Francis Galton's dog whistle and his albino puppy Wee Ling

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Housed in the Galton Collection at UCL are eight curious whistle components, in an original cardboard box, and two framed photographs dated to 1909. One of these photographs shows the eighty-seven year old Sir Francis Galton in his bath chair. Standing beside him is his faithful manservant Albert Gifi holding Wee Ling, a pure white albino puppy. Back in 1876, Galton, a prominent Victorian scientist and statistician, had invented a whistle to test the range of human hearing abilities at higher frequencies. He later adapted it to test animal hearing. His discovery from roaming the streets of Berne and other towns, was that only small breeds heard very high pitched notes. However, the darker side is that Galton was an advocate of selective breeding. In turn, Wee Ling was the result of dog-breeding experiments carried out by Galton's eugenic disciple Karl Pearson. Both men are seen seated together in the second photograph on the day of the puppy's arrival. As Pearson chillingly wrote: 'I gave you Wee Ling because we had decided he was the most intelligent'; nonetheless he 'turned out to be incapable of reproducing his kind!' Just two years later, as a result of his mentor's generous bequest, Pearson was destined to become the first holder of the Galton Chair in National Eugenics at what was then University College London. In this article, the contrasting sources – whistle(s) and photographs – are critically analysed by means of an object-based learning methodology. Their stories reveal Galton as inventor, eugenic mentor, and as an ageist and ageing individual. The end result is an enhanced understanding into the tensions between his inventive genius, darker thinking, and eugenic legacy.

Sir Francis Galton (1822-1911) was a Victorian polymath and professional scientist who made foundational contributions as an ethnographer, statistician, psychologist, biologist, meteorologist, and criminologist. He was also an inventor of remarkable instruments. This article engages with his ingenious dog whistle, in relation to eight curious components which are preserved in the Galton Collection at UCL. This seemingly harmless whistle, invented in 1876, is juxtaposed with a two-dimensional visual source: two 1909 photographs of Galton, which reside in the same repository. The first shows him with his albino puppy Wee Ling, and the second with his protégé the statistician Karl Pearson (1857-1936). In 1883, Galton had invented the term 'eugenics', which he defined as the breeding of human 'stock' to give 'the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable'.[1] Through advocating selective breeding, Galton was condemning certain people as genetically 'unfit' for society, a reprehensible idea which has been widely used since to justify persecution based on class, race, and disability. The aim of this article is to align whistle(s) and photographs as contrasting sources, in order to tease out critical insights into the tensions between Galton's inventive genius, his darker thinking, and eugenic legacy.

[1] Francis Galton, *Inquiries into Human Faculty and its Development* (London: Macmillan 1883), p. 70 n.

Context, methodology and framework

In 1904, Francis Galton established a Research Fellowship in eugenics at what was then University College London (known officially since 2005 as UCL), and founded the Eugenics Record Office.[2] His obituary writer in *The Times* records that its holder was 'to devote his time to studying the agencies under social control that may improve or impair the racial qualities of future generations, either physically or mentally'.[3] On his death in 1911, Galton bequeathed the college his personal memorabilia and extensive archive. Natasha McEnroe has given a powerful insight into the challenging nature of this material for the twenty-first century curator and archivist.[4]

As indicated in the acknowledgements, the methodology I have adopted in this article is object-based learning (OBL), a multi-sensory learning experience which encourages a critical use of the senses, in particular, touch, together with sight and smell. UCL has been at the forefront of promoting the efficacy of OBL.[5] Primary research visits have been undertaken to its Galton Collection, Grant Museum of Zoology, and UCL Special Collections.

