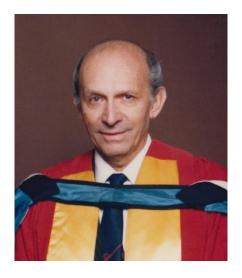
Professor Leo Schamroth

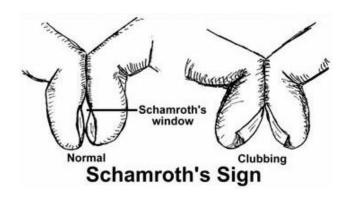
(1924 Antwerp, Belgium - 1988 Johannesburg, South Africa)



Professor Leo Schamroth was a world expert in the field of electrocardiography and a Master Teacher. His medical textbook 'An Introduction to Electrocardiography', originally published in 1956, ran into eight editions published over the course of his career and was translated into numerous languages including Spanish, Greek, Italian, Turkish and Japanese. It was claimed that this book was the book most often stolen from medical libraries worldwide.

As a clinician, when hospitalised with infection of his heart valve (infective endocarditis) in 1975, he described a method confirming the clinical diagnosis, which is referred to as 'Schamroth's Sign'. It is an easy method of detection of certain heart and lung diseases, made by looking at changes in the curvature of the nail bed of the index fingers, and is taught to medical students worldwide.

He was also a humanitarian and was acknowledged for his humanitarian work to the disadvantaged community of Soweto, the largest black township in South Africa, during the Apartheid era.



Childhood

Leo Schamroth was born in Antwerp, Belgium on 2nd June 1924. His father Elias Schamroth (1889-1957), a diamantaire, arrived in Antwerp in 1907 from Kraków, Poland. The Schamroth family had previously lived for two centuries in Kazimierz, a Jewish town which was subsequently incorporated into Kraków. Leo's mother, Dora Taub (1898-1991), a modiste (fashion milliner and dressmaker) was born in Antwerp in 1898 to Jewish Lithuanian and Polish parents. She was schooled in Belgium. During World War One, the Taub family to Birmingham, England and returned to Belgium after the war. In 1923 she married Elias Schamroth in Antwerp. The Schamroth and Taub families were never given Belgium citizenship, despite Dora and her two sons, Leo and Isidore, having been born in Antwerp. The family was registered as "Aliens" by the Antwerp City Police. This meant that each time the family moved residence, they had to register with the City Police. In January 1929, when Leo was five years old, his father left for South Africa, as he felt that his family had a better future there. Dora was pregnant with her second child and she and Leo remained in Antwerp. A few months after the birth of his younger brother, Isidore, they sailed to South Africa. The family settled in Johannesburg, where Elias established the Antwerp Diamond Cutting Works. Leo's parents worked together in the diamond trade and were well respected in the community. The family lived at 107 Terrace Road, Judith Paarl, Johannesburg and the boys were schooled in the area with Leo attending Athlone Boys' High School.

Leo's maternal great grandfather, Samuel Brodheim (1842-1935), originally from Przemysl, Poland, was a jeweler who had emigrated to Antwerp in 1888. In 1934, at the age of 92, he left Belgium for Tel Aviv, Palestine as he felt that there was no future for Jews in Belgium. Family members who remained in Antwerp and who were unable to escape the Nazi occupation of the city during World War Two were deported to Auschwitz Concentration Camp, Poland where they perished. They included Leo's maternal grandmother, Esther Taub nee Brodheim and numerous other relatives.



