveal complex networks of lay medical knowledge among female family members and thus paints a vivid picture of medical activities in an early modern English country house.

In early 2010, the team at Lydiard Park began exploring ways of bringing Johanna, her incredible medical interests and health-related activities at Lydiard to a wider audience. Theatre seemed an entertaining and interactive way of sharing Johanna's story, and the Lydiard team joined up with Sixth Sense and Swindon Youth Theatre to create an original



Performing a herbal cure from Lady Johanna's recipe book at Lydiard House. By kind permission of Lydiard House & Park

play targeted at family audiences. The result was *Johanna's Miracle Garden*. Just as Johanna's "great receipt book" is the fruit of a series of collaborative knowledge-making ventures, this project was also driven by collaboration and teamwork.

Initial research was carried out by a team of Lydiard volunteers, many of whom were members of the National Association of Decorative and Fine Arts Societies. They were already well versed in local history and demonstrated great enthusiasm to expand their knowledge of medical history. As some of the project's most ardent advocates, they have produced a complete transcription of Johanna's book. The new searchable electronic text provides innovative research avenues for academics and other interested readers. Inspired by the great receipt book and Johanna's story, one particular volunteer, Kirsti Robinson, carried out a lot of preliminary research and continued her investigation into the recipe ingredients when work took her to Saudi Arabia. The Lydiard team also brought a number of academics on board. Elaine Leong (now based at the Max Planck Institute for the History of Science, Berlin) joined the team as a historical consultant, sharing her knowledge on early modern recipe books and household medicine. Professor Timothy Peters (University of Birmingham) joined as a medical adviser and brought his wealth of experience and expertise on early modern learned medicine. Dr Clare Hickman (University of Oxford) shared her wide knowledge of early modern garden history and botany.

At the beginning of January 2012, this diverse collection of people gathered together to translate Johanna's medical activities into a play. Volunteers and academics contributed interesting historical facts and stories. The Lydiard gardeners offered advice on the varied plant species *in situ* and on how to fully exploit the physical space of the walled garden. Finally, Sixth Sense and playwright Mike Akers shared their rich experiences of running youth and family theatre. The lively discussions ranged widely: from the coffee trade and gruesome stores of resuscitation to the layout of herbal gardens and the cost of turkey meat in 17th-century England. Building on these discussions, Akers and the Sixth Sense team then ran a series of workshops in schools and with Swindon Youth Theatre to develop leads for the narrative and characters. These varied strands of ideas then formed the basis of Akers's script.

In mid-August, 30 teenagers from Swindon transformed into historical characters from early modern England. Supported by a backstage and front-of-house crew of 20 community volunteers, our young actors' efforts to bring *Johanna's Miracle Garden* to life were watched by almost 400 theatregoers. Members of the audience reported that they found the play both entertaining and educational.

Johanna's Miracle Garden has been a fantastic start to our projects in the 'Science and Superstition' series. We are continuing to investigate and share Johanna's story through exhibitions, lectures and family activities. In July 2012, young children were treated to a

series of lively and, at times, gruesome reconstructions of the recipes as an introduction to early modern medicine. These included plastering children with make-up to simulate smallpox and jaundice, as well as getting them to search the garden for curative plants. In autumn 2012, the team organised a recipe-themed bubbling potions hunt at Lydiard House. For a more mature audience, we have a new exhibition on Johanna's fascinating life story. The exhibition, from March to June 2013, highlights her medical skills and is put together by our team of volunteers and graduate students working in the history of medicine. And from March to May 2013, we are offering a lecture series on early modern local history, history of medicine, history of gardens and more.

Our quest to bring Johanna's work and early modern medical recipes to new audiences does not end here. The lengthy transcription of the recipe book now forms the basis of a new international collaborative digital humanities project based at the University of Saskatchewan. Funded by the Canadian Foundation for Innovation, 'Recipes: Food, Medicine, Magic and Science' is run by Frank Klaassen, Laura Mitchell and Lisa Smith at Saskatchewan and by Elaine Leong in Berlin. The project aims to create a one-stop digital hub for studies of pre-modern recipes. It will use crowd-sourcing technology to construct an online open-access corpus of transcribed recipe texts from the medieval period to the present. The Lydiard volunteers' transcription of Johanna's book serves as the first test case for this ambitious endeavour. As 'Recipes: Food, Medicine, Magic and Science' prepares to go live in mid-2013, it is heartening to know that Johanna's book and the Lydiard Park team's vision of bringing it to wider audiences will reach new readers across the digital world. Do get in contact with the team if you have something to contribute too.

Sophie Cummings MA is the Collections Manager at Lydiard House and Park, Swindon, Wiltshire, which opens its doors to more than 15 000 visitors every year. Find out more at www.lydiardpark.org.uk or by emailing (E.lydiardpark@swindon.gov.uk).

Dr Elaine Leong holds a Minerva Professorship at the Max Planck Institute for the History of Science, Berlin. She was previously a Wellcome Trust-funded research fellow at the University of Cambridge. She is currently completing a monograph on recipes and household medical knowledge in early modern England (E.leong@mpiwg-berlin.mpg.de).

Stories from the sharp end

Human expectations and experiences of cancer research

Catriona Gilmour Hamilton

A letter to British Empire Cancer Campaign in June 1967 contained the following bold offer:

I have, after much careful thought and deliberation, arrived at a resolution which, it is hoped, will provide a certain amount of real assistance to your organisation while enabling me to do something worthwhile with my existence...

I propose to offer my body to medical science for use in its battle against cancer.

It may be that experimentation on a living human organism might provide medicine with a useful step forward such as could not be achieved so rapidly otherwise. ...it seems obvious to me that a living human body used for such a purpose could help tremendously in bringing forward the date when the disease will be conquered.

In the past, as this poignant letter illustrates, the offering of a body for cancer research did not always imply that the donor had to be deceased. The author in this case was a healthy middle-aged man inviting medical science to use his living body in the fight against cancer, suggesting that doctors cultivate cancers in his healthy flesh for the purpose of testing treatments and understanding how specific cancers develop. Surely, he believed, a human body would offer greater potential than that of a laboratory rodent. And he was not alone. The British Empire Cancer Campaign received many similar letters from people in the postwar period who were eager to offer themselves as ‘human guinea-pigs’ – a phrase that many correspondents used at the time when talking about themselves.

The histories we write furnish us with assumptions about the immediate past, even about the period many of us have lived through. I am a PhD

student now researching the culture of my earlier working life as an oncology nurse. In my investigation of experiences of cancer research in postwar Britain, I have found that the archives of voluntary organisations – those, like the British Empire Cancer Campaign, explicitly charged with public engagement – offer valuable and balanced perspectives on questions of public expectations, motivations to participate in research and personal experiences of clinical trials. The voices of those at the receiving end of cancer research can often challenge our assumptions about the recent past and our ethical standards in cancer studies.

Historians of medicine have argued that, by the 1950s, high-tech biomedicine had become something of a secular religion, the cure of cancer its ultimate goal. The British public, in thrall to a feverish cancer phobia, was acutely vulnerable to promises of hope and progress. Cancer was a diagnosis associated with imminent death, and in the days before sophisticated palliative care, such deaths could be acutely distressing. Public anxiety, inflamed by everyday metaphors about the ‘cancer-battle’ and sometimes reinforced by bitter, painful experience, generated great enthusiasm for the cancer research enterprise.