This article is framed in three sections. The first sets the scene by focusing on Galton as the inventor of a dog whistle. The enigmatic whistle components in the Galton Collection are aligned with a photograph showing an albino puppy. Both sources are then linked by means of Galton's dog whistle, and his discoveries regarding the superior hearing capacity of small dogs. On the premise that 'objects illuminate the relationships that created the Museum', the second section critically examines Galton as Pearson's eugenic mentor in relation to the selective breeding of dogs for intelligence.[6] The third focuses on Galton as an ageist and ageing individual, in order to deconstruct the hidden faces behind the sources. A final reflection on Galton's scientific legacy then brings 'the lives of the objects' full circle.[7]

1. Galton: the inventor

In 1869 Galton invented a dog whistle, which is still commercially manufactured today (compare Fig.5). Conveniently housed inside a cardboard box belonging to C. Baker, London's long established optical and

[2] Rosalind Janssen, 'Conversing with Eugenic Object Stories at UCL', in *Towards a History of Egyptology: Proceedings of the Egyptological Section of the 8th ESHS Conference in London, 2018*, Investigatio Orientis, 4, ed. by Hana Navratilova, Thomas L. Gertzen, Aidan Dodson and Andrew Bednarski (Munster: Zaphon, 2019), pp. 231-255 (p. 234).
[3] [Anon.], Galton Obituary, *The Times*, 19 January 1911, p. 11.
[4] Natasha McEnroe, 'Unfit for Society: The Case of the Galton Collection at UCL', in *Extreme Collecting: Challenging Practices for 21st Century Museums*, ed. by Graeme Were and J.C.H. King (New York: Berghahn, 2012), pp. 75–92.
[5] Most recently, *Engaging the Senses: Object-based Learning in Higher Education,* ed. by Helen J. Chatterjee and Leonie Hannan (Farnham: Ashgate, 2015).
[6] Chris Gosden, Frances Larson, with Alison Petch, *Knowing Things: Exploring the Collections of the Pitt Rivers Museum 1884–1945* (Oxford: Oxford University Press, 2007), p. 5.
[7] *The Lives of the Objects*, ed. by Tristram Hunt (London: V&A Publishing, 2020).

surgical instrument maker, are eight whistle components: seven in metal and one of reed (Fig.1).[8] A recent red ink label at the top right of the lid denotes the contents as 'Galton Apparatus No. 39'. Meanwhile, the inventory for Galt 039 confirms that, on its arrival in the Galton Collection, the box contained only one whistle.[9] However, on removing the contents and engaging in a detailed inspection, it was impossible to imagine that they could ever have fitted together (Fig.2). Moreover, the only clearly identifiable item is a complete whistle (Fig.2, top right). This is perhaps not surprising given that an earlier black ink label, written by Pearson and placed on the left side of the lid, references the contents in the plural as 'Galton's whistles for testing hearing'. This presents a triple enigma: the function and interrelationship of each element; the precise number of whistles; and who or what might have been having their hearing tested.

Figure 1: Galton's brass and cane whistles in an original box, 17.5 × 7.0 × 2.5 cm
(Galton Collection, Galt 039; Courtesy of the Galton Collection, UCL)

[8] The firm of Charles Baker was established in 1765 and traded until 1963.
[9] Information provided by Hannah Cornish, Science Curator.

Figure 2: the eight whistle components removed from their box, (Galton Collection, Galt 039; Courtesy of the Galton Collection, UCL)

Equally curious is the first photograph in the Galton Collection which shows Galton on the terrace of his rented house at Cobham in Surrey (Fig.3). Confined to his bath chair, and well blanketed from the elements, he looks up from the newspapers on his lap to face the camera directly. Standing beside Galton is his immaculately dressed Swiss manservant. Alfred Gigi holds a pure white puppy named Wee Ling. The enigma is why a helpless eighty-seven year old has agreed to adopt a month old albino Pekingese who, as he was shortly to report, 'has a horrid temper, and bites with his little sharp teeth and swears in Chinese dog-language'?[10]

[10] Karl Pearson, *The Life, Letters and Labours of Francis Galton*, III[A], *Correlation, Personal Identification and Eugenics* (Cambridge: Cambridge University Press, 1930), p. 392. Letter 25 October 1909. The disarticulated Wee Ling now resides in the Grant Museum (LDUCZ-Z1214), together with his mother Tong I. His teeth are indeed very sharp. The Karl Pearson Dog Skeleton Collection comprises eleven dogs, with the six articulated examples on display euphemistically referred to as 'Pearson's statistical dogs'.

