

Hubert John Gray, 1882 – 1963

by Brian Stevenson, Kentucky, USA

Microscope slides labeled “H.J. Gray” are relatively common, cover a wide variety of subjects, and range in quality from exceptional to mediocre (Figure 1). Tracking down the history of H.J. Gray proved to be quite a challenge: Gray was active from the 1920s onward, but available census records for the UK go only up to 1911, Gray does not appear to have joined any major microscopical societies, and the vast majority of 20th century publications are still protected by copyright and are, therefore, not available in searchable electronic databases such as Google. Labels on Gray’s slides indicate that he lived in Lewes, Suffolk, England (Figure 1). Brian Bracegirdle’s *Microscopical Mounts and Mounters* noted that Gray sold slides from approximately 1918 through 1935, advertised from numbers 31, 39 and 40 Grange Road, Lewes, and had the middle name “John”. The major breakthrough in the H.J. Gray mystery came from my friend Steven Gill, whose diligent searches of historical and genealogical records revealed our slide maker’s full name and biographical information. Together, we unearthed several publications written by Gray. I extend my sincere thanks to Steve, without whom this essay would not be possible.



Figure 1. Examples of microscope slides labeled by Hubert John Gray. His messy handwriting is quite distinctive. Additional examples of Gray’s slides may be seen in ‘*Microscopical Mounts and Mounters*’, plates 20 and 53. Gray published hints for mounting insects and chemicals, so such slides are likely to have been made by him. Figures 3 and 4 (and possibly Fig. 2) show slides with Gray’s name labels, but evidently made by other people, so it is difficult to know what he made and what he re-labeled.

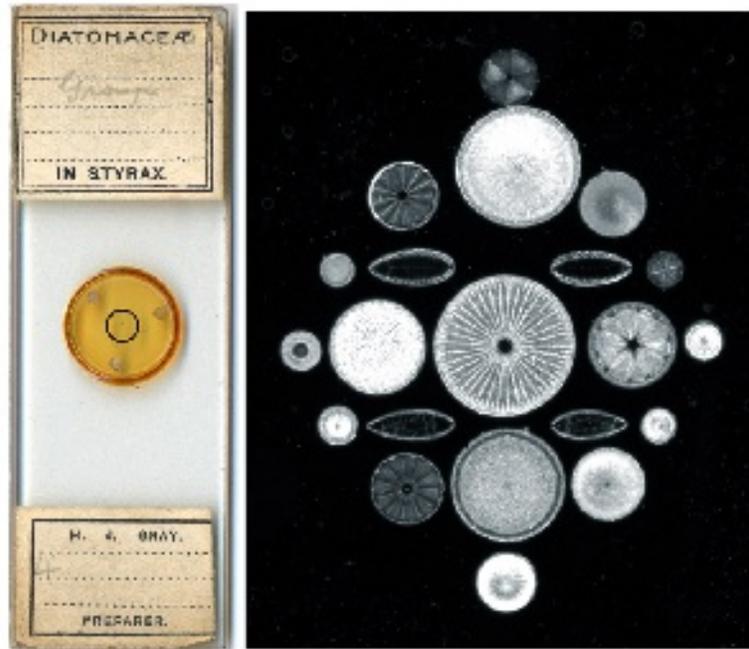


Figure 2. An exceptional slide of arranged diatoms.

