

## History of Asian Biomedicine

# Sir Wilfrid Le Gros Clark: the Sarawak years

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British scientist Sir Wilfrid Le Gros Clark was one of the most distinguished anatomists, neuroscientists and physical anthropologists of the twentieth century. He spent most of his career at the University of Oxford as the Chair of the Anatomy Department. This paper focuses on Le Gros Clark's early career and provides a historical account of the three years he spent as a Principal Medical Officer in Sarawak, which was then a British controlled state on the island of Borneo. At Sarawak he carried out numerous medical, administrative, and educational duties, making significant improvements to the local health system. His success as the Principal Medical Officer came not only as a result of his medical knowledge and organizational skills, but also because of his extensive knowledge and understanding of the local cultures. Interested in the natural history of the country, Le Gros Clark also collected specimens of the local fauna. These would provide material for some of his most significant research carried out when he took an academic position in England. Years in Sarawak enriched Le Gros Clark not only as a scientist and medical practitioner, but also had a deep influence on his general outlook on life and personal development.

**Keywords:** Anatomy, history of medicine, neuroscience, physical anthropology, Sarawak, Wilfrid Le Gros Clark

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Wilfrid Edward Le Gros Clark (**Figure 1**) was one of the twentieth century's most distinguished anatomists, neuroscientists, and physical anthropologists [1-4]. Although he gave seminal contributions to several disciplines and produced a number of classical scientific texts, only a few historical accounts about his life and career have been produced. His somewhat withdrawn character and modest personality are probably among the main reasons for this. Even Le Gros Clark's own autobiographical book entitled *Chant of Pleasant Exploration* [5] is not a genuine autobiography, but rather a collection of reflective essays upon different aspects of his career and different topics in sciences in which he was involved. Interestingly, one of the essays was a reprint of a paper on the history of anatomy, which, Le Gros Clark argued, was previously published in a journal with a relatively small circulation and thus did not receive much attention. Consequently, a large portion of his "autobiography" was devoted to the life and career of the fifteenth/sixteenth century Italian anatomist Jacopo Berengario da Carpi. This, however, reveals much of Le Gros Clark's character as a typical "English gentlemen academic" [3], reluctant to engage

in anything that could be interpreted as self-promotion and someone who would rather focus on his work. Indirectly, extensive reference to the Renaissance Italian anatomist, which follows a chapter on Le Gros Clark's own early career in anatomy, also situates him within a broader historical context. Le Gros Clark could be seen as someone continuing the long tradition of investigation into the structure and function of the human body rooted in the rebirth of European science and medicine some five centuries earlier.

This paper focuses on the early stage of Le Gros Clark's career that was devoted to medicine, a three-year period he spent in Sarawak. In Sarawak he carried out a function of the Principal Medical Officer and took numerous demanding duties as an administrator, educator, and medical practitioner. For Le Gros Clark, the Sarawak years were significant both personally and in terms of his development in science and medicine.

### Early years

Wilfrid Edward Le Gros Clark was born on 5 June 1895 in Hemel Hempstead [1-5]. Educated in several public schools (which in England is a term for private, fee paying schools) he enrolled to study medicine at London's St. Thomas's Hospital Medical School in 1912. In deciding to study medicine he followed the advice of his father—The Reverend

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**Figure 1.** Sir Wilfrid Edward Le Gros Clark (1895–1971). Used with permission, □ National Portrait Gallery, London. Photography by Walter Stoneman.

Travers Le Gros Clark—and his family tradition. Wilfrid's paternal grandfather, Frederick Le Gros Clark, was a surgeon and the President of the Royal College of Surgeons of England, while his maternal grandfather, Edward Clapton was a physician. Both grandfathers were consultants at St. Thomas's. Midway through Le Gros Clark's studies the First World War broke out. He accepted the government's advice to medical students not to enlist, but rather finish their studies and upon graduating join the Medical Corps. He graduated in 1916 and immediately joined the Royal Army Medical Corps. After receiving his military training Le Gros Clark was sent to France in 1918. He was demobilized in 1919 and returned to St. Thomas's where he spent a year as a Demonstrator in Anatomy. While at St. Thomas's, he carried out research in anatomy and physical anthropology. At the same time he qualified in surgery and became a Fellow of the Royal College of Surgeons of England. In 1920, a new stage in his career and, indeed, in his life commenced when in early October he left Britain to take his new post in Sarawak.

