Hyla Bristow Stallard: Citius, Altius, Fortius

Hyla B. Stallard (1901–1973)[1]

"Ah, but a man's reach should exceed his grasp, Or what's a heaven for?" - Robert Browning

The Olympic Games have always been associated with grit, determination, struggle, anxiety, competition, heartbreak, hope, loss, teamwork, victory, and sheer joy. Hyla Bristow Stallard, known to most ophthalmology students for his textbook, had many chapters in his book of life. When the world struggled with a lost year, the Tokyo 2020 Olympics was a refreshing relief, not only uniting the people on a common ground in spirit, it was also a stark reminder of the new normal being virtually a skeleton, stripped of all pomp and magnificence that is Olympics. This month, we take a run down the memory lane to the Olympic games of 1924, with H. B. Stallard as our protagonist.

H. B. Stallard, Henry to his friends, was born on April 28, 1901, in Leeds. In 1919, he entered Gonville and Caius College at Cambridge University. There, along with Harold Abrahams, he flourished on the tracks. In 1920, he was part of the Oxbridge (Combined Oxford and Cambridge) four-man 2-mile relay team at the Penn Relays in Philadelphia that broke the world record. The New York headlines warned "*American Milers must watch Stallard at Antwerp*," but a broken toe in Pennsylvania denied his selection for the 1920 Olympics. Stallard won the mile run in the annual Oxford–Cambridge track meet for three consecutive years (1920–1922), a record broken only 25 years later by Roger Bannister, who won for four consecutive years (1947–1950). In 1923, Stallard entered St Bartholomew's Hospital Medical School. While there, his athletic prowess continued to improve and impress [Fig. 1].[1] He remains the only runner to have won the mile, half-mile, and quarter-mile (1923–25) at the Amateur Athletic Association of England Championship. He lost out on the fourth title in 1926 when he withdrew after donating blood to save a patient's life in the hospital.[2]

The Paris Olympics of 1920 was the second time that the Games were held in Paris and the first time that the motto "Citius, Altius, Fortius" or "Faster, Higher, Stronger" was adopted. It was also the first time that the athletes were housed in an Olympic village and, in the closing ceremony, three flags were raised, one for the International Olympics Committee, one for the host country, and one for the future host country.

Stallard ran the finals of the 800 m run on July 8, 1924. He was given the task of setting the pace for the British athletes with the idea that if one of the three British runners—Lowe, Houghton, and him—could get a good pace, the American athletes could be defeated. The concept of "drafting" or "slipstreaming" in competitive running, where the lead runner expends more energy against the wind resistance and the following runners exploit the lead runners slipstream, were still new. Stallard had beaten Lowe in the trials and, although he led for the first 700 m, Stallard lost in the last 100 m, clocking the same time as Schuyler Enck of America, who, unfortunately, was awarded the single bronze medal. His fellow Cambridge runner, Lowe won gold![1,4] Next day, in the 1500-m heats, Stallard was badly injured with a ruptured ligament and a stress fracture of the scaphoid of the right foot. Despite this, he qualified for the finals.[1] The team physician advised him to withdraw from the final run as did the team captain. "*I am going to run tomorrow even if I never run again*," and he did.[4] On July 10, 1920, the world watched a man, with a broken, bandaged foot but undaunted spirit, break an Olympic record by 1.2 seconds…but it was just not enough. "*Ere a few seconds have elapsed you are in the midst of a neck-and-neck struggle down the home straight. Forms begin to sway, men groan under the exertion, the 'tape' seems to recede into the distance, the spectators' voices become less audible, one's eyes are blurred, and then all is over*," Stallard wrote. Paavo Nurmi, the "Flying Finn," was the winner, and Willy Schärer of Switzerland took the silver medal. Stallard finished third and won the bronze as he collapsed across the finish line and had to be led from the stadium. His teammates, Lowe and Spencer, who had both run with him, helped carry him on the stretcher. He received a hero's welcome when he returned to Britain. The movie *Chariots of Fire* immortalized the Paris Olympics, sweeping four Academy Awards (best picture, best original music score, best costume design, and best original screenplay). It revolved around athletes Harold Abraham and Eric H. Liddell; Daniel Gerroll portrayed Stallard in the movie.[1]

