



THE HARVEIAN SOCIETY OF LONDON

REVIEW OF THE YEAR 2019

President:

DR ROBIN KNILL-JONES MA MSc FRCP FFPH

President Elect:

DR ELIZABETH PRICE MB BS DCH FRCPath

Meeting of the Harveian Society
Wednesday 9 January 2019

The President announced the death of Mrs Pauline Symon who had been a member of the Society since 1991. The Membership stood for a minute's silence.

The President announced the election of the following new members:

Professor Ugo Filippo Tesler and Mr Michael Beverly

The President then inducted Dr Robin Knill-Jones as the new President and was presented with a Past President's medal. The new officers for the 2019 Session took post.

The President then introduced Professor David Warrell and invited him to give the Harveian Lecture for 2019:

RESEARCH ON SNAKE-BITE AND ENVENOMING: HARVEY'S PRECEDENT

Professor Warrell began the Harveian lecture by recalling that it was 30 years since he last spoke to the Harveian Society of London. (At that time he brought several live snakes with him, including a puff adder.) He went on to describe how William Harvey had carried out an early example of a controlled observation in toxicology on himself, (using venom from a spider.)

David Warrell first became interested in snake bite toxins when trying to save the life of a farmer in Nigeria who had been bitten by a viper and developed a fatal consumptive coagulopathy. None of the local physicians were able to offer any useful advice. Subsequently, he discovered that only 50% of snake bites contained toxin and that humans were not the snake's intended prey. For treatment, he recommended immobilising the body and applying pressure pads instead of tourniquets, which could be harmful. He asked village leaders in areas where snake bite is common for their opinions. They suggested straight forward preventative methods such as lightweight boots to protect the feet, hand protection and using a stick to prod the ground ahead. Subsequently, he developed anti-venoms using hyper immune serum from horses. He commented that snake bite is the most neglected of all neglected tropical diseases, causing more than 100,000 deaths per annum globally. There is also a high morbidity as a result of tissue necrosis, keloid scar formation and social stigma from the resulting physical deformity.

The President gave a vote of thanks after numerous questions. 48 Members and Guests attended

Meeting of the Harveian Society
Wednesday 13 February 2019

The President announced the sad death of Dr David MacDonald Burns – President 1996 and Members stood for a moment's silence

The President then invited newly elected member Dr David Treacher to sign the Obligation Book.

The President introduced the speaker Rabbi Jonathan Romain MBE and invited him to give his lecture on:

MORAL DILEMMAS, SEXUAL ABUSE AND MEDICAL CONFIDENTIALITY

Rabbi Romain started his talk by saying that contrary to what might be expected, his job as a minister was not an ivory tower. It often consisted of dealing with a variety of moral dilemmas affecting his congregation and others. He then involved the audience in an interactive discussion of some of the problems he had encountered while undertaking his duties. Among the moral issues raised, he described a case of physical abuse and queried whether there was a duty of care to tell a possible future partner about the abuse. Various alternative ways of dealing with this problem were reviewed but the conclusion reached by Rabbi Romain was that the future partner should be informed.

During a discussion on confidentiality, the approaches of different religions were considered. Catholic priests would maintain the secrecy of the confessional but for other ministers of religion, including Judaism, there could be some instances where this might pose a dilemma. Members of the audience pointed out that for doctors, advice from a Medical Defence Union was of great value for medico-legal issues and confidentiality.

A vote of thanks was given by Dr David Siegler. 36 Members and Guests attended

Meeting of the Harveian Society
Wednesday 13 March 2019

Dr Anjina Harrar was elected to membership – having been nominated by The President and Seconded by Dr Sarraf

The President introduced the speaker Professor Jeremy Wyatt MBBS FRCP DM who spoke on

WILL ARTIFICIAL INTELLIGENCE MAKE DOCTORS REDUNDANT?

Professor Wyatt commented that while training as a hospital physician in Oxford, London, Glasgow and Stamford USA, he became interested in Artificial Intelligence (AI), particularly medical informatics and developing Clinical Decision Support Systems. One expert considered that in the future ‘it would be irresponsible for a doctor to make a diagnosis without the involvement of AI.’ It was also thought that AI might take over 80% of the less complex medical problems and in this area it would outperform humans by using data and smart algorithms. This could improve medical productivity and help with the work load from increasingly complex medical conditions and higher patient expectations. A disadvantage would be that AI systems would lack creativity and the empathy of a doctor.

However, the evidence that AI improved decision making and prescribing was mixed. Use of health apps were disappointing and several large studies failed to change clinical management. It was of interest that the Glasgow dyspepsia study found that most patients had a favourable attitude to the use of AI and nearly 50% said they preferred it to a doctor. (Patients were also more honest about their alcohol intake with AI than with doctors.) The reasons why AI had failed to deliver the expected results included poor quality of the NHS data (including bias), complexity of clinical data and lack of clinical engagement.