Leo and his father, Elias, Antwerp, January 1929

Marriage

After Leo graduated as a doctor in 1948, he married Rebecca (Becky) Opeskin (1926 -1974) on the 12th of December 1948 at the Park Synagogue, Wolmarans Street, Johannesburg. Rebecca was the daughter of Boris Opeskin (1888- 1976) and Rachel Keile Opeskin nee Fleish (1893-1949). Her father emigrated to South Africa from Lativa in 1927 and in 1929 he was joined by the rest of the family. The Opeskin family settled in Swartruggens, a small farming town in the Western Transvaal, where Boris was a 'smous' - peddler. Rebecca attended the local school in Swartruggens, where the language of instruction was Afrikaans. Due to unsuitable education facilities as well as a lack of Jewish friends, the Opeskin family subsequently moved to Berea, Johannesburg and Rebecca attended Athlone Girls' High School. After she completed school, she worked as a bookkeeper. She was an accomplished pianist and was a music teacher. The Schamroths had four sons of whom two sons were born in South Africa and two overseas, in London, England and Baltimore, United States of America, during periods when Leo studied overseas. In an era prior to computerized word processing, Rebecca typed all of Leo's manuscripts and books, a task she did at night. She died in 1974 at the age of 48 years from breast cancer, just prior to the graduation of their eldest son from Wits Medical School. All the four Schamroth sons qualified as doctors at Leo's alumni, the University of the Witwatersrand. Leo subsequently married Renee Lipman (nee Kaplan) a widow, who emigrated to Canada shortly after his death.



Schamroth Opeskin wedding December 1948

Academic Career

Leo Schamroth studied medicine at the University of the Witwatersrand. He qualified in 1948 and did his internship at the Non-European Hospital in Hillbrow, Johannesburg. He tried a brief stint in general practice but did not find it stimulating. As specialist registration was not available in South Africa, he and his family travelled to London, England. His initial interest was in the field of neurology and he enrolled at the St Mary's Hospital, London where he attended the Institute of Neurology, Queen Square. While in the United Kingdom, he wrote his specialist examinations, becoming a Member of the Royal College of Physicians of Glasgow and the Royal College of Physicians of Edinburgh in 1952. Upon his return to South Africa, he started his registrarship at the Coronation Hospital (Rahima Moosa Mother and Child Hospital). He subsequently worked as a consultant in the Department of Medicine at Baragwanath Hospital (Chris Hani-Baragwanath Hospital), Soweto, known colloquially as Bara, and at the University of the Witwatersrand (Wits). He worked exclusively in hospitals which catered for the non-white communities of Johannesburg and environs. During 1958 to 1959 he took his family to Baltimore, Maryland, USA where he studied electrophysiology. There he worked with the renowned cardiologist Dr Henry "Barney" Marriott (1917-2007) whose contribution to the field of electrocardiogram (ECG) interpretation are widely admired and with Dr Bernard Tabatznik (1927-2016) who was a key member of the medical team that developed the implantable cardiac defibrillator.

In 1960 Leo and his colleague, Professor Fay Segal (Mrs Fay Hirsowitz) (1921-2017) published the medical textbook 'An Introduction to Congenital Heart Disease'. The two authors worked together at Bara for many years until Fay emigrated to Boston, USA.

In 1965 Leo received his Doctorate in Medicine at Wits. Two years later, in 1967 he uprooted his family once again and moved to Kentucky Lexington, USA. He worked at the University of Kentucky, which was recognised as one of the centres of excellence in the field of electrocardiology in the USA and during this time he was elected a Fellow of the American College of Cardiology. He worked with many doyens in the field of cardiology.

Upon his return to South Africa, Leo resumed his work in the Department of Medicine at Bara and at Wits. In 1970 he received his Doctor of Science in Medicine (Wits). He acted as de facto head of the Department of Medicine at Bara from August 1972 until he was appointed Professor of Medicine at Wits and Chief Physician of the Department of Medicine at Bara in 1973. He continued in this position until his premature retirement in 1987 due to ill health. He inherited a virtually defunct department which he built up against formidable odds and extraordinary frustrating difficulties. It soon became a thriving academic unit despite the limitations imposed on the hospital by the Apartheid Government. During his tenure, he appointed Professor Fay Segal to Principal Specialist Physician as head of one of the medical units. She was the first woman to be appointed to