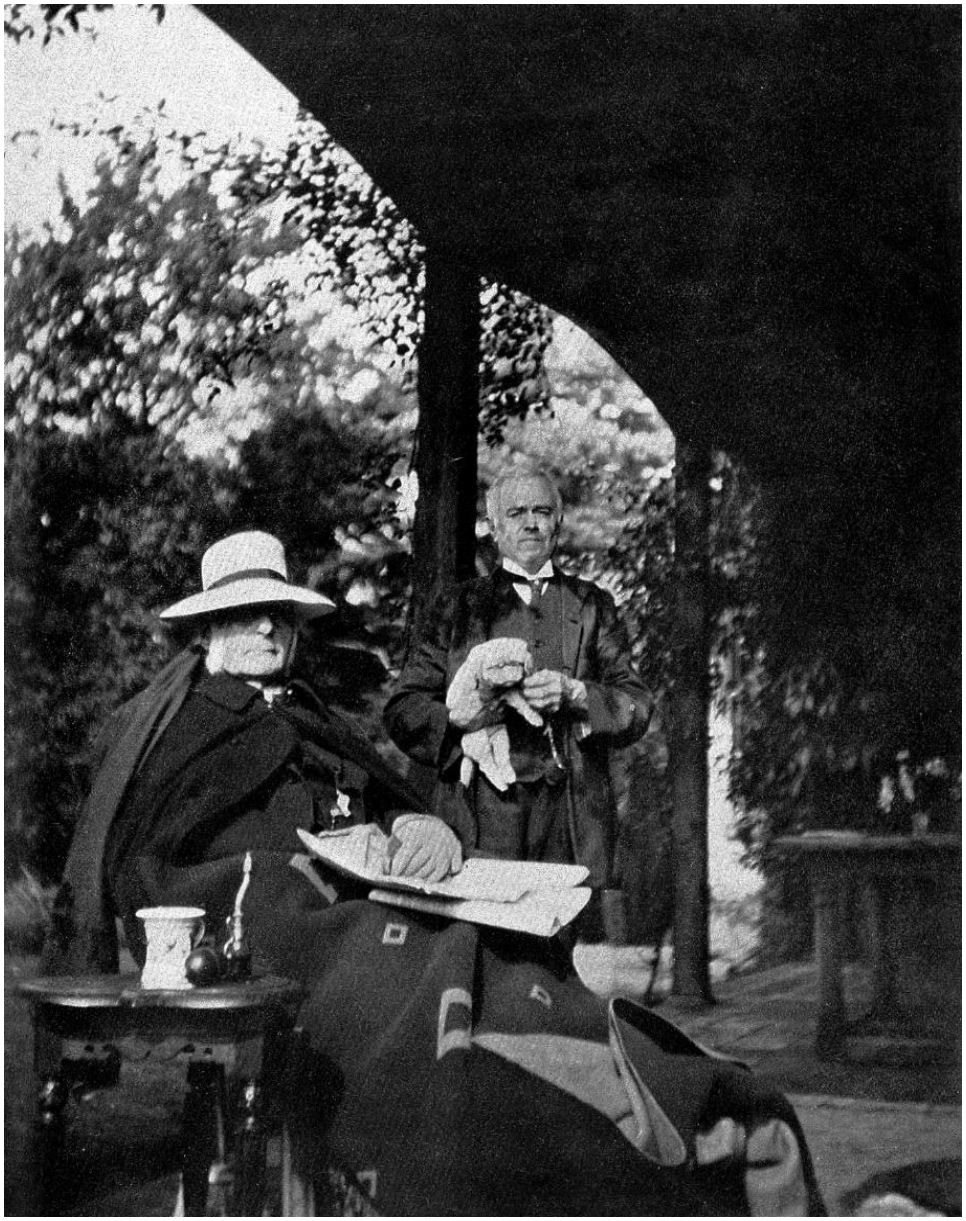

Figure 3: Galton with his manservant Gifi who holds Wee Ling, Fox Holm, Cobham (September 1909) (photograph, Galton Collection, Galt 151; Courtesy of the Galton Collection, UCL)[11]