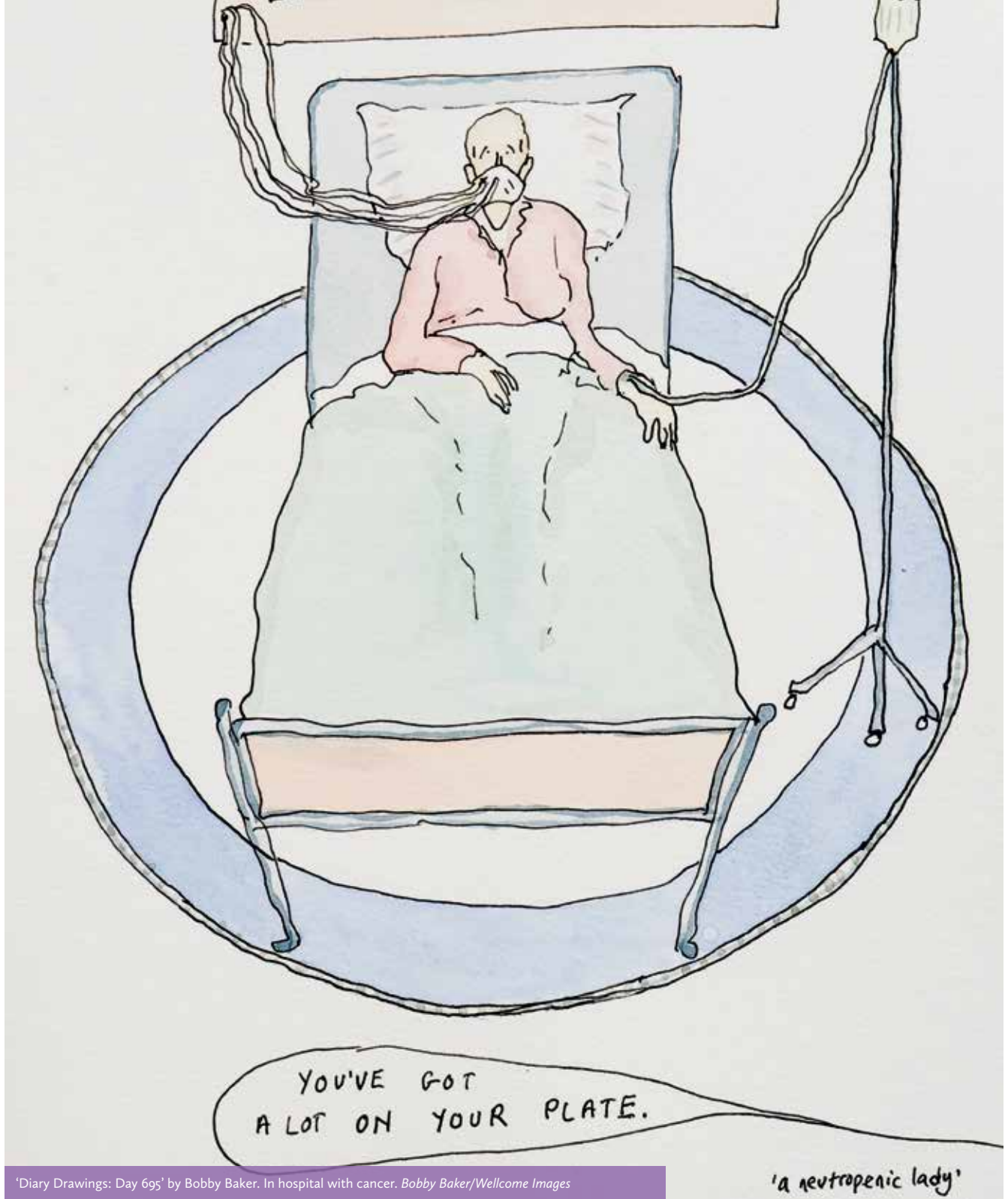
For a generation recently emerging from World War II, participation in cancer research was often framed in terms of moral and civic responsibility. Offering one’s body for the greater good of medical science was seen as an act of altruism. For some, it was a form of penance for a life lived to excess (not those that smoked or drank heavily but instead people who had lived life in the fast lane and been lucky enough to escape bad health); for others, it was an offering in lieu of a financial donation. Generally, it was a way of making oneself useful to society or a means to alleviate feelings of guilt at the suffering of others.

Today, historical research explores assumptions about all participants in research: not just the exploited,

but the willing volunteers too. This is because recent histories of medical research have tended to concentrate on the ethically questionable use of the vulnerable, those – like children, the poor, prisoners and military personnel – who were often marginalised or disempowered. It is fitting that the history of medicine investigates the most unscrupulous types of medical research; however, we also need to be aware of the methodological issue of examining a relatively narrow cross-section of people, portrayed as passive research subjects. There is another, more general history of the research volunteer to be written too: one that examines individual agency and choice for those that wanted to be research subjects. It is possible to overlook or misunderstand the enthusiasm with which some people volunteered themselves, the attractions of partnerships with medical practitioners, and the personal satisfaction of offering one’s body for instruction and scrutiny.

Of course, this is not to suggest that in the 1960s the British Empire Cancer Campaign took up the offers of healthy living bodies. It responded with a standard letter pointing out that it would be “entirely contrary to the ethics of the medical profession to conduct experiments of the nature you propose”. Besides, cancer research was increasingly geared towards the production of evidence about new therapies and technologies. The ‘war against cancer’ applied an industrial principle to medical science, and it needed the participation of people with cancer to form cohorts for randomised controlled trials.

The demands of robust scientific methodology – empiricism, objectivity and the avoidance of bias – were, it was believed, impossible to explain to vulnerable patients, so enrolment in a trial was seldom explained in advance. It is one of the ironies of the history of cancer that the ethics of the medical profession, which held eager volunteers at arm’s length, were invoked to keep



'Diary Drawings: Day 695' by Bobby Baker. In hospital with cancer. Bobby Baker/Wellcome Images

actual research participants in the dark about their role in a clinical trial.

Histories of medical ethics might lead us to assume that informed consent became enshrined in research practice with the Declaration of Helsinki in 1964. In fact, new research shows that until very recently people taking part in cancer clinical trials often did so unknowingly. Against a backdrop of social anxieties about cancer, British doctors generally maintained an acute ambivalence about disclosing a cancer diagnosis. Many health professionals believed it was their

ethical duty to protect an individual's psychological wellbeing, even if this meant deception. It was feared that to reveal the truth about cancer would rob the individual patient of hope, causing irreversible psychological distress. Consequently, until well into the 1980s, people diagnosed with cancer were often kept ignorant of the true nature of their illness in the interests of preserving their wellbeing.

These complex situations often made informed consent for participation in a clinical trial difficult to obtain. Not only would

it be necessary to disclose the diagnosis, but the doctor in question would have the unpalatable task of explaining that the best course of medical treatment was uncertain. This could compound potential anxiety and – perhaps more pertinently – risk a loss of faith in the medical profession. Often it was judged to be better to proceed without consent. Randomised trials thus took place under the guise of routine therapy, with patients ignorant of the fact that they were taking part in a research project. This situation persisted partly

because the UK, unlike the USA, had no explicit legal requirement for informed consent to medical research, but it also persisted because of the contingencies of principle.