this position in the Department of Medicine at Wits. He also appointed the first Black African consultant, Dr Dumisani Mzamane (1932-1997), as Head of the Renal Unit despite opposition from the Hospital Administrators. He expanded the Department of Medicine and established subspecialties such as Cardiology under Professor Pinhas Sareli (MD), Respiratory Medicine under Dr Solomon (Solly) Hurwitz (Wits 1965), Gastroenterology under Professor Isidore (Issy) Segal (Wits 1962), Diabetology under Professor Kenneth Huddle (Wits 1974) and Haematology under Professor Errol Holland (UCT 1972). The unit heads of his medical wards were Dr Harold Louis 'Leib' Krut (1928-2022) (UCT 1952) who also worked in the Carbohydrate and Lipid Metabolism Research Unit and was an authority on blood fats (lipids), Dr Morris Perlman (Wits 1961) dermatologist and specialist physician, Professor Asher Dubb (1928-2005) (Wits 1950) doyen of clinical teaching in South Africa and renowned philatelist, Dr H. John Hodkinson (Wits 1966) whose interest was liver disease and Professor David Blumsohn (1932-2021) (Wits 1954) who subsequently took over Professor Schamroth's unit. Both Professors Dubb and Blumsohn received awards from Wits for excellence in clinical teaching of medical students. Blumsohn was an authority in hieroglyphics and Semitic languages and was known as the 'conscience of Bara', drawing attention to the poverty and disease of the black community. As head of the department, Leo Schamroth always kept his door open, and any student or staff member, from the most junior to the most senior, could walk in at any time to discuss a problem.



Graduation Wits 1948





Professor Schamroth's office at Bara

Interest in electrocardiography

Leo's interest in electrocardiography began when he was a registrar in the Department of Medicine. He was intrigued by the electrocardiogram (ECG), and in particular the deductive approach to its analysis that was required. By the time he joined the Department of Medicine as a junior consultant in 1956, his first edition of his book 'An Introduction to Electrocardiography' was published. This was during an era when careful analysis of the surface ECG was often the only clue to underlying cardiac disease processes. His methodical approach to the ECG was legend and no ECG was ever regarded as 'ordinary'. The doctors' tearoom at Baragwanath hospital was the place where interns, registrars and consultants would bring their 'undecipherable' ECGs. This would soon prompt a round table discussion of the tracing over a cup of tea. In his inimitable style of coaxing, suggestion, and leading, he would extract from the presenting doctor the diagnosis. He would then insist that a manuscript be prepared, discussing the lessons learned from that tracing, and by the end of the day a draft manuscript would be ready. By the week's end an article was ready for submission for publication. There was hardly an individual who passed through his unit without being co-author of this sort of publication. Humility being part of his nature, he would often insist that the junior doctor be listed as the senior author on the manuscript.

Leo's colleague, Professor Cedric Bremner (Wits 1953), surgeon, recalled: 'I was Senior Surgeon at Baragwanath Hospital and consulted Professor Schamroth for medical problems. His ward was next to mine. He was always busy writing in a small, corrugated iron building between our wards and responded promptly to our needs. He used all of his spare time between consults to write whilst in this little shack.'

Teacher

Leo's enthusiasm for teaching was renowned. In his early years he gave tutorials to undergraduate students at his home in Emmarentia, Johannesburg. Many former students recall sitting around a crowded dining room table and Leo giving instruction to groups of up to 30 students huddled around the table.

He was a gifted teacher. He had the ability not only to see and find details that most people would overlook, but then to synthesize that information and impart the knowledge back to the recipients. This was done in such a simplified manner, that the very questions that were initially raised would thereafter seem superfluous. He liked to quote Merril Clary Sosman MD (1890-1959), Professor of Radiology, Harvard Medical School who said, "You see only what you look for, you recognise only what you know". Leo was awarded a "Master Teacher" by the American College of Medicine in 1972. He also received the Sodi Award and Osler Award for excellence in the teaching of clinical electrocardiography.

Research

He was a prolific writer and had over 300 scientific publications published in the international literature, 10 monographs, and 6 chapter contributions to medical textbooks. He wrote eight textbooks - *Introduction to Electrocardiography, An Introduction to Congenital Heart Disease'* which was co-authored with Professor Fay Segal, *The Disorders of Cardiac Rhythm*,(1971) which covered arrhythmias, *Electrocardiographic Excursions* (1975), *The Electro-Cardiology of Coronary Artery Disease*, *Diagnostic Pointers in Clinical Electrocardiography, The Disorders of Cardiac Rhythm* Volumes I and II and *'The 12 Lead Electrocardiogram'* Book 1 and Book 2. The latter book was published posthumously.