As a medical student Stallard excelled, winning the Houseman of the Year.[5] He was appointed as a pathologist in Moorfields Hospital in 1928. Manual dexterity and attention to detail attracted Stallard to ophthalmology. He was trained by Foster Moore at St Bart's and was highly influenced by his work on radiotherapy. He received his MD with his thesis "Radium as a Therapeutic and a Pathogenic Agent in Certain Ocular Disorders" in 1933.[1]

Figure 1: Henry Stallard, 1923[3]

From 1929 onwards, he held a territorial army commission and went on to serve in Cairo and Normandy during World War II.[5] He saw and tended to several eye injuries during war and developed an interest in plastic surgery. He documented all that he saw and described the types of weapons causing the injuries, foreign bodies removed from each patient with their drawings, localization of foreign body, use of different types of limbal rings, types of giant electromagnets, and the surgical technique of their removal using magnets and forceps, both by the anterior and the scleral route [Fig. 2].[6,7] For his exceptional work, he was awarded the Member of Order of the British Empire.[1]

While in war service, he started working on his textbook titled "Eye Surgery." It remains one of the most comprehensive books describing surgeries from all subspecialties of ophthalmology. He wrote and illustrated the first five editions of the book.

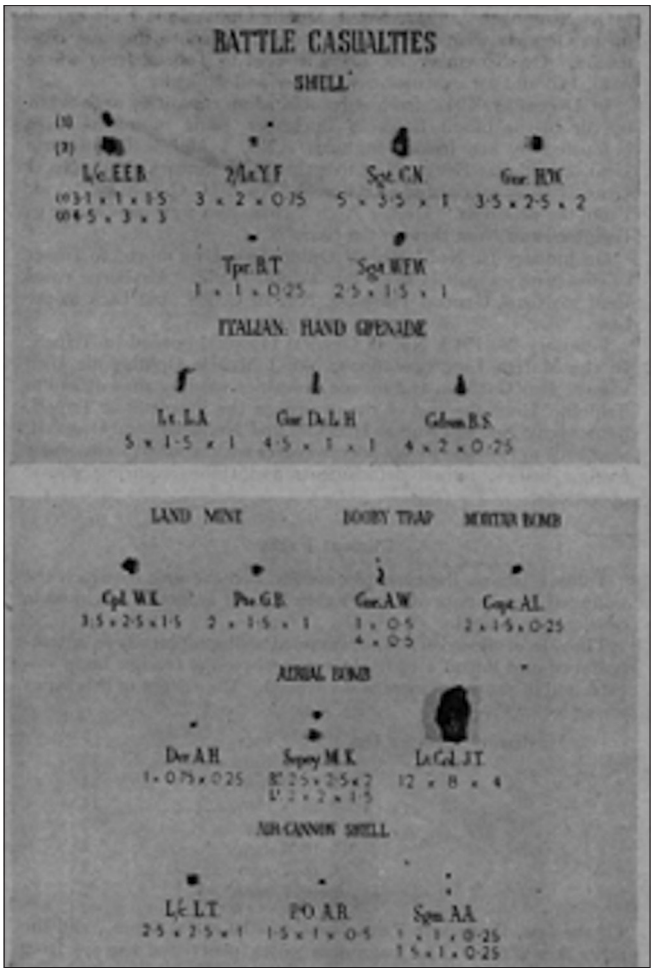

Figure 2: The documented shapes and sizes of war missiles (Taken from Stallard HB. War surgery of the eye. Br J Ophthalmol 1944;28:105-35)[7]

A gifted surgeon, he described several surgical techniques, including but not limited to partial cyclectomy and its modifications for iris neoplasia, techniques of eyelid reconstruction and partial transplantation (middle third) of levator palpebrae superioris muscle in patients with superior rectus palsy, management of ocular emergencies, and surgeries for epiphora.[8-11] He popularized lateral orbitotomy with his modifications of Kronlein's operation and Dickson Wright's approach [Fig. 3]. In this technique, the incision is made at a lower level and along the eyebrow line, the lateral orbital wall is preserved; it is removed and then replaced with sutures at the end of surgery, and the orbital periosteum is reflected in two flaps and sutured back at the end. It gives wider access than the conventional Kronlein approach and is safer and more versatile than the transfrontal approach.[12] For somebody who understood the principles and indications for radiation, he recommended excision biopsy with reconstruction for eyelid tumors because of the long-term consequences and complications of irradiation to the eyelid. He described the complications of irradiation and the advantages of surgery-biopsy with full length and depth allowing histological examination of entire tissue, eradication of tumor, less chance of recurrence, and better structure and function after reconstruction with less damage to adjacent structures.[13]