Research ethics committees (RECs) were established during the 1970s, in theory to protect NHS research subjects. In practice, they offered scant guarantee of informed consent for cancer trials. Geographically patchy, and typically without lay membership, RECs invariably placed doctors in the positions with the most influence. These were doctors working to an individual code of medical ethics that was occasionally at odds with broader bioethical principles. Committees would defer to individual doctors' interpretations of good ethical practice, including in some cases accepting that obtaining informed consent was impossible and contrary to the interests of a patient's psychological wellbeing. This allowed some types of cancer research to remain undisclosed and yet continue with REC approval.

There is strong evidence that this situation persisted until as recently as the 1980s. On the BBC's *South East at Six* broadcast of 27 July 1982, for example, Hugh Scully introduced a report concerning the death of Mrs W, an otherwise sprightly 84-year-old woman who had died after the administration of a drug that was being tested for treating bowel cancer. She had been unknowingly enrolled in a clinical trial following surgery, and although she recovered from the operation, she died within three weeks. The post mortem established that her death was due to the effects of the experimental drug, which had been administered without her knowledge or consent. It was only thanks to the diligence of the hospital pathologist and the coroner that the story came to light. The BBC reported:

One of the more disturbing aspects of the affair is that when it became known that the coroner intended to proceed with the matter, he came under great pressure from some of the surgeons at the hospital, who tried to persuade him to quietly drop the whole thing. One of them is alleged to have warned that by holding a full public inquest, cancer research could be set back by 20 years.

It emerged that the two RECs reviewing the trial had recommended that it proceed without obtaining informed consent. According to Professor O L Wade, who chaired one of the committees in question, to obtain consent would necessitate an explanation of the potential for cancer to return beyond the area of surgical excision. Such information would, he believed, be too distressing. The cornerstone principle that research be informed – one mapped out in global research standards from Nuremberg in 1947 onwards – was entirely contingent. In fact, Wade saw it as “one of the duties of the Research Ethical Committee to protect patients from that sort of psychological trauma”. The utilitarian imperatives of research took priority over individual autonomy. Rather chillingly, Wade concluded: “Tackling cancer is a highly professional job. It's really, you know, just like the Falklands. It's the professionals who win.”

Oddly enough, in spite of all the hand-wringing over causing distress, the coroner's inquest revealed that Mrs W already knew she had cancer. Her doctor had told her “very directly” before her hospital admission, and according to her daughter she “accepted it very well indeed”.

Lest the reader suspect this was an isolated example, the correspondence pages of the *Lancet* and the *British Medical Journal* reveal that uninformed consent in cancer research was common, although it was of mounting concern to doctors. A report published in 1986, looking at how best to inform cancer research participants, points to a situation in which informed consent had long been avoided for fear of causing distress. But could it also have been avoided for fear of jeopardising recruitment to randomised trials? It must have been daunting to have to explain that treatments would be allocated by the proverbial toss of a coin and that neither the individual nor their doctor had any control over the randomised allocation process. The issue remains a concern for research ethicists to this day.

Examining the experiences of individual cancer patients highlights shortcomings in standard historical accounts of research ethics. Histories that attribute change to 1960s iconoclasm – such as those that credit famous whistleblowers like Henry

Beecher and Maurice Pappworth with changing the tide of opinion – only go so far. We cannot assume that from then onwards doctors were forced to change their minds about what was ethical and what was not. As we have seen, individual professional ethics clashed with global guidance on scientifically robust research methods in which key principles became contingent. Nor is it adequate to attribute change to the establishment of review frameworks. As the case of Mrs W reveals, the presence of ethics committees made scant difference in practice.

Until well into the 1980s, people diagnosed with cancer were often kept ignorant of the true nature of their illness.

Maverick doctors and peer review are an important part of the cancer story, but if we are to understand historical change – and if we are to measure historical change more accurately – we must look to the experiences of all those who are largely absent from the historical record. The archives of patient organisations reveal the issues and experiences that mattered most to those at the sharp end, views that add complexity to historical generalisations. Voluntary organisations were (and remain) situated at a threshold. To patients, they provided trusted information about what cancer research meant and how to get involved, as well as providing a forum for seeking redress for bad practice. To doctors, they were a potentially powerful mediator between the interests of cancer research and those of putative research subjects. It remains to be seen how that tension has been navigated and how patients and their representatives have influenced the ethics and experiences of randomised controlled trials over time in the modern era.

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The Human Genome Archive Project

The importance of keeping scientific archives in the digital age

Jenny Shaw

In an electronic age, what sort of archive material will historians be able to research? This question is at the heart of the new Human Genome Archive Project sponsored by the Wellcome Library. Today, all sorts of researchers delete their emails or send old datasets to the trash-bin; memory sticks get lost; research papers are erased. Now, more than ever, researchers need to work together to find new ways to preserve e-history as it happens. If they do not, then future historians will be unable to reconstruct all the contributions that made possible major scientific initiatives such as the Human Genome Project.

The Human Genome Project (HGP) broke a new frontier in genetics and was one of the most exciting international scientific collaborations. On 26 June 2000, it was announced to the world that the first working draft of the human genome sequence was complete. This scientific achievement was made possible through unprecedented partnership across public, private and non-profit sectors, and brought the potential to spark a revolution in medical discovery. The data for the HGP were openly released online through the sequence databases, making them secure and available for scientific researchers. But what of the organisational records, personal papers and other material created during the sequencing effort? Who is making sure that these are secured for historical researchers?

In June 2009, an initial meeting was held at Cold Spring Harbor Laboratory on Long Island, New York, where concern was expressed that the historical legacy of the HGP was at risk unless action was taken to secure it. Following preliminary work and the start of projects in other countries, the Wellcome Library launched the UK strand of the Human Genome Archive Project (HGAP) in January 2012.

The core aim of the HGAP is to preserve the documentary heritage of the HGP created between 1977 and 2004, from the development of Sanger

sequencing to the publication of the 'gold standard' human genome in *Nature*. After developing an effective survey methodology, the HGAP will survey key holdings already preserved in recognised archives, as well as individual or organisational records not currently held in recognised archives. It will ensure that material in any format is secured so that it can eventually be made available to researchers.

Lots of digital material from the 1980s has already been lost, a poor comparison with manuscripts which have survived for centuries.

What we are doing is not particularly novel – surveying historical material with the aim of preserving it – but the timing is. Although the project will encompass records created in all formats, including paper, a very large amount of the material created during the HGP is in born-digital format – that is, material created electronically rather than converted to a digital format through processes such as scanning or photography. This is crucial to the timing of the HGAP.

When an archive is contacted about taking on a scientist's records, it is often after their retirement, or more commonly by a relative after their death. This model works in the hard-copy, analogue world. It allows a suitable passing of time to place the scientist's work into perspective before decisions about preservation and providing access to their records need to be made. However, in the digital age this standard approach is now unsuitable. Increasingly, archivists need to start working with scientists before they retire. Although this brings new challenges, such as fitting in to already-busy schedules, it has the potential to allow better collections of material, with richer contextual information, to

be preserved in archive collections of the future. So what are the e-challenges for archivists in a digital age?