Among his favourite authors was Sir Arthur Conan Doyle. He loved the deductive approach of the character of Sherlock Holmes and loved to quote from many of the Holmes' stories. He was such an avid fan that he dedicated his book *Electrocardiographic Excursions* (1975) to the memory of Sherlock Holmes. In that book he presented a series of deductive ECGs, each with a particular lesson. Each ECG was prefaced with a cryptic clue in the form of a quote from Sherlock Holmes.

An original paper regarding a clinical research trial of the drug Verapamil was rejected by the journal *Diseases of the Chest* on the grounds that Leo Schamroth stated that the drug which was designated as a beta blocking agent was in fact a different class of drug and was a calcium channel blocking agent. The paper was eventually published in *Cardiovascular Research* in 1971 and stimulated a more comprehensive trial by Leo Schamroth and colleagues, which was published in 1972 in the *British Medical Journal*. This latter paper was chosen as a classic citation. It heralded a new therapeutic era with numerous studies of Verapamil which included not only arrhythmias but the treatment of hypertension, angina pectoris, and other cardiac issues.

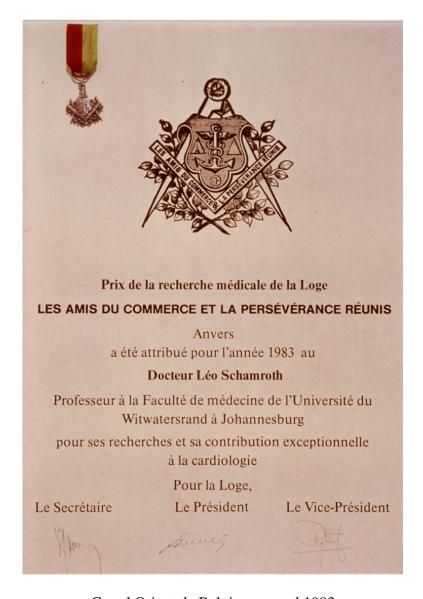
He participated in innumerable symposia, gave countless lectures and conducted courses and teaching programmes for both undergraduates and postgraduates, both locally and internationally. He delivered innumerable scientific papers at congresses around the world. These invitations included countries which did not have diplomatic ties with South Africa. In 1962 he presented at the World Congress of Cardiology, Mexico City, Mexico. He was invited to India and being a South African during the time of apartheid,

he had to get a special visa to visit India. He was invited to Europe, North America, numerous countries in South America including Argentina, Colombia and Venezuela and he visited the Philippines. He served on the editorial boards of many prestigious medical journals - *International Journal of Cardiology*, *Heart and Lung*, *Modern Medicine*, the *Journal of Cardiology* and *Pace*.

He worked with numerous world authorities on electrocardiography including Professor Henry 'Barney' Marriott (1917-2007) (USA), Professor Demetrio Sodi-Pollares (1913-2003) (Mexico), Professor Dennis Krickler (1928 -2016) (England), Professor Mauricio B. Rosenbaum (1921-2003) (Argentina) and Professor Richard Langendorf (1908-1987) (USA). Langendorf was a Czechoslovakian born cardiologist who after the Nazi invasion of Czechoslovakia, fled to the United States of America. After the war, Langendorf helped his former fellow medical student, Dr Alfred Pick (1907 -1982), and his wife, Dr Ruth Pick (1913-2003), who had both been interned in Nazi concentration camps, to come to Chicago. In October 1986, Leo Schamroth was bestowed the honour of delivering the lecture "Richard Langendorf in Perspective" which he delivered at a symposium to honour Langendorf in Amsterdam, the Netherlands.