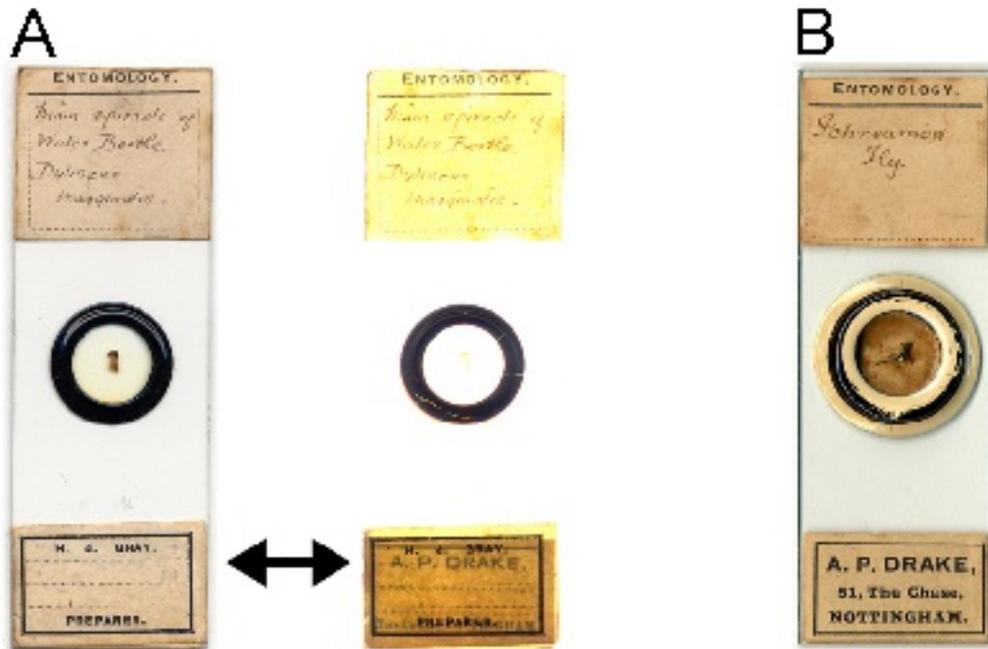


Figure 3. (A) A microscope slide of a water beetle's spiracle labeled "H.J. Gray – Preparer". The handwriting on the descriptive label is very different from Gray's (compare with Figures 1 and 2). Another label is present under Gray's name plate: enhanced contrast transmission scanning revealed that it is the label of Arthur P. Drake, a microscope slide-maker who was active at about the same time as Gray. **(B)** An example of a slide labeled by Drake. The handwriting is similar to that on the slide shown in panel A. Another Drake slide is shown in Bracegirdle's 'Microscopical Mounts and Mounters, plate 12-R (ironically, the other Drake-labeled slide shown in 'Microscopical Mounts and Mounters' as plate 12-S, was actually made by James B. Howard)