One of the key reasons that archivists need to act earlier to preserve digital material is its vulnerability. The media are full of stories of hardware failure, data loss and digital black holes. Lots of digital material from the 1980s has already been lost, a poor comparison with paper or parchment manuscripts which have survived for hundreds of years. Unless we act now, there is a real risk that key material from the late 20th century will not survive. One of the main problems is that digital material needs to be interpreted by a whole host of software and hardware. This means that while a box of paper records can still easily be read having spent decades of benign neglect in the loft or under the spare bed, the ability to read digital material kept in the same conditions might well be lost.

The pace of technological change is quick, and both hardware and software often become obsolete in a short time. The 3.5" floppy disk was ubiquitous during the 1990s, but it is already difficult to find a computer with the necessary drive to read these disks. Add old operating systems and software, such as WordStar, into the mix and the situation becomes even more complex and difficult to manage. By being more proactive, doing e-archiving in collaboration with research teams, archivists can help to preserve more digital material. Time really is of the essence.

One of the scientists with whom the HGAP has been working closely is Michael Ashburner, Emeritus Professor of Genetics at the University of Cambridge. He was a leading figure in the sequencing of the *Drosophila* (fruit fly) genome. Some of the material we have found in the course of a survey of his papers highlights many of the common issues facing archivists in the digital age. Ashburner was an early adopter of computers for his genetics work and we have

encountered digital material on a range of storage media. Some of these formats are more straightforward to handle than others and we have had to make difficult decisions about what we can deal with and what is prohibitively expensive to preserve. No organisation has limitless resources, so it is important to carefully balance the cost of recovering information against the potential historical benefit.

The decision has been made not to take Ashburner's rolls of magnetic data tape, mainly because they contain sequence data rather than research records, but also because the cost of retrieving the information outweighed the potential benefit. We plan to capture a printed index of what was on the tapes and have documented our decisions. We are, however, hoping to be able to recover important information from some 5.25" floppy disks. These are going to be used as a test case to get baseline figures for the cost of data recovery and to explore whether we are able to work with the results in a meaningful way.

Extracting the data from the storage medium is often just the start of the preservation process. Even for the 3.5" floppy disks – some PC formatted and others Mac formatted – we have needed to use an external disk drive on our virus-checking laptops. After we have checked the disks to make sure they are clean, we bring the contents into our digital preservation system. Once in our system, they will be placed on 'technology watch': the file format will be monitored to make sure that it remains accessible. The example of the Ashburner digital material shows that, often, the older something is, the harder and more expensive it is to deal with.

Another key technology issue is how the use of personal computers has changed the way material is organised within filing systems – or not, as the case may be. The shift from centralised filing systems, often managed by a dedicated person, to personal filing systems is significant. It helps if an archivist is able to work with the record creator to understand its idiosyncrasies; this also provides the opportunity to preserve the original order of files and folders when they are transferred to the archive repository. There are many benefits to starting conversations with potential donors sooner rather than later, but it can also raise issues

surrounding sensitivity and access to material once it has been deposited.

Taking in material while a scientist is still active means that interactions with other scientists might still be live issues and it is likely that the third parties mentioned will also still be alive. Managing sensitive information, however, is not a new challenge for archivists; indeed, the Wellcome Library already has a significant amount of material in our collection that contains personal or sensitive information. We take our responsibilities under the Data Protection Act seriously and have a robust access policy in place, which has been approved by the UK Information Commissioner's Office. This policy covers material in any format, including born-digital and digitised content.

People often think about their personal digital material differently to its hard-copy equivalents. Email is a good case in point. The Digital Preservation Coalition published a report on preserving email in 2011, which identified the paradox that exists with digital communications: although email is ubiquitous it is also ephemeral. Few people manage or care for their electronic communications with the same rigour that they used for their hard-copy correspondence. Archives up and down the land have lots of collections of letters, and few would argue against the value of this material. The same attitude does not always extend to email, which can be seen as less relevant for archive repositories. When the British Library bought the poet Wendy Cope's email collection in April 2011, dissenting voices questioned its worth. But email is the future personal letter and it needs preserving too.

Few people manage or care for their emails with the rigour they used for their hard-copy correspondence.

Although email bears a strong similarity to letters, it does have significant differences. Email communication is often less formal than a written letter, and can also be used in a wider range of situations: for example, it is often used to replace communication by telephone. Email does not have the natural cooling-off period that

a written letter might allow, so messages can be fired off in the heat of the moment. These uses of email often make potential depositors less comfortable with the idea of preserving it in an archive. It needs to be handled sensitively, and this is where a professional archive service can help.

Email should be a valuable part of modern archive collections and has a major advantage over written letters: the ability to easily capture both sides of the correspondence. Although many collections describe their contents as being correspondence, they are in fact letters – a one-sided half of the conversation. The beauty of email is that both sides are contained within a single account and are often found threaded together. With time, maybe we will also grow to value the form of the email just as we do the written letter and look at aspects such as the signature, the address being used and the font. Maybe someone showed their personality in an email with capital letters and exclamation marks, used a friendly or gruff tone, or helpfully felt the need to summarise key issues, making the exchange a valuable research tool for future historians.

Preserving born-digital material is fundamentally changing when and how we do things, but not what or why. Archivists have always needed to engage with scientists to capture a meaningful record of their work. The challenge is for scientists to help make available not just their published outputs but also the records of their working lives. For these should be preserved in partnership. Unlocking the genome sequence has been an extraordinary scientific achievement which deserves an archive record of the human interactions that helped to create such an important worldwide resource.

Henry Wellcome believed that history is not just in our making but in our keeping too. The HGAP seeks to build on his legacy by looking beyond the next historical corner, where the researchers of tomorrow will discover new findings about the important scientific work of today.

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Towards a professional 'Magna Carta' for psychoanalysis

Conference report

Shaul Bar-Haim



A bust of Sigmund Freud in the Freud Museum, London. Wellcome Library

What has psychoanalysis got to do with totalitarianism? Can psychoanalysis help explain the atrocities of the modern era or suggest forms of support for the victims of oppression? Should psychoanalysts ever work with state security services? These big ethical questions featured in a major international conference – ‘Psychoanalysis in the Age of Totalitarianism’ – held in September 2012 in London. Scholars from around the globe met at the Wellcome Trust to explore the role of psychoanalysis in the face of totalitarian phenomena.

In 1981, the philosopher Jacques Derrida gave a lecture, ‘Geopsychoanalysis: ...“and the Rest of the World”’, in which he spoke out against the conduct of the International Psychoanalytic Association (IPA). He accused its leading members of refusing

to make an explicit denouncement of the widespread use of torture by the Argentine junta. Not only was Argentina under an oppressive regime, but it also had a lively psychoanalytic community, many of whom were being persecuted. The IPA, pointed out Derrida, had expressed official objection only to “the violation of human rights of citizens in general” with but a brief mention of “scientists and...our colleagues in particular”. Derrida believed strongly that the IPA leadership should speak out with one voice against the organised violence of the Argentine regime.