The immediate link between dog whistle and photograph is the apparatus that Galton designed for experimenting with the former, and which was inserted into the end of his hollow walking-stick. Squeezing an Indian rubber ball, connected to tubing placed under the handle of the stick, forced a small amount of air into the whistle and caused it to emit a shrill sound.[12] Galton originally tested out the apparatus at the London Zoo by holding it 'as near as is safe to the ears of the animals', and noting if they pricked up their ears.[13] Whereas a blown whistle would have been visible to the animals, Galton's surreptitious hand operation of his curious invention caused complete surprise.[14] Indeed, Subhadra Das, Curator of the

[11] Also published in ibid., Pl. XXVIII, facing p. 390.
[12] Galton, *Inquiries*, p. 39.
[13] Ibid., p. 39.
[14] Compare Pavlov's dogs and the discovery of classical conditioning.

Galton Collection, reports him as having said that there was 'little to report, except that it certainly annoyed the lions'.[15]

Using a similar walking-stick whistle, he would obsessively walk through the streets of a town and make 'nearly all the little dogs turn round, but not the large ones'.[16] The experiment appeared proven in Berne, where he 'tried the whistle for hours together, on a great many large dogs, but could not find one that heard it'.[17] The apparatus, which is never described or pictured, is most likely to be identified as the hollow brass gadget with its coating of peeling black paint (Fig.2, bottom left). The wider left-hand end could have been inserted into the walking-stick, with the whistle placed into the opposing narrower end. The ingenious rotating handle below would have connected with the ball and tubing. Equally tantalising, and beyond the scope of this article, is Smith and Hannan's assertion that, as attested by the Kennel Club archive, Galton's dog whistle was later used as a sometimes controversial device in dog training.[18]

2. Galton: the eugenic mentor

It was Galton's eugenic disciple Karl Pearson who, on 12 September 1909, had cycled over from Woodcote to Cobham with the albino puppy in the basket on his handlebars.[19] The second photograph, showing the two men seated together, was taken during that visit (Fig.4). Pictured on the same terrace, Galton now turns away, whereas Pearson's piercing eyes seem to penetrate directly into the lens of the camera. A month later, in what was a clear deferential reference to the scientific interests of his mentor, Pearson told Galton: 'I gave you Wee Ling because we had decided he was the most intelligent' of his litter.[20]

[15] Subhadra Das, 'Racism, Eugenics and the Domestication of Humans', <https://blogs.ucl.ac.uk/museums/2017/10/25/racism-eugenics-and-the-domestication-of-humans/> [accessed 29 January 2020]. I have been unable to trace the original source of this quotation.
[16] Galton, *Inquiries*, p. 40.
[17] Ibid., p. 40.
[18] Kate Smith and Leonie Hannan, 'Return and Repetition: Methods for Material Culture Studies', *Journal of Interdisciplinary History*, 48 (1) (2017), 43-59 (p. 53).
[19] Pearson, *The Life,* III[A], p. 391. Pearson announced the birth of the three sibling albino puppies to Galton on 8 August. He then enclosed their photograph within a cleverly worded letter to Galton dated 10 September. He asked: 'would Miss Biggs like Wee Ling?' Eva Biggs, Galton's great-niece and companion, accepted with alacrity.
[20] Pearson, *The Life,* III[A], p. 395. Letter 26 October 1909.

