To say that my life was influenced by John Waterlow would be a gross
understatement. He trained me as a scientist, researcher and writer. Whatever
leadership qualities I possess, I owe to him. He was my mentor and lifelong friend
of 51 years. This tribute acknowledges my debt to him and tries to convey what a
great and unique person was John Conrad Waterlow.

It could be fortuitous or maybe the Gods so arranged it that this Memorial
Colloquium is being held here in Guyana. For it was in 1945 that John Waterlow
arrived in the Caribbean on a mission for the Colonial Office to find out why so
many young children were dying of malnutrition there. His first stop was in Guyana,
then called British Guiana, where he worked among the Akowoio Indians living in
the Pakaraima mountains on the borders of Venezuela and Brazil. Had he accepted
the Governor’s offer to the post of Director of Aboriginal Medical Services, there
would have been no TMRU.

Later while in Jamaica he met with members of the Irvine Commission who were
laying plans for a new university in the West Indies. Members included Hugh Springer
and Philip Sherlock who made a strong impression on John, in stark contrast to the
racial discrimination he had witnessed in the three Caribbean colonies. He then and
there decided he wanted to be part of that bold university experiment to create a truly
multiracial community of scholars working for the betterment of West Indian
populations. John maintained a lifelong friendship with his new found friends who
were both to play significant roles in UWI and who were awarded knighthoods.

It was five years later in 1950 before he returned to Jamaica where he negotiated a
proposal for a shared appointment at the new university and the MRC which both
institutions accepted. He lectured in physiology and continued his studies on the
fatty liver of malnourished children. It was during this period that I had my first
informal encounter with him. He had invited all the medical students to a party at
his home and as I entered I was handed a bottle of rum which I was instructed to
Several bottles were given out that night. The party turned out to be a most memorable one. It would be many years before our paths crossed again.

After his 3 year stint at UCWI ended, Dr. Waterlow returned to England, ostensibly to re-join Platt’s Unit. He decided not to do so, but to return to Jamaica (1):

There is so much still to do here, much more than I can do on my own. I shall put it to the MRC that there should be a unit in Jamaica, working initially on malnutrition…

Therefore I proposed the name Tropical Metabolism Research Unit.

The international renown and success of this institution in research in human nutrition and its continuing role as a centre of excellence under the capable leadership of Terrence Forrester attest to the vision, foresight and leadership of its founder, John Waterlow.

Meanwhile, I journeyed to Philadelphia under a Rockefeller Travel Fellowship and trained as a paediatrician at the prestigious Children’s Hospital of Philadelphia (1957-59), and early on was exposed to clinical research when I was appointed as Research Fellow in Clinical Nutrition under Robert Kaye, who also encouraged me to enrol in a course in Isotope Methodology at Hahnemann Medical College. It appeared all set for me to enter practice as a paediatrician, a career path, which would be quite lucrative if I remained in the US, but which I did not much relish. However, in April 1959 fate stepped in, in the form of John Waterlow, who invited me to lunch in Atlantic City, where we were both attending the Federation meetings. There he offered me a one year appointment at the TMRU starting as soon as possible. I quickly accepted and returned to Jamaica much sooner than I had expected to. Little did I know that the initial one year contract would extend to 21 years with the MRC (until 1970) and the UWI (until 1980).

In 1959 I was the sole MRC staff member of West Indian origin at the Unit until 1961 when George (later Sir George) Alleyne, another UCWI graduate, class of 1957, from Barbados joined the Unit. Our appointment as MRC staff at the TMRU was apparently a first for MRC since at the other two MRC Units in the Gambia and Uganda there were no local MRC staff appointments. However, our terms and conditions of service were not the same as for other MRC staff who were all from the UK. John considered this as a blatant injustice and although he took this matter up to the highest level, it was never rectified. Another major difference with the MRC was that John had felt from the beginning that “the Unit should contribute to the intellectual development of the region”. I believe that these differences with the MRC contributed to his decision to return to the UK.
John Waterlow was gifted in many ways. In the laboratory, he was able to construct an instrument if it was not available commercially. Thus he constructed and developed a micro-respirometer based on the Cartesian diver apparatus that was 1,000 times as sensitive as the conventional Warburg apparatus. This enabled him to measure enzyme activity in a few milligrams of tissue. He also constructed a quartz fibre torsion micro-balance sensitive to about two micrograms to weigh liver biopsy specimens. He taught us how to make and calibrate micropipettes and I made and used a 57 microliter one for many years. Under his tutelage, I constructed a Geiger counter and sample holder for my work on albumin metabolism. One must remember that 50 years ago, none of these items were available commercially. This training was put to good use when I was able to do routine maintenance on a mass spectrometer that was used in all my stable isotope work.