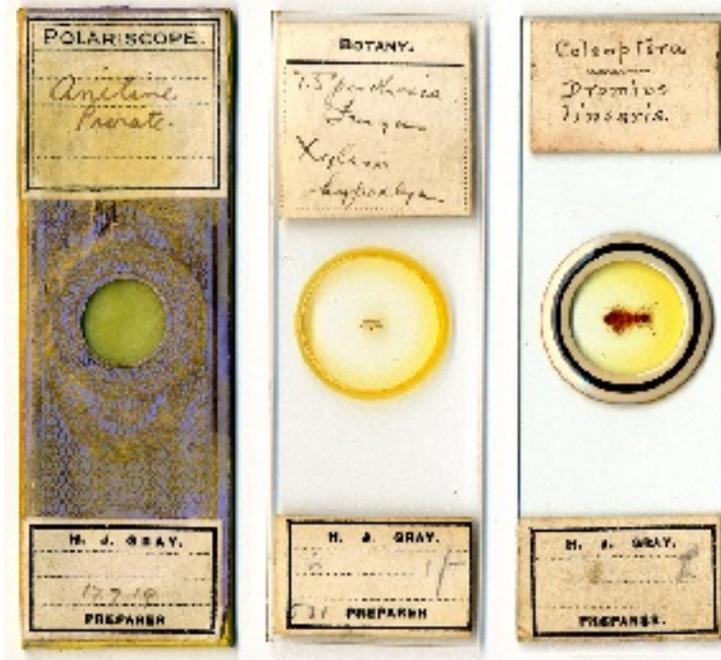


Figure 4. Three additional microscope slides that almost certainly were not produced by Hubert Gray. Left, a slide wrapped in papers that were common circa 1870, before Gray was born. Center, the specimen label appears to bears James B. Howard's handwriting. Right, the handwriting resembles that of Arthur P. Drake. The re-labeling may have been Gray passing along slides he acquired but did not want to keep. Noting that Drake bought up Howard's stock of slides in 1917, and subsequently re-labeled them with his own name, it is possible that Drake sold these slides to Gray with full knowledge that Gray would re-sell them. Moreover, re-labeling and re-selling other people's work was a relatively common occurrence; my collection includes examples of slides re-labeled by Norman, Tempère, Wheeler and others.

Hubert John Gray was born November, 1882, in Deptford, Kent (London), England. He was the only known child of Henry John and Emma Amelia Harriet Davids Gray. Father Henry was a salesman at a finishing warehouse. He was evidently successful at his trade, since they family employed a 14 year old girl as a domestic servant in 1891. We found little more about the parents: mother Emma died at the age of 60 in 1903, while father Henry was alive in 1916, living at 55 Bloemfontein Avenue, Shepherds Bush, London.

In 1911, Hubert Gray was living alone at 11 South Moulton Street, London. He reported on that year's census that he was a "ledger clerk".

The February 21, 1914 issue of *The British Medical Journal* wrote that " 'Knowledge' for February contains an interesting contribution on Elizabethan Botany, by Mr. H. John Gray". This is the earliest known science-related work by Gray:

Those whose acquaintance with botanical literature is limited to the terse but comprehensive descriptions of Bentham and his fellow systematists would receive a rude shock on turning to the writings of the older school of botanists, or pre-botanists, who flourished three hundred years or more ago.

The whole subject has changed since those days ; the point of view has been profoundly modified. For while the old herbalists had but scant respect for a plant that possessed no healing or remedial virtues, real or fancied, the modern botanist is content to observe points of structure and harmonies of function, and to discover the relation in which the individual plant stands to the totality of living things. 'Utility' as the be-all and end-all of research has given place to the observation of fact and the investigation of 'law' in this as in other branches of science. Written chiefly with a view to extolling the medicinal virtues of plants, a strong family likeness

runs through all the old herbals, whether the work of the ancient writers Hippocrates, Pliny, and Dioscorides, or of the more recent mediaeval writers. Moreover these old worthies copied shockingly from one another, sometimes with acknowledgment and sometimes without. Pliny is often referred to as the authority for some particular statement, and his views were always treated with the greatest respect by the herbalists of the sixteenth and seventeenth centuries. Unfortunately there is evidence that the acknowledgment in this case does not always spring from a desire to give credit where credit is due. Thus Culpeper, after quoting the classic writer in connection with the name 'anemone' (wind-flower), naively adds, 'Pliny is my author; if it be not so, blame him.' This same Culpeper, who lived long before the days of shorthand and the typewriter, adopted an original, if somewhat drastic, method of curtailing his literary labours. If the plant under review happens to be of wide distribution, and generally plentiful, it is dismissed with a few words drawing attention to its commonness and couched in terms that have a decidedly quaint and piquant ring to twentieth-century ears. For instance, he soon tires of the numerous family of buttercups. Some are described in detail, while for the rest the reader is reminded that 'unless you turn your head into a hedge you cannot but see them as you walk', doubtless an accurate, though scarcely an illuminating statement. In vain do we seek enlightenment from this celebrated herbalist concerning the tansy, which is referred to as 'so well known that it needeth no description.' The same remark is made in connection with the stinging nettle, together with the pleasant reminder that 'they may be found by feeling in the darkest night.'

On such terms as these authorship must indeed have been a pleasure.
H. JOHN GRAY."