Professor Wyatt concluded that AI will not make doctors redundant although it will change the nature of medical work. Clinicians should take AI advice into account once procedures had been properly tested and shown to exceed clinical accuracy. Education of medical students and doctors is needed, but in the future combining human intelligence with artificial intelligence will benefit patients.

Following numerous questions, a vote of thanks was given by Dr David Horwell. 48 Members and Guests attended

Meeting of the Harveian Society
Wednesday 10 April 2019

Dr Joanna Brown MSc MD FRCP was elected to membership.

The President then introduced the lecturer Professor Sir David Spiegelhalter who spoke on:

WHY IS MEDIA COVERAGE OF HEALTH STORIES SO POOR?

Professor Spiegelhalter commented that there was a need for communication of statistics to be more reliable. He described how numbers could be made to seem smaller by quoting them differently. For example, the amount of money paid by a nation could be expressed as the total amount paid per week or the much smaller amount paid per person.

A health story can also go through many editorial filters before it is reported to the public. Editors may feel there is no point in a news item being correct if it ends up being boring. To attract attention and sell newspapers, they may change a report’s emphasis. This can alter the meaning of a study. In one report the finding of ‘little evidence of harm from a small amount of alcohol in pregnancy’ was changed to ‘light drinking does no harm in pregnancy.’ Professor Spiegelhalter’s complaint to the Independent Parliamentary Standards Authority about this report was upheld. The Science Media Centre has produced guidelines for labelling press releases to ensure that an individual takes the correct message from a report. Absolute rather than relative risks help to put the claims made by authors into perspective. Too much notice should not be taken of single studies which have not been independently corroborated. The stage of a study (whether early or late in an investigation) should be reported and improved peer review is needed. Just because a risk is slightly increased does not necessarily mean that it is worth worrying about. Prof Spiegelhalter quoted Hans Rosling who commented that ‘we must distinguish between what appears frightening and what is actually dangerous.’ Uncertainty about whether a statistical finding really matters (as may occur if confidence intervals are high) should be communicated to the public. This may increase trustworthiness. It may also help counter misinformation and fake news.

After numerous questions, a vote of thanks was given by Professor Mike Hughes. 47 Members and Guests attended

Meeting of the Harveian Society
Wednesday 8 May 2019

The President announced the death of Dr Eric Nieman – a former member of the Society. Members stood for a moment of silence in his memory.

The President introduced Sir Richard Thompson who spoke on:

IS GARDENING GOOD FOR YOUR HEALTH AND THE CLIMATE?

The unequivocal answer was that it was. Numerous studies were cited; physiological benefits of flowering plants were noted and published studies were quoted showing benefit of greenery for example on prisoners in cells, in patients on wards recovering from cardiac surgery, in disability and in Psychiatric hospitals. Health benefits of gardens and green spaces in reducing stress and improving mood were long recognised - by the ancient Egyptians, the Japanese, and Florence Nightingale. They have been adopted recently in spinal rehabilitation and in 'Maggie Centres.'

In addition, plants, and particularly trees, produce environmental benefits; reducing dust, micro-organisms and pollutants (absorbing noxious gases and heavy metals). Trees and green plants produce oxygen, sequester carbon, reduce water run-off, and benefit climate change. They reduce noise, air temperature, and water temperature and increase diversity of species.

Physical exercise associated with gardening was also of considerable benefit. Studies have demonstrated this for the cardiovascular and respiratory systems, for bone and muscle strength, in reducing falls, stroke disability, and the adverse effects of obesity, as well as improving mood, depression, well-being and even preventing dementia. Social prescribing of gardening to patients was advocated.

After numerous questions a vote of thanks was given by Dr David Siegler. 54 Members and Guests attended.

Meeting of the Harveian Society
Wednesday 9 October 2019

Ms Marilyn Davey was elected to the Membership

The President introduced Melissa Berwick, the Lister Boyd Bursary winner from 2018. Melissa gave a short presentation about her elective to Samoa, where she assisted in a variety of surgical procedures. She also noted that many illnesses affecting the local population were associated with a lack of fresh food and poor health education. Melissa felt that the government of Samoa should promote healthy eating and improve access to fresh food. More health education in schools and the community was needed.

The President then introduced Dr Gustav Kuhn PhD who gave his lecture on:

EXPERIENCING THE IMPOSSIBLE – HOW MAGIC WORKS

Dr Kuhn is a Reader in Psychology at Goldsmiths, University of London where he undertakes laboratory based research on the science of magic. Although 'magic' is usually considered as entertainment, in the last 15 years he has used it to explore the human mind and its interaction with consciousness & free will.