### ***Sarawak***

Several factors of different natures motivated Le Gros Clark to move to Sarawak [5]. He reported that at the time he was disillusioned with the Western civilization and eager to change his living environment. This was undoubtedly largely as a result of his war experiences. He was only recently demobilized and still profoundly influenced by the destruction of the Great War. As a doctor in the Medical Corps he witnessed numerous examples of fellow soldiers being seriously wounded and mutilated. Furthermore, his two brothers endured grave injuries while fighting in the war. Other motives were more academic. During his undergraduate studies at St. Thomas's, Le Gros Clark developed an interest in comparative anatomy, particularly in the evolutionary relationship between humans and other primates. Sarawak, situated on the north-western part of the island of Borneo, was a perfect destination for a scientist with such a research focus, as it hosted a number of animals of interest, including orangutans, gibbons, tarsiers, tree-shrews, and several species of monkeys. Finally, deeper, largely emotional factors motivated Le Gros Clark. He noted

that, while in Sarawak, he realized that he was led there by a childhood urge for adventure fuelled by his school-years reading of adventure stories. This urge was further enforced and articulated in his student days through his reading of classical nineteenth century naturalist-explorers such as Charles Darwin, Henry Bates, Thomas Huxley, and Alfred Wallace.

Sarawak is now one of the two Malaysian states on the island of Borneo. It has been inhabited by people of different ethnicities, some indigenous to Borneo and some recent immigrants from other parts of Asia. At the time when Le Gros Clark stayed there, Sarawak was under the rule of the Brooke dynasty of "White Rajahs", protected and controlled by the British Empire. Recruiting one of the countries chief administrators from England was, therefore, to be expected in the early 1920s. Le Gros Clark heard about a vacant post of Sarawak's Principal Medical Officer from his friends, as no public advertisement was posted. He applied with some trepidation because of his youth (he was only 25 years old at the time) and relative lack of experience. The application was successful, however, and Le Gros Clark conjectured that the fact that he had earned Fellowship of the Royal College of Surgeons played an important part in getting him the position.

Le Gros Clark's preparations for the new post were extensive. He particularly wanted to strengthen his knowledge in the areas of medicine that he would need the most at Sarawak. Thus, he embarked on an intensive study course at the School of Tropical Medicine in London. He also knew that the knowledge of local cultures would be of particular importance in his medical duties and made sure that he read all the available texts on the history and ethnology of Sarawak. In addition, while travelling to Sarawak he acquired a good command of the Malay language.

The post of the Principal Medical Officer in the state of Sarawak meant not only overseeing and administering all medical services, but also taking an active role as a practitioner in a range of specialties. Although he was based in the state's capital Kuching, Le Gros Clark's duties involved regular travel and visits to medical facilities in different areas of Sarawak.

The patients of the leper hospital were a particular challenge because at the time there was no adequate treatment for the disease. Indeed, the treatment consisted of painful injections of chaulmoogra oil,

which produced little result. There was, therefore, little that Le Gros Clark and his staff could do for these patients apart from providing proper care. The hospital staff, however, were devoted and dedicated health professionals providing the best possible care for the patients within the circumstances. Patients, in effect, showed gratitude to the hospital staff and were, despite their condition, always in good spirits, which Le Gros Clark found to be a great inspiration.

Visits to the various medical facilities also revealed negative aspects of the local health system. The country was rather poor and, in effect, the hospital resources were often inadequate. Even more depressing for Le Gros Clark was the fact that the hospitals were separated into those for Europeans and those for non-Europeans. The European colonialism and imperialism were still at their peaks and underpinned the life at Sarawak. In his memoirs, however, Le Gros Clark was able to note: "later, I am glad to say, this segregation of hospitals was no longer maintained" [5].

As a medical practitioner, Le Gros Clark had to take over most of the more complex cases. Performing major surgeries was particularly contesting. Although he had experience in surgery from France and St. Thomas's, this was not sufficient, especially bearing in mind that in Sarawak there were no senior colleagues from whom he could seek advice and assistance. However, Le Gros Clark excelled even in this area. The lack of experience was compensated by Le Gros Clark's boldness and self-confidence as well as his superb knowledge of anatomy. He noted: "I had a very intimate knowledge of the anatomy of the human body, and I came to realize that with a really close familiarity with anatomical detail it is possible to undertake a diversity of operations even if a previous experience in specialized surgical techniques may have been somewhat limited" [5]. The main challenge, in the beginning, was, in fact, in persuading his patients that the surgery was necessary, and he sadly reported several cases of avoidable deaths that came because of the patients' refusal to undergo surgery. A personal approach and educating the general public was as much a necessity as medical procedures themselves.

Le Gros Clark also noted that he had to elevate the level of his staff's medical knowledge and competencies. Apart from employing new medical staff (taking care that they had a sound medical education), he engaged in an educational campaign

and lectured regularly on various topics of medical importance to his staff.

The multiplicity and complexity of Le Gros Clark's duties at Sarawak are best seen in his description of a typical working day: "If I had a major operation to perform, I did this first thing in the morning before the heat of the day had risen to an uncomfortable level for work in gown, mask and surgical gloves (for in my time there were no air conditioning plants in Sarawak). Then followed a session with out-patients and visits to the hospital wards. The early afternoon I commonly used for the instruction of my staff by lectures and demonstrations and, should there be an occasion for it, for carrying out a post-mortem examination. At regular intervals I visited the mental ward, and also the leper hospital some few miles from Kuching" [5].