Academic achievements

Leo received many awards for his academic achievements. In 1964 he was elected a Fellow of the Royal College of Physicians in Edinburgh and in 1965 a Fellow at the Royal College in Glasgow. In 1973 he was made a Fellow of the Royal Society of South Africa. He was an honorary member of many cardiac societies around the world which included the Columbian Cardiac Society and the Venezuelan Cardiac Society. Amongst his greatest honours was an international prize for medical research, the Grand Orient de Belgigue award which he received in May 1983. It was awarded by the Masonic Lodge "Les Amis Du Commerce Et La Perserverance Reunis" of Antwerp Belgium for his significant contribution to the progress of medical science. This award was open to medical researchers worldwide and was to mark the 150th anniversary of the Grand Orient de Belgique. He was chosen above 61 proposed candidates from 18 countries. An interesting aspect of this prize was that the award committee were unaware until the gala evening of the presentation, that they had given the prize to a native-born son of Antwerp. In 1984 he received an Honorary Doctor of Medicine degree from the University of Cape Town and in 1985 he received the University of the Witwatersrand Alumni Honour Award for exceptional service to the community. Previous recipients of this award including Helen Suzman (1917-2009) anti-apartheid activist and politician, and Arthur Chaskalson (1939-2012) President of the Constitutional Court of South Africa, Chief Justice of South Africa and member of the defense team in the Rivonia Trial of 1963.



Grand Orient de Belgique award 1983

Upliftment of the downtrodden

Leo Schamroth worked for the upliftment of the downtrodden. He received the Claude Harris Leon Award of Merit for his internationally recognised contribution to medical research in the field of electrocardiology and for his dedicated work as Professor of Medicine and Chief Physician at Baragwanath Hospital, which catered for the people of Soweto. In 1985 when he received the University of the Witwatersrand Alumni Honour Award for serve to the community, his alumni address covered the 'critical, sensitive and sad issues' at Baragwanath hospital, 'the challenge caused by adversity and the dedication of the hospital's doctors'. Articles were published in the newspapers, The Star and The Natal Mercury, titled "Hospital a microcosm of SA's problems, says chief physician' and 'Worlds Apart' respectively.

Convocation honours Leo Schamroth



Professor Leo Schamroth, (right) pictured with other distinguished recipients of the Alumni Honour Award Dr Cyril Adler and Dr Helen Suzman.

Professor Leo Schamroth, Professor of Medicine at Wits and chief physician at Baragwanath Hospital, was the recipient of the 1985 Wits Alumni Honour Award – the highest award which Convocation can bestow on one of its members.

The award is made annually to a graduate who has rendered exceptional service to the community.

Professor Schamroth is an outstanding academic enjoying international esteem for his work in electro-cardiology. The award was bestowed on him in recognition of his services to the people

of Soweto and his sense of vocation to the underprivileged people of South Africa

When Professor Schamroth took up the position of Professor of Medicine in 1972, the Department of Medicine at Baragwanath Hospital had four units, four consultants, six registrars and no speciality departments. Today the department has six units, eighteen consultants, 36 registrars and numerous speciality units including those of cardiology, heamatology, gastroenterology, respiralogy, oncology, neurology and nephrology.

In spite of adverse working conditions, Professor Schamroth and his staff have built up a fine medical service to the community. In the mid-50s up to 15 patients were admitted to Baragwanath's Department of Medicine during busy periods. Nowadays, the department can expect an intake of 160 patients a day in peak times.

Professor Schamroth holds the degrees of Doctor of Medicine and Doctor of Science from Wits and he has been on the staff of this University since 1956. He is a brilliant lecturer, a prolific writer and has received numerous awards for his medical achievements.

Mr Harry Lampert, president of Convocation, presented a gold medal to Professor Schamroth at the last Wits alumni club luncheon of 1985.

Professor Schamroth accepted the honour to a standing ovation from the quests present

"There are only two hospitals in South Africa with an international reputation," he said. "These are Groote Schuur and Baragwanath. Yet the conditions at Baragwanath are trying and there is an ever-increasing inundation of patients. How is this possible? It is through the dedication of the doctors who have an intense sense of mission and purpose, through the challenge of creating a milieu of optimism and encouragement in the face of adversity."

Previous recipients of the Wits Alumni Honour Award are Dr Helen Suzman, Dr Cyril Adler, Professor G R Bozzoli, Dr G H Loubser and Mr Arthur Chaskalson SC.