Derrida stated clearly that semantics mattered. Historically, there had been no such thing as “human rights in general”, he claimed; what mattered most was what was actually happening in specific cases

of people, time and place. The duty of psychoanalysis, he thought, was to speak out loudly, and not to stay silent in the face of state oppression, torture and other forms of violence. Derrida expanded his discussion by drawing attention to the Magna Carta of 1215, arguing that this medieval document had more fundamental civil liberties than “the IPA’s Magna Carta”, as he described the IPA’s official statement, which was “totally abstract”.

The IPA membership had in effect given Argentina medical legitimacy by its feeble public pronouncements and passive reaction – even though psychoanalysis was a main target for the regime’s persecution (as had also been the case with most 20th-century oppressive regimes, such as Fascist Hungary, Communist Russia and Nazi Germany). But Derrida insisted

that the IPA should not be silent. To many in the audience, his speech seemed to call for a radical revision of the psychoanalytic “Magna Carta”, to use his phrase, by encouraging psychoanalytic institutions to be much more engaged, standing at the centre of real political events.

A wide community of scholars has since taken up Derrida’s challenge with fervour. Recently the history of psychoanalysis has become a major subject of research. Leading academic historians, sociologists, psychoanalysts and others are keen to develop new research links exploring, for instance, the interaction between psychoanalysis, totalitarianism and World War II. Political historians and leading political scientists are now studying the ways in which psychoanalysis provided the discourse for investigating the psychology of the masses, which partly created the conditions for some of the catastrophes of the 20th century. Other scholars have shown the ways in which psychoanalysis reshaped key aspects of state security in the modern era. The aim of this work is to shed light on many unresolved questions about the practical operation of oppressive regimes in the 20th century.

The overall focus, then, of the London conference was to study the historical links between totalitarianism and psychoanalysis. This research, it is argued, can bring us closer to the creation of the sort of Magna Carta for psychoanalysis that Derrida had in mind more than 30 years ago. Focusing here on a selection of conference papers illustrates some important new research directions.

Psychoanalysis and World War II



Professor Daniel Pick. Matchbox Video

Daniel Pick (historian, psychoanalyst and one of the conference organisers) explained that the conference was the result of extensive investigation into the wider implications of psychoanalysis on the Anglo-American world in the mid-20th century. His

recent research has been part of a wider Wellcome Trust-funded project, involving a series of workshops at Birkbeck College between 2009 and 2011, and resulting in a book entitled *The Pursuit of the Nazi Mind: Hitler, Hess, and the Analysts* (2012).

In his work, Pick explores the psychoanalytic era of the 1940s and 1950s. This was a time when it seemed as if psychoanalysis could be used as a meta-discipline for the entire field of human science. Psychoanalytic theory, moreover, had provided some useful vocabulary to explain the horrifying enigma of the Nazi concentration camps and the Soviet Gulag. For many other people, it helped them to start to make some sense of the general psychological trends of the masses, especially those associated with late capitalism and the political stalemate of the Cold War.

But psychoanalysis had other applications too. It became a practical tool in the service of governments. It was widely used, for instance, by the British and American armies, secret service agents and legal systems, and for general psychosocial research. Often its practitioners helped governments achieve their national security aims. One of Pick’s main examples for that is the deep engagement of clinicians in the interrogation of the Nazi leader Rudolf Hess when he landed all of a sudden in Scotland in 1941. The overall aim, therefore, of pioneering scholars like Pick is not limited to the study of the wider implications of Nazism, but extends to producing an in-depth account of the political, social and cultural impact of psychoanalysis on Western liberal societies during and after World War II.

Hanna Arendt and psychoanalysis

We can find in the last few decades a huge revival of interest in the seminal work of Hanna Arendt. Most scholars would agree that her *Origins of Totalitarianism* (1951) is still a fundamental work on totalitarian regimes. By writing it she helped set the tone for subsequent discussion of this modern phenomenon. Arendt famously ignored psychoanalysis, but literary scholars at the London conference find in Arendt “unexpected affinities with Freudian thought” (to use Jacqueline Rose’s words). Lyndsey Stonebridge, by way of example, locates some surprising

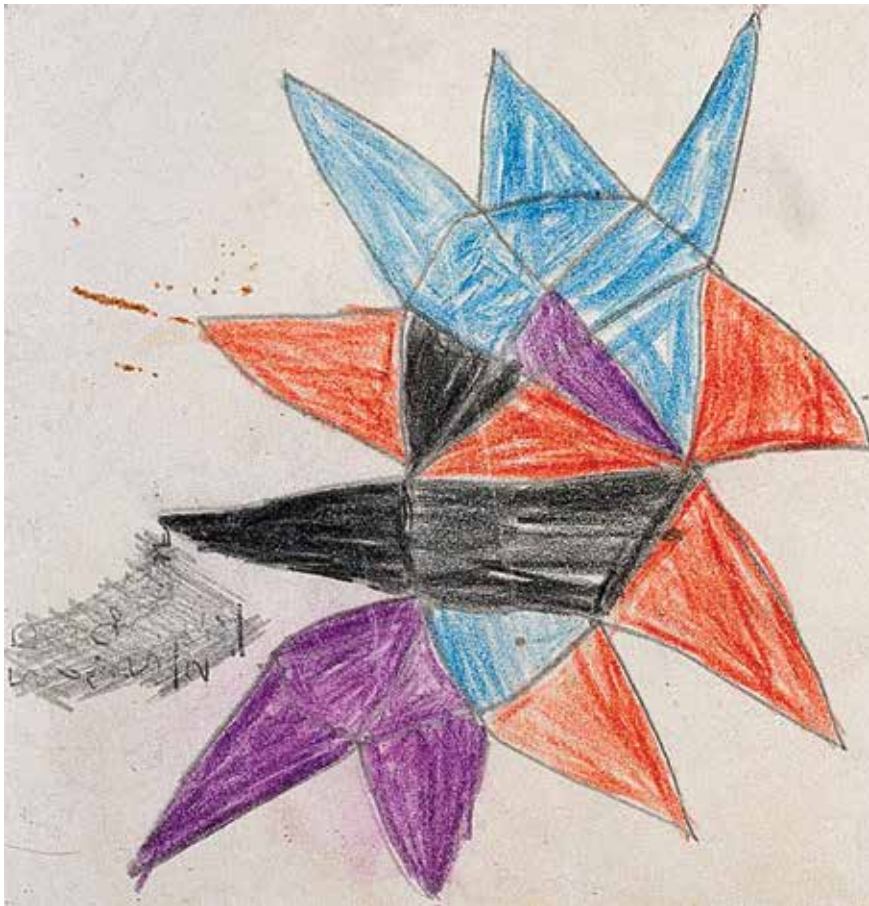
links between the theoretical work of Arendt and the psychoanalytical work of Anna Freud. Both women attempted to achieve a better understanding of the concept of the ‘refugee’ in its 20th-century manifestation.

The emergence of the ‘refugee’ in its 20th-century sense, as many scholars after Arendt have shown – most recently the late Tony Judt in his monumental book *Postwar: A history of Europe since 1945* – is central to migration studies of the totalitarian age. Those that have to move country quickly to escape totalitarianism often have to reconstruct their identity overnight. This process must happen fast, under very stressful conditions, and can cause an adverse mental reaction. Many of these political refugees found themselves suddenly having to struggle for the basic civil rights that they had previously taken for granted. This is the correct context to understand Freud’s postwar efforts to explore the mental defences which are so crucial for the existence of the refugee. “What is at stake for both women in the wake of totalitarianism,” claims Stonebridge, “is the task of reuniting the migrant mind with a new reality.”