Figure 4: Karl Pearson with Galton on the day he delivered Wee Ling, Fox Holm, Cobham (12 September 1909) (photograph, Galton Collection, Galt 356; Courtesy of the Galton Collection, UCL)[21]

A fuller understanding of why Galton might have been attracted to the possibility of adopting an intelligent small dog, necessitates a journey further back in time beyond his 1876 whistle. Arriving in Cape Town in 1850 as a twenty-eight year old at the start of his South African explorations, he 'had a fancy to take a small dog which could be carried in the waggon all day, and would be wakeful at night'.[22] Galton therefore purchased a spaniel 'on which I lavished infinite affection, and who rejoiced in the name of Dinah'.[23] Later on, he credited her with more intelligence than the Damara tribesmen in what is now Namibia. Dinah was able to keep track of her new-born puppies more easily than the Damaras could count their cattle. With

[21] Ibid., Pl. XXXVI, facing p. 353.
[22] Francis Galton, *The Narrative of an Explorer in Tropical South Africa* (London: John Murray, 1853), p. 14.
[23] Ibid., p. 14.

regards to their respective mental abilities, Galton concluded that: 'taking the two as they stood, dog and Damara, the comparison reflected no great honour on the man'.[24] It is therefore not surprising that fifteen years later, Galton suggested breeding 'generation after generation' of dogs purely for intelligence.[25] By 1899, he was requesting permission from the Kennel Club to take photographs of its pedigree prize winners as a 'most valuable aid to investigations into the Science of Breeding'.[26]

Pearson had told his mentor: 'I should like to know where he [Wee Ling] was, if he had to be united in holy matrimony at any time with one of his cousins or half-sisters!'[27] This is a reference to the dog-breeding experiments, conducted from 1905 on, by Pearson and his collaborators Edward Nettleship (1845-1913) and Charles Usher (1865-1942).[28] Any attempt to follow Galton's scientific interests in breeding small dogs for intelligence, was entirely tangential to this programme. Instead, using an established Chinese breed, the aim was to produce a 'new race' of albino Pekingese dogs.

Over five hundred dogs were produced as a result of excessive inbreeding: father to daughter, and brother to sister, rather than the cousin and half-sister mating implied above. Indeed, only one new stud dog was introduced during the course of twenty-five years.[29] The litters suffered heavy mortality, while photophobia rendered the surviving animals liable to collapse in bright sunshine, and their extreme short-sightedness resulted in clumsiness. Moreover, they were often infertile. Confirming the disciple with the piercing eyes as a more extreme eugenicist than the mentor, Pearson simply declared: 'the closer the inbreeding the more likely we seem to get interesting results'.[30]

Galton's deliberate purchase of the intelligent spaniel, who rejoiced in the name of Dinah, led to the birth of her litter in Damaraland. By contrast, the 'markedly intelligent' Wee Ling, who had to be returned to his former master after a mere six months spent in Galton's household, 'turned out to be incapable of reproducing his kind!'[31] The subjection of this albino Pekingese to Pearson's chilling animal experiments recalls the non-consensual violence of Prince Shechem who 'seized' the original Dinah, daughter of Jacob, and proceeded to 'lay with her by force'.[32]

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[24] Ibid., p. 134.
[25] Francis Galton, 'Hereditary Talent and Character', *Macmillan's Magazine*, 12 (1865), 157-166; 318-327 (p. 158). Repeated in Francis Galton, *Hereditary Genius: An Inquiry into its Laws and Consequences* (London: Macmillan, 1869), p. 76.
[26] Galton Papers, Pedigree Dogs 1889-1899 GALTON/2/5/9, UCL Special Collections.
[27] Pearson, *The Life,* III[A], p. 391. Letter 10 September 1909.
[28] Karl Pearson and C.H. Usher, 'Albinism in Dogs', *Biometrika*, 21 (1/4) (1929), 144-163.
[29] Karl Pearson, 'On a New Theory of Progressive Evolution', *Annals of Eugenics*, 4 (1930-1931), 1-40 (p. 6). Here blamed on financial constraints.
[30] Pearson and Usher, p. 150.
[31] Pearson, *The Life,* III[A], p. 395.
[32] Genesis 34: 2 (NSRV translation).