In a demonstration of a conjuring trick using 2 cups and 2 balls, he pointed out that psychological tricks were used to confuse the brain and distract those watching. This gives an illusion of magic. When the attention of audience members is distracted, they may not see something which is actually happening in front of their eyes. This has a major implication for driving a car where distraction may come from other people in the car or from use of mobile phones. When magic tricks are viewed in an MRI scanner, the area of the brain involved were found to be the dorsolateral prefrontal cortex. This area usually processes and resolves cognitive conflict. Dr Kuhn commented that the brain uses knowledge from sensory information about the context of a situation to make an assumption about what is being seen. However, this can be manipulated or misdirected. For example, a drawing of a rabbit can seem to disappear if projected onto the 'blind spot' of the eye. He also pointed out that it is not possible to see our own eyes move because the brain shuts down for a fraction of a second every time that they move. Perception can also change and two people looking at the same picture can interpret it differently. In addition, for some magic tricks, people may see what they expect to see.

Errors in perception and memory can have relevance for law and litigation. Seeing is said to be believing, but some illusions can be powerful and the assumptions that we make about the world are not always correct.

After many questions, a vote thanks was given by Dr Helen Graham. 57 Members and Guests attended.

Minutes of the Meeting of the Harveian Society
Held on Wednesday 13 November 2019

Dr Gerald Bridge was elected to membership as proposed by Dr Joanna Brown and Dr Philip Ind

Dr Robin Knill-Jones then gave his presidential address:

THE CLEVER THINGS INSECTS DO WITH TOXINS

The battle between plants and insects started about 450 million years ago. Insects followed the establishment of plants on land, after a lag of a few million years. Fossil evidence of leaves being eaten by insects survives from around 250 million years ago.

Insects deal with toxins produced by plants in a number of ways. They may avoid the parts of the plants with high toxin concentrations by cutting off the veins supplying the toxins and eating beyond the cut surface. They may also eat mainly roots and wood. For larvae, high alkali gut contents and fast transit times may aid rapid toxin excretion. Impermeable guts may detoxify the chemicals, sometimes with the use of symbiotic bacteria which can be passed between generations. Toxins may also be sequestered in larval skins or other places which do not affect their survival. Day-flying moth larvae and some sawfly larvae can exude sequestered glycosides from their skins when attacked by ants and spiders; other larvae pass the toxins to the adult butterfly which is then distasteful to birds. Sequestered toxins can be passed from males to females during copulation.

The oldest trees in evolutionary terms have largely won the battle with insects. For example, there are very few insect species using Yew or 'Monkey Puzzle' leaves as food. However, pine species have over 300 insects associated with them, and the more recently evolved Oak, has over 500. So the battle continues!

Dr Stephen McAdoo, (the Buckston Browne Medal Winner) then gave a talk on:

THE CLEVER THINGS WE CAN DO WITH INSECT TOXINS

Dr McAdoo commented that insect toxins had been used as instruments of war to inflict pain and destroy food or agriculture. The San Bushmen used beetle toxin (a neurotoxin, cardiac toxin and haemolysin) for their poison darts. Insect toxins, like bacterial toxins, also have therapeutic potential. They have been used experimentally as anti-coagulants and can also target the nervous system and the neuromuscular junction ion channels.

Questions were asked by Dr Michael O'Brien and Dr Philip Ind. A vote of thanks was given by Dr Ind
53 Members and Guests Attended

<i>President-Elect Designate:</i>	DR PHILIP IND MB BChir FRCP
<i>Vice Presidents:</i>	DR ALISON TWIGLEY MB BS FRCA DR CATHERINE SARRAF BSc PhD FRCPath
<i>Honorary Treasurer:</i>	DR HELEN GRAHAM, MB ChB DCH FRCGP FHEA
<i>Honorary Secretaries:</i>	DR ELIZABETH PRICE MB BS DCH FRCPath DR PHILIP IND MB BChir FRCP
<i>Honorary Archivist:</i>	DR MICHAEL O'BRIEN MD FRCP
<i>Councillors:</i>	DR TIM CARTER FRCP FFOM PhD DR MOYNA BARTON FFARCS MB BCh BAC BSc DR PETER BENNETT MD FRCP DHMSA DR ROBINA COKER BSc PhD MB BS FRCP DR DAVID HORWELL MB FRCOG Hon.FFSRH DR COLIN GILLESPIE MB BS DObstRCOG MR DOIG SIMMONDS MAA Mus Assoc DR JANE STANFORD MA BM BCh FRCA MR NIGEL THOMAS FRCS
<i>Trustees:</i>	DR DAVID SIEGLER MD FRCP PROFESSOR ROBERT DOUGLAS BSc PhD
<i>Executive Secretary:</i>	COMMANDER MIKE FLYNN FCMI Chartered MCIPD MRS BETTY SMALLWOOD