Struggling against the fascist mind

Anna Freud was also at the centre of general discussions at the conference, as her work on education is one way to think about how to create a democratic experience among children in a group or by living among children. She is not the only scholar who has aimed to develop new ways of furthering education for democracy. Assimilation of this type of liberal-democratic worldview was considered by many as the ultimate goal of postwar civil society. The historian Michal Shapira studies one vehicle for the inculcation of such values in the influential work of the Institute for the Scientific Treatment of Delinquency (ISTD).

The ISTD was run by leading psychoanalysts and psychiatrists in Britain. They primarily adopted a psychoanalytic language to conduct research on criminal activity and its prevention. A new criminological discourse drew on contemporary psychoanalytic conceptions of childhood, aggression and violence. It was inspired by a political vision that to avoid fascism in the future,



Drawing by 'Richard', a child patient of psychoanalyst Melanie Klein, illustrating how he experienced the War, 1941. Wellcome Library

inner criminal forces must be channelled towards more democratic tendencies from early childhood.

The survivors' niche

Psychoanalytic discourse flourished in the USA after World War II. It provided a useful medical vocabulary to help Jewish survivors cope with the trauma of the Holocaust. Jose Brunner has identified that this flourishing of psychoanalysis can be best understood in terms of the appearance of an 'ecological niche' (to use Ian Hacking's term). That is to say, the coming together of some historically specific factors turned psychoanalysis into a very promising theory and practice for creating a new professional community of Jewish psychoanalysts who had escaped to the USA from the Nazis – as well as enabling the same people to study prejudice and anti-Semitism as a new field of research.

From a different angle, Matt Fytche (another organiser of the conference) shows how certain psychoanalytic concepts, such as Sigmund Freud's 'superego', became focal points of discussion at this time, not only for analysts, but also for social theorists of many different persuasions. The émigré

German academics of the Frankfurt school used the superego in their various analyses of the 'authoritarian personality' and the demise of liberal society. But, surprisingly, it was a conceptual tool for conservatives and radicals alike in debates on the future of the American family in the 1950s.

From the Cold War to Guantanamo Bay and beyond

A key aspect of the conference was reviewing all current work on psychoanalysis and the Cold War. Thinking again about this affords the opportunity to contemplate some of our contemporary problems too – these, in many respects, are still part of an authoritarian legacy, for example, in the covert activities of secret services in the Anglo-American world and elsewhere. Often secret agencies, as Knuth Müller showed in his paper, borrow explicitly and implicitly psychoanalytic models. During World War II, the Cold War and the 21st-century 'war against terror', the CIA has adopted aspects of psychoanalytical theory and practice to support torture operations, and to control civilian populations in the fight against terrorism around the

world. The Western struggle against totalitarianism has generally meant deploying some types of totalitarian methods. Currently, this historical process is perhaps best symbolised by Guantanamo Bay: a topic of ongoing debate and future research.

In 1981, Derrida asked psychoanalysts to think again about their political complicity – especially the links between state torture and psychoanalysis as a tool of state control: "Even supposing that psychoanalysis can provide a rigorous basis for a discourse of non-violence – or of non-torture (which seems to me more fundamental) – I should certainly not venture here, merely touching upon the subject, to remind an audience such as you that this is precisely the subject of your theory, your practice, and your institutions. You ought to have essential things to say – and to do – on the matter of torture." It turns out that Derrida's vision is still far from complete in 2012.

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Unsafe medicine

Laudanum in the 19th century

Ruth Levitt



A laudanum bottle, late 19th/early 20th century.
Wellcome Library

A careless mishap killed Sarah Newbery on 28 May 1843. She was a widow in her late 80s living in the parish of Hampton Wick near Hampton Court with her son, John Robert Kensett, who had returned from America to be with her in her old age. Due to recent stomach trouble, that morning she had taken a medicine she believed to be tincture of rhubarb, a common purgative. In reality she had swallowed a massive dose of laudanum. Three or four drops of laudanum (tincture of opium) were sufficient to kill a baby;

an adult medicinal dose might have been up to 30 drops; seasoned addicts could cope with at least 200. She had taken a fluid ounce – over 550 drops.

The day before, John Kensett had been unable to find an old medicine bottle in a cupboard of home cures and so he picked up another empty one without checking its label, taking it to Mr Jones's chemist shop a few minutes' walk away in Kingston upon Thames. He handed the bottle to the chemist's assistant, William Fothergill, and asked for two ounces of tincture of rhubarb. Fothergill asked if he was to put it in that bottle and John replied, "Yes, never mind the label." Fothergill dispensed two ounces of a liquid into it, wrapped it and gave it back to John, who paid one shilling and waited for his change. Fothergill did not offer him any, prompting John to ask for it. "We always charge sixpence per ounce," was the reply. John accepted this, but maintained he had always had change out of a shilling before.

At home his mother asked him if there was any tincture of rhubarb in the house. He said he had just bought some, but advised her not to take it until morning in case its purgative action disturbed her during the night. He gave the bottle to their servant, Mary Lassam, without examining the contents or the label, and told her to give one-half to his mother at seven the next morning, which Mary did. Sarah told her that it tasted very nauseous. John came downstairs an hour later, feeling under the weather, and decided to have the other half of the medicine himself. He too found it very nauseous. He began his breakfast but soon felt too ill and lay down on the sofa in the parlour.

A little later, Mary saw Sarah and John deeply asleep. After another hour she looked in on Sarah and was "struck by [her] wild and singular appearance". Mary had great difficulty waking John, who was extremely groggy and feeling dreadful. She helped

him up the stairs to Sarah's room, where he could see his mother was in a very bad way. He then checked the bottle's label, which said "Laudanum – Poison". They immediately called the doctor, who pumped Sarah's stomach while John swallowed emetics and large amounts of warm water. John recovered, but his mother died that afternoon. The inquest took place four days later at the local King's Arms Inn, conducted by William Baker, the Middlesex coroner, with a jury. The *Times* reported the evidence and the verdict: accidental death from laudanum administered by mistake.

Exactly the same conclusion had been reached by an inquest jury two years earlier, following the fatal administration of laudanum in place of tincture of rhubarb. Elie Galloway, 32, was married to a provision dealer in Newcastle. She had been unwell with digestive problems and by 31 January 1841 she felt much worse. Her husband sent two of their children to the druggist Mr Tinn for three-pennyworth of tincture of rhubarb, with a cup for the medicine and a piece of paper on which he had written "six drachms of the tincture of rhubarb" (one fluid ounce was eight drachms).

The children returned with the medicine, Mrs Galloway drank it down and remarked that it tasted like laudanum. Her condition deteriorated rapidly and the doctor was sent for. He confirmed that drops left in the cup were laudanum, and Elie died that evening despite having her stomach pumped. At the inquest the druggist admitted the piece of paper said "tincture of rhubarb" but denied he had dispensed laudanum, because he was "always so particular in selling [laudanum]...and enquired what the drug was for and labelled the vessel". The *Gateshead Observer* concluded in its report that "druggists should keep poisons apart from other drugs. A fatal mistake...can hardly be regarded as a 'pure accident,' unless proper precautions have been taken to guard against error. In the

present case, it does not appear to us that Mr Tinn's arrangements afford adequate security, for his customers."