Gray published numerous articles on a variety of topics the following year, in 1915. He wrote two articles for *Modern Mechanics*, on "finding the focus of a lens" (regarding photographic lenses) and how "to purify mercury". *American Photography* published his "handy distilled water bottle", how to prepare "a useful measuring tube" (on how to build a pipet), "to correct a faulty thermometer", "storing photographic chemicals", making a "wire cover for a darkroom sink", and how to ascertain "the life of the fixing bath". Gray's article on "an exciter for electrostatic experiments", and a brief note on "how to make wire bolts for wooden boxes", were published in *The Popular Science Monthly*.

Gray also contributed an article on "magic pictures" to the 1917 *British Boy's Annual*, while he was serving in the military.

At the age of 33, Hubert Gray was drafted into the Army on March 1, 1916, then mobilized on September 19, 1916. At that time, his address was 40 Grange Road, Lewes, Suffolk, and he had been employed as a "commercial clerk". Later military records refer to Gray's occupation as having been a "reporter", possibly referring to his above-mentioned publications. The 33 year-old Gray was initially inducted into the 6th (Cyclist) Battalion, Suffolk Regiment, and then into the 14th Suffolk Regiment on October 13, 1917. He served in England throughout his duty. Gray's pension records described him as being 5 feet, 5 ½ inches tall, weighing 116 pounds, having a 35 inch chest, wearing glasses and having "defective teeth". On March 20, 1918, Military Police found Gray "wandering aimlessly about". At a medical evaluation, Gray reported that he "had a lot of domestic things to worry him", and that "a month ago" he "lost himself". The examining officer wrote that Gray was "trembling and confused and incoherent . . . does not realize his position". Gray also stated that he had a "nervous breakdown" in 1913. He was diagnosed with "mania" and discharged on May 31, 1918 as "being no longer physically fit for war service".

By 1919, Gray was in business as a microscopist. According to *Microscopical Mounts and Mounters*, Gray advertised "unmounted objects for sale, from 31 Grange Road, Lewes". That year's *Boy Mechanic: 800 Things for Boys to Do* included two photography articles written by Gray, "Loading Box to Dispense with Dark Room" (a lightproof glove box that allowed manipulation of film) and "Test Exposures for Bromide Enlargements".

Henry J. Gray married Maryon Isabel Saxby during the summer of 1921, in Lewes. He would then have been 38 years old.

Also in 1921, Gray advertised, “*Microscopical Slides - Real Radium, perpetually scintillating. Wonderful and fascinating, 2s. 9d. General subjects few pence. List free. Mention The Chemical Age. — Gray, 40, Grange Road, Lewes.*” An example of one Gray’s radioactive slides is shown in Figure 5. The Museum of the History of Science, in Oxford, England, holds a “*Drawing Room Radium Outfit*”, made by “*H. J. Gray, 40 Grange Road, Lewes, Sussex*”, and “*dated 1 February 1923*”. The Museum describes the outfit thusly: “*The box contains seven microscope slides with small samples of barium platinocyanide, willemite, carnotite, blende, gas mantle, pitchblende, and 'radium spot'; also a small lens, sealing wax, gold-leaf, paper, Dutch metal (or lead foil) and aluminium screens for absorbing the alpha and beta radiation, and a 'self luminous radium screen' (zinc sulphide). The aluminium screens were added more recently for observing beta particle energies. These kits were quite popular during the first decades of the 20th century. With them could be demonstrated the 'fogging' of photographic plates and the ionisation of the air by the radiation (the latter shown by the collapse of the leaves of a charged gold-leaf electroscope), and the most spectacular of all - the 'scintillations' of the alpha particles produced when the zinc sulphide screen was placed on top of the 'radium spot', viewed in the dark with the small lens provided. The maker of this kit warns his amateur experimenter not to have his eyes too close to the radium or to view it for very long! Finally, he must NOT finger the radium salt which is very poisonous.*”



Figure 5. A microscope slide of radium, by Hubert J, Gray, circa 1921. Image from the Oak Ridge Associated Universities Health Physics Historical Instrumentation Collection.