While with Foster Moore, he was involved in the research of conservative management of retinoblastoma by insertion of radon seeds at the tumor base. Stallard established the principles of radiotherapy of retinoblastoma. He acknowledged the standard teaching that if the tumor has grown from a radiosensitive tissue, the neoplasm would also be radiosensitive and vice versa but described retinoblastoma as an exception arising from a radioresistant retina but the undifferentiated atypical cells of retinoblastoma being radiosensitive. Thus, radiotherapy is a favorable conservative treatment option. He studied the pathological changes of radiation using enucleated eyes and implanting interstitial radon seeds to determine the dose, depth, and duration of treatment and the pathological changes in the retina, vessels, and the tumor. He reported the results of treatment with radon seeds, then transition to episcleral seeds embedded on stents molded to fit the scleral surface, and finally the development and use of radium disks and cobalt disks. These sit on the scleral surface with better irradiation of tumor rather than the seeds that are placed tangential to the sclera and provide uneven radiation. He described the method of examining the tumor and marking its position on the sclera and then overlapping the growth by 1 mm with the active area of the disk. The results were given for 43 patients, both with single and multiple islands of tumor. Trials with radon seeds of various strengths helped in planning the structure and loading of the disks. He found a dose of 3500 r at the summit of lesion and 19000r at the base to be most effective and with the least complications. Radioactive disks were successful in 96%. He concluded that when 1/3rd or less of the retina is involved by the tumor, there is a reasonable hope of treating with radiation. Half or more retina being involved or 3 or more islands of tumor near the optic disk was associated with retinal detachment or it was expected after radiation and was associated with more complications such as intraocular hemorrhage, glaucoma, iridocyclitis, and endophthalmitis and was therefore not recommended.

His papers had beautiful, schematic illustrations with fine labels. Meticulously drawn fundus diagrams and documented dose, location of placement of the seeds/disks, complications, and results were included for each patient.[14]

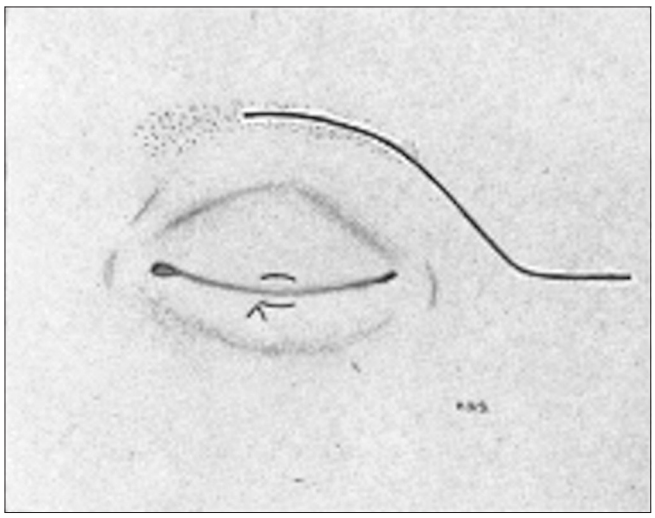

Figure 3: The incision for lateral orbitotomy described by Stallard. (Taken from Stallard HB. A plea for lateral orbitotomy: With certain modifications. Br J Ophthalmol 1960;44:718-23)[12]

He also described the use of radon seeds for malignant melanoma and metastatic carcinoma of choroid.[15]

A pioneer, he designed many surgical instruments: a knife for corneal grafting, a plastic disk for retention of corneal graft shaped to the curvature of the cornea, a ptosis spatula which could be sutured to the lid and to the sterile drape, accounting for the different eyelid lengths and negating the need for an assistant, a head clamp for orbital surgeries securing the head during bone cutting and allowing inclination of the head during lateral orbitotomy and DCR, and a non-magnetic foreign body extractor [Fig. 4].[16-20]

Henry Stallard was the President of the Section of Ophthalmology of the Royal Society of Medicine, President of the Ophthalmological Society of the United Kingdom, and Assistant Editor of the British Journal of Ophthalmology. He received The Order of the Southern Cross from Brazil and, in 1952, was given an honorary LLD by the University of St. Andrews.