Most people were their own diagnosticians, physicians and prescribers. Some sought advice, but it was guesswork for everyone.

When Sarah and Elie were poisoned, few truly effective medicines were available and the sale of dangerous drugs and poisons was not legally controlled. Numerous concoctions, powders, mixtures and elixirs, tinctures and pills were on sale in shops and from all kinds of 'experts', their extravagant and unverifiable claims advertised in papers and posters. Itinerant quacks could do good business at local fairs and door to door. Several patent medicines contained the poisons opium, mercury and antimony. The training and skills that doctors, apothecaries, chemists and druggists possessed was limited at best. Most people were their own diagnosticians, physicians and prescribers; some sought advice from family and friends, or from qualified and unqualified doctors and chemists, or took their chances with patent medicines, but it was guesswork for everyone.

A handful of substances were known to be useful for some conditions. Rhubarb was a purgative, while opium was a sedative that also suppressed coughing and diarrhoea. Opium itself is extracted from poppy sap, and has been known and used for more than 2000 years. It contains morphine and codeine; it is addictive and a powerful poison. Laudanum is powdered opium dissolved in wine with added saffron and cinnamon. It was sold in stoppered glass bottles and was easily available from druggists for about sixpence for one fluid ounce (a very small fee at the time). Laudanum was widely recommended for cholera symptoms.

Laudanum had long been a drug of choice for suicide. In 1743, William Hogarth had depicted a laudanum-induced suicide in the final scene of his series 'Marriage à la mode',

showing the Countess expiring, the empty laudanum bottle by her foot.

Sarah and Elie were not alone in their fate. A report to the House of Commons on the causes of death recorded at coroners' inquests in England and Wales in 1837–38 had already demonstrated that laudanum and other opium preparations were responsible for a third of the deaths investigated – and almost all the child deaths – whether by overdose or accidental substitution for another medicine, including syrup of blackthorn, Godfrey's Cordial (laudanum, saffron and molasses), paregoric (opium, alcohol, camphor and honey), antimonial wine (tartar emetic and alcohol) and, of particular interest here, tincture of rhubarb. Furthermore, there would have been additional laudanum deaths not seen by coroners, or attributed to other causes. In 1861, Mrs Beeton recommended readers of her *Book of Household Management* to include opium powder and laudanum in their home medicine cupboards, but not to use Syrup of Poppies or Godfrey's Cordial to get their children to sleep.

Despite rising public concern, Parliament was not inclined to protect people from unsafe prescribing, careless chemists, or hazardous and adulterated remedies. It was more responsive to practitioners' demands for exclusivity. The 1815 Apothecaries Act, the 1852 Pharmacy Act and the 1858 Medical Act became law through hard lobbying by those groups to secure statutory powers of self-regulation, thereby protecting their own sectional and commercial interests. Although advocates claimed that customers would benefit from these measures too, anyone could still buy or sell opium and laudanum, and deaths from accidental and intended poisoning continued throughout the 19th century.

The 1868 Pharmacy Act included a two-part schedule of poisons, reflecting the chemists' success in protecting part of their market share. All listed substances had to be labelled with the contents of the container, the word 'poison', and the name and address of the seller. Chemists now had to keep a record of sales of substances in Part I, including preparations of arsenic, cyanides, mercury and strychnine, stating the date, substance, quantity

and intended purpose, purchaser's details and signature; and purchasers had to be known or recommended to them. "Opium and all preparations of Opium or of Poppies" were relegated to the end of the lighter-touch Part II list (only needing a label), together with chloroform, belladonna, oxalic acid and oil of almonds. Chemists flouting these rules risked a modest fine of up to five pounds (about half a week's wage for the average day labourer at the time – expensive but not prohibitive) for a first offence. The Act entirely excluded patent medicines sold by a registered apothecary or chemist, as well as all exports and wholesale supplies. British legislators had already lagged behind several other countries and did not revise this law until the very end of the century.

These historical cases alert us to how long it took to regulate over-the-counter medicines and why, by the end of the 19th century, it was necessary to do so. In an internet era when self-dosing is once more rife, the challenge facing all consumers is: how much can you trust the e-quack? Unsafe medicines remain as much a danger to modern consumers as they were to Victorian ones.



A chemist sells a child laudanum. By John Leech, 19th century. Wellcome Library

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Care and Cure: Diseases, disabilities and therapies