3. Galton: ageist and ageing

Galton first invented his whistle to test the upper limits of audible sound in human hearing, correctly determining that this was normally about 18 kHz.[33] The darker side of the story behind the object is that by 1883 he had discovered *presbycusis*, or age-related hearing loss. He writes that 'there was a remarkable falling off in the power of hearing high notes as age advanced', with those concerned 'quite unconscious of their deficiency so long as their sense of hearing low notes remained unimpaired'.[34] In the years leading up to the publication of his *Inquiries into Human Faculty* in 1883, Galton would display his ageism by delighting in 'an only too amusing experiment'.[35] This involved testing the hearing of a group of various ages. The older participants failed to hear the shrill notes, which their younger counterparts could hear clearly, causing them to 'commonly betray much dislike to the discovery'.[36] Moreover, his scientific experiments were misogynistic. Comparing men and women he found that 'as in every other faculty that has been discussed, the male surpasses the female'.[37] Whereas 18 per cent of the males tested could hear 'the shrillest test-note', only 11 per cent of females were able to do the same.[38]

Figure 5: Galton's brass human auditory whistle, Europe (1876-1920)
(Science Museum, 1996-277/2; Courtesy of the Science Museum, London)

[33] Nick Joyce and David B. Baker, 'The Galton Whistle', <https://www.psychologicalscience.org/observer/the-galton-whistle> [accessed 31 January 2020].
[34] Galton, *Inquiries*, p. 38.
[35] Ibid., p. 38.
[36] Ibid., p. 39.
[37] Francis Galton, 'Anthropological Miscellanea. Some Results of the Anthropometric Laboratory', *Journal of the Anthropological Institute*, 14 (1885), 275-287 (p. 286).
[38] Ibid., p. 287.

Galton describes making such a whistle from a tiny brass tube 'whose internal diameter was less than one-tenth of an inch'; a slit was placed at the end (Fig.5).[39] The brass tube tied around with thread, together with the cane pipe next to it, can be now identified as Galton's experiments with small human auditory whistles (Fig.2, third and fourth from bottom left). It is logical to suggest that one relates to a high, and the other to a lower, frequency. Air would be puffed through the tube, coming out at the slit as an audible tone. A sliding plug was then fitted at the lower end of the tube, to be manoeuvred up or down to create different frequencies. Fitting this description is the experimental tiny brass tube and plug (Fig.2, top left). The sliding plug was graduated so that precise notes could be determined (Fig.5).

Still to be identified is the curious metal device (Fig.2, bottom far right). The circular component, which incorporates a screw, appears to derive from a similar instrument (Fig.2, top centre). Inscribed on one of the long edges of the former are the words 'Hawksley, London' (in capitals).[40] It may well derive from Galton's hydrogen whistle, since he references Mr. Hawksley as the manufacturer of an apparatus to be used in conjunction with a whistle.[41] Designed to test the hearing of insects, this featured a small gas bag for pure or diluted hydrogen, and a squeezable Indian rubber ball which enabled the hydrogen to be used with the whistle. The device itself was connected to the end of Indian rubber tubing, and then laid near the insect.[42] Galton tested the hydrogen whistle alongside his dog whistle at the London Zoo.[43] Finally, the flattened whistle (Fig.2, second from bottom left) is likely to represent Galton's 'largely unsuccessful attempt' to flatten a piece of brass tube, in order to form a whistle 'that would be both shrill and powerful, and correspond to a battery of small whistles'.[44]

In turn, the hidden face of the 1909 photographs is that of the ageing Galton, who was by now stone deaf himself (Figs. 3-4).[45] Two years earlier, he had written:

> But my strongest sympathy is with the deaf. Had I a fairy godmother, I would petition that every experimental physicist should be made as deaf as I am; until they had discovered a good ear trumpet, and then that as many fairy-gifts should be heaped on the discoverer as should exceed all he should desire, as well as the thanks and gratitude of all whom he had relieved.[46]

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[39] Ibid., p. 38.
[40] A London surgical instrument maker based at 307 Oxford Street.
[41] Karl Pearson, *The Life, Letters and Labours of Francis Galton*, II, *Researches of Middle Life* (Cambridge: Cambridge University Press, 1924), p. 217.
[42] Ibid., p. 217.
[43] Ibid., p. 216.
[44] Galton, *Inquiries*, p. 377.
[45] Ibid., p. 280. Back in 1894, the seventy-four year old Galton had been complaining that his deafness constituted a problem at committee meetings.
[46] Karl Pearson, *The Life, Letters and Labours of Francis Galton*, III[B], *Characterisation, Especially by Letters, Index* (Cambridge: Cambridge University Press, 1930), p. 584. Letter of 2 November 1907 to Sir George Darwin.

No longer delighting in the hearing loss of older people, Galton's age and infirmity precluded him from being the inventor of that sought after effective ear trumpet.[47]

By identifying each of the stand-alone devices in the box, and teasing out the story behind the two photographs, a discursive lens has been provided into eugenic object stories. The positive and negative faces of Francis Galton have been unmasked. His experimental whistles to test both human and animal hearing, reveal him as a remarkable inventor and obsessive genius. By contrast, his short-term adoption of the albino puppy Wee Ling reveals Galton's darker thinking as a long-term advocate of experiments into selective breeding. This is epitomised by taking the story behind the two photographs forward and then back again in time. Two years after they were taken, Francis Galton died. While Gifi was rewarded with a mere £200 for his twenty years of devoted service, a £45,000 financial bequest to UCL endowed Britain's first Chair of National Eugenics. The stipulation was that Karl Pearson was appointed first Galton Professor.[48] No wonder that Natasha McEnroe has asserted that 'Galton's absolute commitment to his eugenics programme can be seen as extreme even among his contemporaries'.[49]

Returning to 1909, the two photographs were taken in the same year that Pearson started hosting public lectures on his albino breeding experiments. These were held at UCL's Galton Laboratory. His co-researcher Ethel Elderton later recalled how dogs had been present in cages, and 'we had great fun over it all'.[50] UCL is now having to openly engage with such controversial legacies. The release of its Eugenics Inquiry report is due to take place in a UCL lecture theatre on 28 February 2020.[51] A two hour event, it will be filmed and live streamed. Not surprisingly, the author of this contribution intends to be present in person to hear for herself the findings and recommendations.

Acknowledgements

Hannah Cornish provided generous access to Galton's whistles. The Galton Collection has recently been rehoused in UCL's new Object Based Learning Lab, prominently situated off the Octagon. I was the very first research visitor to use this designated space. Chris Hughes allowed me to handle the skull of Wee Ling in the Grant Museum, and provided information on the registration numbers of Pearson's statistical dogs. Dan Mitchell kindly facilitated my three visits to UCL Special Collections in order to access both the Galton and Pearson Papers.

[47] Although the use of ear trumpets dates back to the sixteenth century, their first commercial manufacture was by the London firm established by Frederick Rein in 1800. F.C. Rein and Son ceased trading in 1963, as the first and last such company.
[48] Renamed in 1963 as the Galton Chair in Human Genetics.
[49] McEnroe, p. 89.
[50] E.S. Pearson, *Karl Pearson: An Appreciation of Some Aspects of his Life and Work* (Cambridge: Cambridge University Press, 1938), p. 71. Egon Sharpe Pearson (1895-1980) succeeded his father as Professor of Statistics at UCL.
[51] Janssen, pp. 249-250.

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