Gray shared some slide-making tips with readers of *Watson’s Microscope Record*, with “*A method of mounting crystals for the micro-polariscope*” in 1927, and “*Memoranda from a moulder*” the following year.

Presumably, Gray continued making and selling microscope slides and supplies for many more years, although we have not yet found record of his activities. If any readers are aware of Gray’s whereabouts or occupation after 1928, I will be pleased to update this essay and give appropriate credit.

Hubert’s wife, Maryon, died on March 1, 1939. The slide maker was probably the Hubert J. Gary who died in the Chichester area during late 1963.

Acknowledgement

My thanks to Steven Gill for his superb historical investigations and for freely sharing the results of his research.

This and other illustrated essays of historical microscopy may also be seen at the author's website, <http://microscopist.net>

Resources

Bracegirdle, Brian (1998) *Microscopical Mounts and Mounters*, Quekett Microscopical Club, London. Pages 32, 47 and 54, and plates/slides 12-R, 12-S, 20-A, 20-B, 20-C, 20-D, 21-K, 21-L, 21-M, 53-M

British Medical Journal (1914) Literary notes (on Elizabethan botany, by H.J. Gray), Feb. 21

The Chemical Age (1921) Advertisements from H.J. Gray, Vol. 5

England census, birth, marriage and death records, accessed through ancestry.co.uk

Gray, H.J. (1915) Finding the focus of a lens, *Modern Mechanics*, Vol. 3, p. 375

Gray, H. John (1915) To purify mercury, , *Modern Mechanics*, Vol. 3, pp. 799-800

Gray, H. John (1915) A useful measuring tube, *American Photography*, Vol. 9, p. 438

Gray, H. John (1915) To correct a faulty thermometer, *American Photography*, Vol. 9, p. 438

Gray, H. John (1915) Storing photographic chemicals, *American Photography*, Vol. 9, p. 438

Gray, H. John (1915) The life of the fixing bath, *American Photography*, Vol. 9, p. 438

Gray, H. John (1915) A useful measuring tube, *American Photography*, Vol. 9, p. 438

Gray, H. John (1915) An exciter for electrostatic experiments, *Popular Science Monthly*, Vol. 87, pp. 513-514

Gray, H.J. (1915) Wire bolts for wooden boxes, *Popular Science Monthly*, Vol. 87, p. 673

Gray, H.J. (1916) Handy distilled water bottle, *American Photography*, Vol. 10, p. 210

Gray, H. John (1917) Magic pictures, *The British Boy's Annual*, Cassell, London

Gray, H.J. (1919) Loading box to dispense with dark room, *The Boy Mechanic: 800 Things for Boys to Do*, Vol. 3, Popular Mechanics Press, Chicago, p. 268

Gray, H.J. (1919) Test exposure for bromide enlargements, *The Boy Mechanic: 800 Things for Boys to Do*, Vol. 3, Popular Mechanics Press, Chicago, p. 411

Gray, H. John (1927) A method of mounting crystals for the micro-polariscope, *Watson's Microscope Record*, No. 11, p. 17

Gray, H. John (1928) Memoranda from a mounter: 'Mounting insect parts in natural condition', Cedar oil balsam', and 'A background for opaque slides', *Watson's Microscope Record*, No. 15, pp. 26-27

Museum of the History of Science web site (accessed August, 2012) Inventory no. 28569, "Drawing room radium outfit", <https://www.mhs.ox.ac.uk/collections/search/display-narrative/?irn=7166&index=2>

Oak Ridge Associated Universities Health Physics Historical Instrumentation Collection (accessed August 2012) H. J. Gray Spintharoscope, <http://www.orau.org/ptp/collection/spinthariscopes/Slide.htm>

World War I pension record of Hubert John Gray, accessed through ancestry.co.uk

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