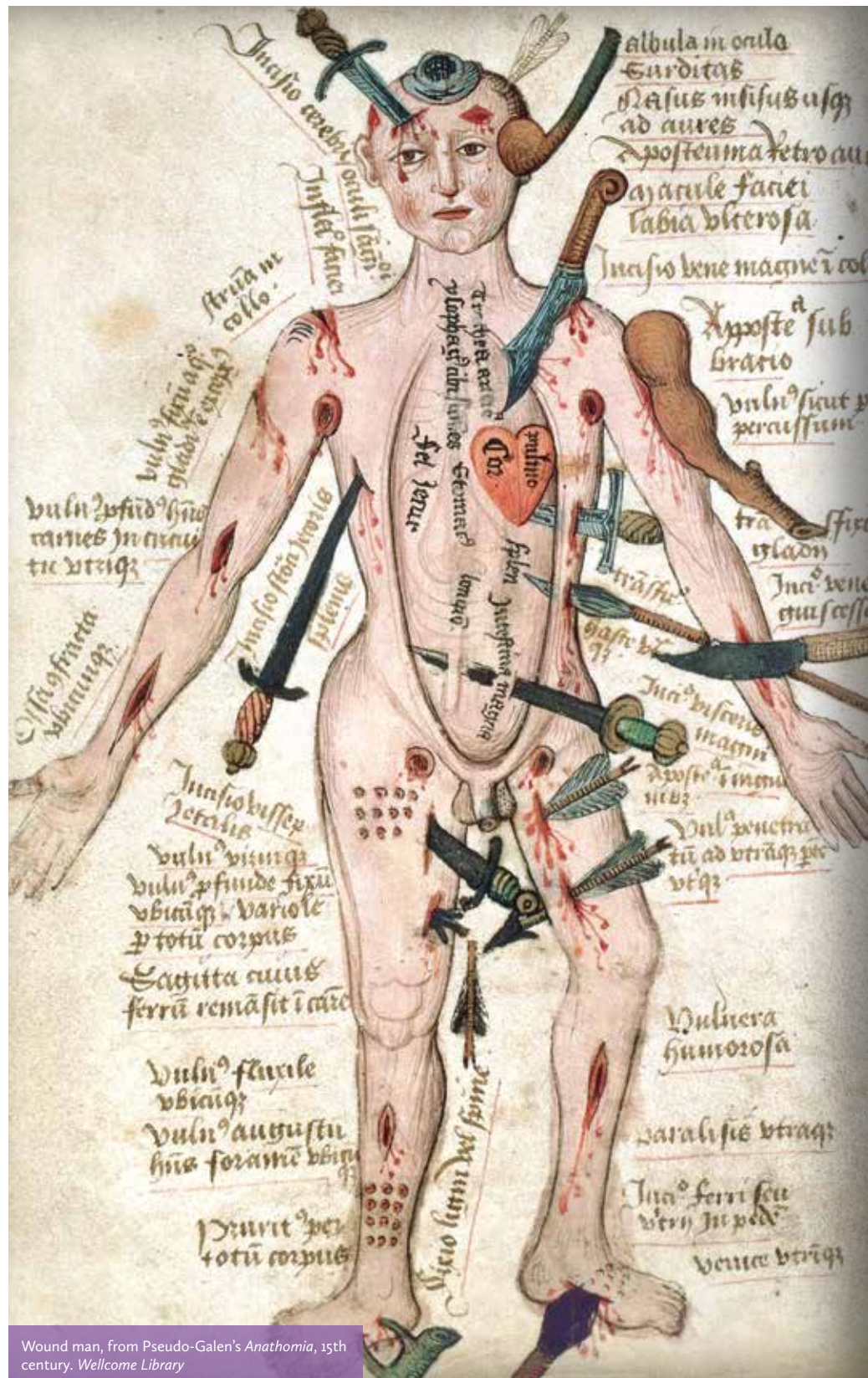
Conference report

Elma Brenner, Liz Herbert McAvoy and Patricia Skinner

How have disease, disability and medical care historically been represented in texts and images? This was the focus of a conference held at Swansea University in June 2012.

'Care and Cure: Diseases, disabilities and therapies' brought together postgraduates, early-career researchers and leading experts to explore diverse aspects of medical history in the medieval and early modern periods. The British, German and American participants were encouraged to think about distinctions between disability, disease and medicine. In particular, they discussed how to work on more recent historical periods by incorporating the findings of scientists studying diseases of the past, and to what extent these can inform studies of the medieval and early modern eras. The conference examined themes in pre-modern healthcare and medicine (c.600–c.1800), with a particular emphasis on research methods and different disciplinary approaches to the history of medicine.

The meeting began with two interactive workshops, which brought methodological issues to the fore. Irina Metzler (Swansea) and David Turner (Swansea) discussed 'Working with Images as Medical Source Material', addressing disability in the Middle Ages and the 18th century respectively. While Metzler highlighted the difficulty of finding medieval images depicting disability, Turner examined self-portraits by disabled artists. In the second workshop, Julia Boffey (Queen Mary, London) discussed Middle English manuscript anthologies containing medical recipes, focusing on the National Library of Wales MS Brogyntyn II.1. She showed that medical material circulated very flexibly, often being incorporated in manuscripts containing a variety of material intended for household use. As is common with such texts, there were questions of provenance, choices



Wound man, from Pseudo-Galen's *Anathomia*, 15th century. Wellcome Library

of texts and their likely readership. The medical receipts in this manuscript gave rise to questions about the context for practical medical care, use and availability of ingredients, and the purpose of texts that on the face of it seem deliberately parodic.

Papers by Bianca Frohne (Bremen) and Ivette Nuckel (Bremen) explored the social context of disability in late medieval and early modern Germany, in terms of the experiences of the deaf-mute sons of high-status families, and the extent to which disabled artisans received support from guilds and other sources. Metzler and Turner presented research papers that added further dimensions to our discussion of disability. Metzler examined materialist approaches to the subject, noting that the care available to disabled people principally took the form of charity, and that in the late Middle Ages there was increasing concern about artificial disability, when beggars feigned bodily impairment in order to elicit alms. Turner discussed the marginal status of disabled people in early modern England, where suspicion about fraudulent 'disabled' beggars persisted. He challenged assumptions about the vulnerability of those with congenital disabilities in the past, but also highlighted the blurring between care of the disabled and cure of the sick. A survey of 'The Changing Face of Disability History' by Anne Borsay (Swansea) placed these analyses in a broader chronological perspective, addressing methodological approaches to studying disability in more recent centuries, which have ranged from biographical studies of disabled individuals to institutional studies and the social and cultural contextualisation of disability.

Patricia Skinner (Swansea) encouraged us to think about the visibility of medical practitioners, a theme that was also developed in a keynote address by Peter Biller (York). In her preliminary work for a Wellcome Trust-funded project on facial disfigurement in the early Middle Ages, Skinner has noted the "relative invisibility" of surgeons in the early medieval West, partly because surgery was not then recognised as a formal profession. She raised questions about who administered highly specialised treatments, such as those for head injuries. Biller surveyed the medical practitioners and activities revealed in

the Inquisition Registers of Languedoc between the 1230s and 1320s. Although the Inquisition did not specifically inquire into the occupations of the individuals who were questioned, these registers incidentally shed light on ordinary medical practice in this region, and on the access that people had to practitioners and treatment.

Many of the papers and workshops highlighted the metaphorical use of sickness and healthcare to engage in wider social or political commentary.

Theresa Tyers (Nottingham) and Alison Williams (Swansea) both explored issues relating to botany and pharmacology. Focusing on a 14th-century Anglo-French manuscript (Yale, Beinecke MS 492), Tyers examined the transmission history of a botanical cure for infertility. Williams addressed the interest in medical botany of François Rabelais (1494–1553), the French humanist and physician. Rabelais took a more moderate, positive stance than many of his contemporaries on the pharmaceutical use of plants. In both cases the use of remedies was seen to have moral and ethical implications, illustrated by omissions or censorship in later medieval recipe collections (Tyers) and by very real dangers presented in fictional parodies (Williams). These papers, like those by Metzler and Turner on disability, highlighted the continuity of key themes in the history of medicine, disease and disability between the medieval and early modern eras, and the usefulness of bringing together scholars working on both periods.

A striking feature of the conference was the way that many of the papers, as well as the workshops, highlighted the metaphorical use of sickness and healthcare to engage in wider social or political commentary. While most obvious in pictorial representations of the sick and disabled, this theme was also evident in discussions of the changing status of the disabled poor (Metzler), the rhetoric surrounding permanent incapacity in medieval court cases (Skinner), and the tension within guilds when called upon to support their infirm members

(Nuckel). There was a strongly reflective element to the two days: *how* we study pre-modern medicine is as important as *what* we study, and this requires the collaborative expertise of not only historians and those working in literary fields, but also art historians, biologists, social scientists, archaeologists and clinicians.

The conference concluded with a plenary lecture by Monica Green (Arizona State) surveying exciting recent developments in the scientific study of diseases of the past, particularly by bioarchaeologists and microbiologists, and assessing how these developments intersect with the work of historians and researchers in other humanities disciplines. While in 2001 scientists were able to sequence the genomes of plague (*Yersinia pestis*) and leprosy (*Mycobacterium leprae*), this approach involves retrospective diagnosis, a form of analysis that historians are keen to avoid. Nonetheless, Green argued, the combination of scientific findings with the light that historians can shed on past responses to disease is "contributing to a global history of health". Her lecture highlighted the broader relevance of studies of medieval and early modern European diseases, disabilities and therapies to our understanding of the history of health throughout the world.

The conference was convened at the Centre for Medieval and Early Modern Research, in association with the Research Group for Health, History and Culture, Swansea University. It was supported financially by the Wellcome Trust with additional contributions from the Royal Historical Society, *Medium Aevum*, and the Universities of Swansea, Bangor and Aberystwyth. The authors of this report were the co-organisers.

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