In addition to the regular visits to different areas of Sarawak as part of his medical duties, Le Gros Clark used his free time to go for expeditions and further explore the country, its people, flora, and fauna. He collected specimens of different animals that were later studied in different research projects, by Le Gros Clark himself or by some of his colleagues and collaborators. Furthermore, time spent in a virgin jungle, which covers large areas of Sarawak, provided an opportunity for reflection and perhaps, even, a spiritual enlightenment. Indeed, Le Gros Clark described his first excursion into the jungle as inspiring: "It was precisely at that moment that I experienced a sudden and intense feeling of contentment and mental ease, interlocked with a quiet exhilaration—as though in this first jungle expedition I had at length achieved the one thing in my life I had always wanted to achieve" [5].

His success as Sarawak's Principal Medical Officer was considerable. This was greatly acknowledged by his patients. Still in a preantibiotic era he gained some success in treating yaws, an infectious disease affecting skin, bones, and joints caused by the bacteria *Treponema pallidum pertenue*, using neosalvarsan. The Dayak people felt gratitude for Le Gros Clark's efforts and successful treatment, no doubt facilitated by his ability to effectively communicate with his patients. He was given the honor, rare to foreigners, to be initiated as a member of the Sea Dayak society. His Dayak name was Tuan Manang B'sai, which Le Gros Clark translated as "the Great Chief of the Witch Doctors" [5]. As part of the ceremony he was tattooed on his

shoulders. These tattoos he proudly displayed to his friend and students back in England [2].

In 1923, as his three-year term in Sarawak was coming to an end, Le Gros Clark was contemplating extending his contract and staying at Sarawak for good. However, a number of reasons made him abandon this plan and return to England. These included both private reasons (he decided to follow his future wife Freda Giddy on her travels to the East Asia and then to England) and professional reasons (he was offered a post of the Chair of Anatomy at St. Bartholomew's Hospital Medical School, which enabled him to restart his academic career). He was back in England in the late summer of 1923. In October of the same year he married Freda Giddy, and in 1924 took over his duties at St. Bartholomew's.

### **After Sarawak**

Back in Britain, Le Gros Clark's academic career was in constant ascendancy [1, 3, 4]. He started as a Reader at St. Bartholomew's and was promoted to Professor in 1929. In 1930 he moved to his alma mater St. Thomas's, where he was appointed to the Chair of Anatomy, and in 1934 he took the position of Dr. Lee's Professor of Anatomy and the Chair of the Anatomy Department at the University of Oxford. He retired in 1962, but kept an office and continued his research at Oxford. Soon after taking his first academic position, Le Gros Clark established himself as a leading researcher and a capable teacher and academic administrator. He conducted seminal research in neuroscience, focusing among other subjects, on "the connections of the thalamus and hypothalamus and sensory inputs to the central nervous system" and later, on neuroregeneration [1]. He also carried out pioneering studies in primatology and paleoanthropology and played a key role in establishing the importance of South African australopithecines in studies of human evolution. Le Gros Clark authored a number of classical books, often published in several editions, including *Early Forerunners of Man* [6], *The Tissues of the Body* [7], *Practical Anatomy* [8], *History of the Primates* [9], *The Fossil Evidence for Human Evolution* [10], *The Antecedents of Man* [11], and *Man-Apes or Ape-Men?* [12]. He also made a significant contribution to anatomy education, making anatomy teaching more focused and clinically orientated. He carried out numerous managerial improvements, particularly at Oxford where he made his department more modern in its organization,

research focus, and teaching orientation. The recognitions for his work were numerous; he was, among many other honors, elected a Fellow of the Royal Society of London in 1935, awarded the Society's Royal Medal in 1961, and was knighted in 1955. Sir Wilfrid Le Gros Clark passed away on 28 June 1971.

### Conclusion

Sir Wilfrid Le Gros Clark's Sarawak years represent an important chapter in his inspiring life and remarkable career in science and medicine. He made significant contributions towards the improvement of the health system of Sarawak. He was a committed medical administrator, educator, and practitioner who established successful professional and deep personal relationships with the people of Sarawak. The three years spent at Sarawak provided valuable medical and administrative experience, and enabled him to initiate major research projects in anatomy, neuroscience, and physical anthropology, which would be decisive in promoting him as one of the leading figures in these disciplines.

There is no doubt that Wilfrid Le Gros Clark changed and improved the life of people in Sarawak, and that at the same time, perhaps even more, Sarawak and its people changed and shaped the life and career of Wilfrid Le Gros Clark.

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