Although John assigned research projects to new staff, he encouraged us to think on our own and to develop our own ideas and areas of research. His criticism was always constructive, never destructive. He suggested, rather than instructed. He also wrote scientific papers with clarity, economy of prose and a relentless flow of logic. It was humbling to submit one’s draft of a paper and see it transformed into an elegant presentation. I observed how he engaged with his juniors, with impeccable politeness and genuine sincerity; never belittling nor bullying. He encouraged and facilitated his junior staff to present their work at regional and international conferences, but not before they presented to the Unit where presentations were thoroughly critiqued. At conferences, our work was always examined carefully but well received as it had the ‘TMRU/Waterlow’ stamp on it. He afforded promising junior staff every opportunity to advance in their careers.

John Waterlow had a passion for hiking and spent many a holiday in Italy and Greece. He combined scientific enquiry with hiking during the three expeditions he mounted to the Columbian Andes. Other Unit members accompanied Professor Waterlow, but I politely declined and was left in charge of the Unit. There were also professional climbers and an enormous amount of equipment involved, and many months of preparations for the climb and the scientific experiments preceded the event. At one of these Andes expeditions which examined the causes of altitude sickness, John made himself potassium deficient before the climb and on reaching high altitude became progressively sick, oedematous and finally comatose. He was quickly removed to base camp and given potassium tablets when he recovered (1). On return to TMRU Dr. Robert Montgomery, who was instructed to ‘look after John Waterlow’, was roundly chastised by Professor Eric Cruickshank.

I would now like to dwell on John’s involvement with the CHRC (2, 3). As related earlier, the TMRU was established at UCWI in October 1954 with John as its first
Director although it became operational in 1958. It was in 1955 when the predecessor to the CHRC, the Standing Advisory Committee for Medical Research in the British Caribbean (SAC), was formed after discussions between the Medical Research Council, the Colonial Medical Research Committee (both of the UK), the Government and the UCWI. The terms of reference of the SAC were:

To advise [the Secretary of State for the Colonies] on the needs for medical research in Jamaica, Trinidad, British Guiana, Barbados, the Leeward Islands, the Windward Islands and British Honduras; to advise on the means for ensuring that the results of research are applied in practice; and to keep under review the facilities for inter-territorial collaboration in medical research.

John was appointed Scientific Secretary and was the first of a continuous line of TMRU Directors who have held this post. In 1961, he submitted a proposal for the formation of a Medical Research Council to the W.I. Federation which dissolved without considering it. It was not until 1972 that the Conference of Ministers Responsible for Health of the Commonwealth Caribbean accepted this proposal for the transition of the SAC to the Commonwealth Caribbean Medical Research Council (CCMRC) with the following objectives:

To promote and coordinate Medical Research in the Commonwealth Caribbean, and to provide advice to governments on matters relating to medical Research, including the needs and priorities appropriate to the area.

This historic event was the fulfillment of a prediction made by the Chief Minister of Jamaica, the Honourable Mr. Norman Manley in his opening address at the inauguration of the SAC in 1956:

It is, I believe, the sign and promise of the creation of a Caribbean Medical Research Council which manifestly we need and which could be projected at no more appropriate time than in this year when at long last the majority of the units of the British Caribbean area have resolved to come together in a federal structure.

John continued to play an important role in the evolution of the CCMRC when he was appointed an elected member after his return to the UK in 1970 and he was re-elected until his plea of failing health in 1998. It was he who proposed that the Scientific Sub-Committee comprising of hard working part-time Scientific Secretaries, which carried out Council’s work in between Annual Meetings, should be headed by a full time Director of Research. This post was created in 1988 when I occupied it until my retirement in 2002. The evolution to the Caribbean Health Research Council took place in 1997. The word ‘Commonwealth’ was removed in recognition of the fact that residents from the Dutch and French West Indies had been participating in our scientific and business meetings for decades.
The word ‘Medical’ was replaced by ‘Health’ because of the fact that research activities embrace the broad range of health-related research rather than just medical research.

**The legacy of John Waterlow**

John recalls how the famous Jamaican Dr. Cicely Williams (of kwashiorkor fame) would visit the TMRU from time to time and ask: ‘What is the point of all this fancy research? All these babies need is food and tender loving care’. However, it was this research done at TMRU that laid the foundations for the effective treatment of severe childhood malnutrition. Mike Golden summed it up (3):

The studies in TMRU are bearing fruit in a very dramatic way in Africa. If the mortality rate had remained at about 30 per cent in those countries with national protocols and for those children treated by non-governmental organizations, then about one million more children would have died.

The progress in understanding malnutrition and applying the lessons to practical solutions in the field has been remarkable. It would not have happened without TMRU and its successive generations of dedicated scientists.

By his seminal contributions to human nutrition, through the visionary establishment of the TMRU producing distinguished alumnae and their scientific output, and through his influence on the CHRC with its impact on governments and Caribbean research culture, John Waterlow has left the Caribbean and the world an unparalleled legacy.

**References**

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