He meticulously documented the appalling indifference of the authorities to the conditions at Baragwanath Hospital. In October 1987 when 101 staff members of the Department of Medicine wrote a letter to the South African Medical Journal decrying the indifference of the authorities to the deplorable conditions at the hospital, he gave his support to the doctors and in particular to a group of 3 registrars and 6 junior doctors who were threatened with dismissal and victimised by the the Director of Hospital Services, as they refused to sign a letter of apology. The 6 junior doctors approached the courts to have the Administrator of Transvaal's decision reversed. Their senior council met with Professor Schamroth and were given all his transcripts regarding the documentation of the deplorable conditions at Baragwanath Hospital. Justice Richard Goldstone demanded that the six junior doctors were given a hearing in December 1987. The junior doctors instituted legal action against the Administrator of Transvaal, the Director of Hospital Services, the Superintendent of Baragwanath Hospital and the Director of Personnel of the Transvaal Provincial Administration. The case was heard on the 9th of May 1989 and the Supreme Court upheld the earlier judgment of the Witwatersrand Local Division with costs, that the doctors should be given a fair hearing and should be hired because they fulfilled all the stated criteria. Although Professor Schamroth died in June 1988, he actively contributed to the outcome of the judgement. The registrars who refused to

withdraw their signatures and apologize were eventually exonerated by the Department of Health. The ultimate outcome of this letter was the establishment of the du Plessis commission by the University of the Witwatersrand, headed by former Wits Vice Chancellor Professor D.J. du Plessis (1918-1999) (Wits 1948), who investigated the conditions at the hospital. This eventually resulted in some upliftment of the Department of Medicine of Baragwanath Hospital.

Posthumously Professor Schamroth has continued to receive acknowledgement from colleagues. In 2018, Health Ombudsman Professor Malegapuru W Makgoba quoted Professor Leo Schamroth's defence of vulnerable patients, and the need to stand up for their rights as human beings, following the judgment regarding the deaths of patients at psychiatric facilities in Gauteng, South Africa,

Leo Schamroth worked tirelessly to correct the incorrect dismissal of a former professor of Medicine of the University of the Witwatersrand, Professor William Hofmeyr "Don" Craib (1895-1982) by the Rockefeller Foundation. In 1926 Craib was awarded the prestigious Rockefeller Fellowship to Johns Hopkins Hospital, Baltimore, Maryland, USA where he studied the ECG action potentials. He found that the description of the generation of the action potential in animal heart muscle cells by the doyens of electrocardiography at the time, were contrary to his understanding. He was vilified and his grant from the Rockefeller foundation was withdrawn. In 1977 Professor Leo Schamroth delivered the A.J. Orenstein Memorial Lecture at the Great Hall, University of the Witwatersrand, Johannesburg entitled 'The Trial of William Craib' portraying the issue by acting as the counsel for the defence at a trial. Following this lecture and an article written by R.D. Pruitt in the John Hopkins Journal, Craib was finally vindicated. Craib belatedly received an apology from the foundation and was reinstated on the Johns Hopkins roll of honour.



Professor Leo Schamroth and Professor Don Craib 1977

Unfortunately, ill-health plagued Leo Schamroth in his later years. As a medical student, he discovered that he had rheumatic heart disease, as the result of undiagnosed rheumatic fever in his youth. In 1975 he developed infection on his heart valves (infective endocarditis) and it was during his convalescence that he described the method of detection known as "Schamroth's sign". The following year he suffered a second bout of infective endocarditis necessitating urgent valvular heart surgery. A few years later whilst undergoing a procedure, despite careful attention to blood thinners, he clotted one of his heart valves and required emergency surgery. During all these illnesses, he remained productive, writing articles and completing a new book. Several years later, he was diagnosed with leukaemia. During all his illness, he never interfered with his own medical management, always entrusting decisions regarding his health to the colleagues who were looking after him. He respected the doctor-patient relationship and was admired for his courage during his illness.

Leo is remembered at Baragwanath Hospital, where an annual lecture is given in his memory. It is delivered in the Leo Schamroth lecture theatre, which was dedicated by Prof Pinhas Sareli, previous head of cardiology, in his name.

Naomi Schamroth-Rapeport

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