The British Journal of Ophthalmology called him one of the greatest eye surgeons of his era. "*Stallard's distinction lay*

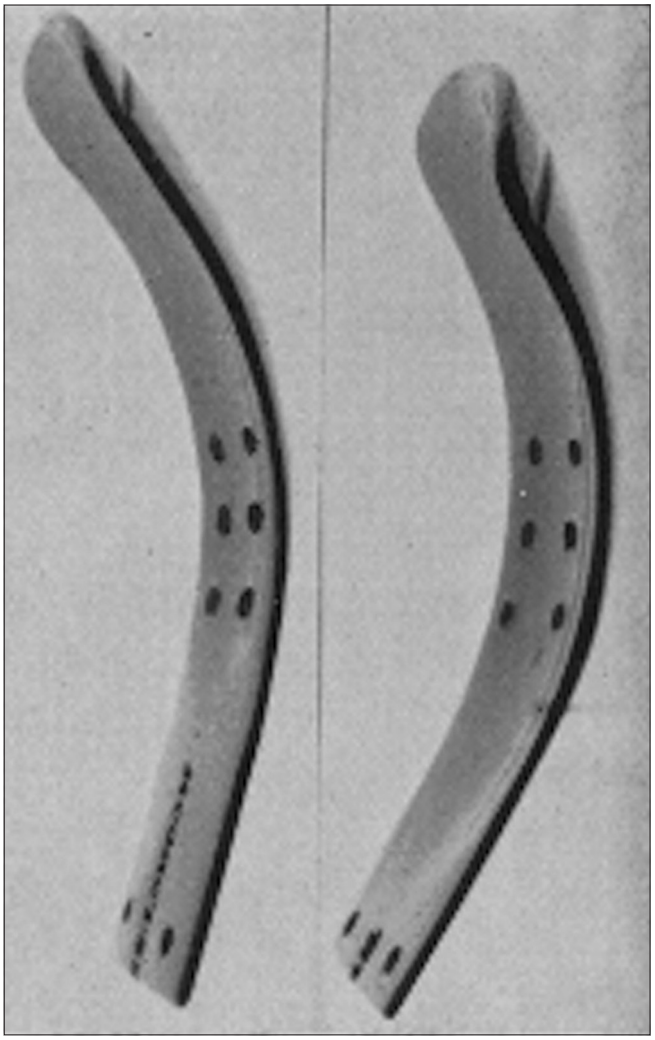

Figure 4: Ptosis spatula, the adult and pediatric sizes, designed by Stallard. The holes are to secure the spatula in place during surgery. (Taken from Stallard HB. Modified ptosis spatula. Br J Ophthalmol 1955;39:573-4)[17]

in the quality of his surgical skills and his ability to impart them to others. Every single operation was in fact a research project to be performed as perfectly as possible. He was the complete master. There was a natural reserve, a great humility combined with a high ideal of service and a great compassion which made him an outstanding doctor. [He was] Artistic, warmhearted, perceptive, and with a genial and kindly humour."[1]

A sportsman for life, he beautifully blended both his professions. He was ambidextrous. While at Cairo during World War II, he became the fastest man to climb up and down the Great Pyramid of Giza, clocking 13 min and 23 s.[4] His operation theater was no less than an arena of the revered games and marathon surgical sessions were common, attracting students and observers from all over the world. His athletic stamina was unmatched and he would work tirelessly, never used the elevator but climbed the stairs even in his later years, leaving young physicians and students panting and trailing behind him. He would ride his bicycle through the London streets going from St. Bart's to Moorfields and his office at Harley Street.[1]

The irony of Stallard's life lay in the fact that he "almost" always won, his passion proving to be his bane at every step, whether it was the injuries he incurred during running or succumbing to radiation-induced osteogenic sarcoma complicating Paget's disease of the pelvis few days after his retirement. This was most likely a result of carrying unshielded radioactive plaques in his hip pocket as he traveled to different hospitals treating patients.[1] For athletes and ophthalmologists, however, he will always be a champion, inspiring to be faster, reach higher and emerge stronger.

"The most important thing in the Olympic Games is not winning but taking part; the essential thing in life is not conquering but fighting well."–Pierre de Coubertin

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Conflicts of interest

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Mrittika Sen, Santosh G Honavar

Ophthalmic and Facial Plastic Surgery and Ocular Oncology Service, Center for Sight, Hyderabad, Telangana, India.
E-mail: mrittika24sen@gmail.com

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