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Of Pipettes and Pelicans and what Merris saw London, England*

The last time I visited with John and Joan, he chided me gently for being concerned with chronic illnesses which made the end of life quite miserable, but we also discussed rulers and leaders and he quoted a Latin phrase about rulers who seemed worthy of ruling if only they had not ruled. I was often ashamed of not remembering many of John's Latin gobbets, but I do remember the opening line of Virgil's Aeneid which I think is apposite;

"Arma virumque cano"- I sing of arms and the hero.

So this evening I wish to sing of the arms of creativity, conviction, commitment and compassion borne by one who is a hero to many of us here. John Waterlow.

He was certainly a hero to Merris Lyttle. Her name was Lyttle but by no metric was she little. Her size, her bearing and the expansiveness of her personality made it impossible not to be aware of her as she went about her duties as one of the maids in the TMRU. Her presence has been immortalized and captured for all time for all those who enter the Tropical Metabolism Research Unit to see, because Angela Waterlow admitted that Merris was the model for, if not one of those comely and imposing Jamaican women in her mural at the entrance to TMRU. So unless pigment pales, Merris in the paint will forever be witness to the developments in the TMRU. But Merris in the pink would have seen the legitimate and other comings and goings of the scores of persons who worked there and her keen eye and ear would have captured the exaltation that went with success and discovery and the transient depression that accompanied failures. She would have seen those who met triumph and disaster and treated those imposters just the same and those who did not.

Merris saw and cleared away the many sharp shards that represented our efforts at glass blowing and the twisted bits of glass tubing from the failed attempts to make constriction micro-pipettes. In those early days we made our own micropipettes. I, like some of you here was proud of my ability to make a constriction pipette, but I did not know then, although I suppose I should have known that they were properly called Carlsberg pipettes. They originated in the Carlsberg laboratory in Denmark-a famous

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laboratory where the Kjeldahl apparatus was invented, but more importantly it was supported by the makers of the renowned Carlsberg beer. But of course this is not the only link between the TMRU and alcohol.

All who worked with John Waterlow in the Caribbean and tackled the several scientific problems embodied in the term tropical metabolism would have had to apply some degree of ingenuity and some non traditional approaches to solutions, some of which were hilarious and in retrospect some were downright hazardous. We made many pieces of essential equipment and it is that spirit of self reliance, entrepreneurship and confidence so essential in leaders, which was part of the legacy that John Waterlow transmitted to many.

I use the examples of micropipettes and the domestic construction of critical equipment as a measure of ingenuity, but I submit that in spite of the emphasis often given to the need for technology or technology transfer, this is secondary for building scientific capacity in developing countries. It is creativity that is of critical importance and is of some heuristic value in explaining the growth of science in these countries. Scientific creativity cannot be taught in formal sessions but perhaps is best engendered by a favorable work environment and a relationship with a benign master who allows ideas to flourish. I have retained the conviction that in the best scientific development there is dominance of the master-apprentice relationship, the role of the master is more that of a mentor and I see John through that periscope. It is this mentoring of the apprentice that transmits not so much the technology or rather techniques of the trade, but the approach, the passion for allowing the theoretically “untryable” to be tried and the search for getting to know the supposedly unknowable.

John pointed out to me that good mentors create a lineage and although the good apprentices go off and expand their own horizons, they can trace the origins of their own take off to the master. Hans Krebs could trace his lineage back through Otto Warburg who was mentored by Emil Fisher who was begotten by Adolf von Bayer-all four were Nobel Prize winners. And von Bayer could trace his lineage back to Claude Louis Berthollet the famous French chemist who discovered the formula for ammonia. I should hope that those of you who are John’s disciples have been careful to mentor your apprentices as John mentored you. Perhaps the possibility of thriving scientific enterprise in our parts of the world may depend on this ability to create our own lineages.

He was committed to the proposition of there being good science in the Caribbean and the need for developing Caribbean scientists. He believed that there could be Caribbean scientists and that there are Caribbean problems to be addressed by scientists, but he would reject the thesis that there was a Caribbean science that in some fundamental way did not observe the universal canons of good science. That he trained and developed Caribbean scientists is impatient of debate and that they would address the local problems is clear, but there were no exclusively Caribbean methods to their analysis. There was perhaps Caribbean ingenuity to addressing some problems as many here will attest, but there was no geographic ownership of fundamental concepts and ideas. I must stress here that it was not only Caribbean men and women who were

mentored, but a goodly number of persons from other lands were major partners and collaborators in exploring Caribbean problems in the Caribbean.

One of the ideals to which he adhered and which he espoused was that there could be a University of the West Indies populated mainly but not exclusively by West Indians which would one day rank among the great academic institutions of the world. That was why the TMRU was a part of the University in which he was a professor and his senior staff like David Picou and myself held academic appointments. This commitment to the University and the heroic efforts to ensure that TMRU became a university center is an indication of his belief in the value and virtue of local institutions, especially scientific institutions. He was the founding father of what is now the Caribbean Health Research Council. Consciously or more likely unconsciously he created the two essential features of good research institutions- a propitious environment and motivation that was both self-directed and buttressed by the opinion of peers. It is the nature of their institutions and their permanence that in many ways define and sustain a people. If one would destroy or subjugate a people, one should first undermine their institutions.

In retrospect, without long disquisitions on the philosophy of science, he transmitted at least to me that the essence of what we did was to try to know-it was clear that that knowledge came in increments and what we discovered and got to know about the physiology and metabolism of children who were malnourished, allowed for better knowledge of the clinical phenomena we observed not only in them, but in other diseases. I cannot recall any discussion about things like truth or the idea that there is some absolute truth to be known. I would posit that that has to be one of the qualities of a good mentor in science-to so conduct himself or herself that it is clear that the search is continuous and there is no possibility within our puny grasp of the ultimate finding-the ultimate truth-the ultimate cause. But for the faithful there is a chance that through determination, diligence and discourse –better of the Socratic type, it is possible to enlarge our knowledge of the human condition.

There is debate about the various styles of leadership and management, schools provide gurus who charge very fat consultant fees as they espouse and give seminars on one form or another. I believe that if John had been asked about his leadership, his response would be that there are only two types of leaders – the good and the bad, perhaps he might have been persuaded to add a third category-the indifferent. He would have been aghast at the idea that there was a science to leadership, and I am sure he would have shaken his head in disbelief that leaders were anything more than good chaps – a gender neutral expression of course, who got on with their work. But there is no doubt that he did exhibit leadership.

One criterion is tenacity or fidelity to some ideas and ideals. John was passionate about the idea of nutrition being an essential discipline for understanding biology and interpreting many if not most of the clinical processes which ended in disease. He would lament often that the Royal College of Physicians did not recognize nutrition as a clinical discipline in its own right. I know that part of his pleasure at being admitted to the Royal

College first as a member was that his discipline of nutrition was being recognized as important.

Although the potential must be there, the best leaders like good rum need some time to mature. They are supposed to be mature but not too old, so it is impressive that John Waterlow, not yet 40 years old was so clear about the possibility of studying metabolism in the tropics, that he would convince the Medical Research Council to establish a research Unit in a fledgling university and persuade the University College Hospital to accord it the kind of privileges that allowed it to function. His success was in part because he had the ability to articulate a reasoned position, even though that position was not always accepted by other decision makers.

John exhibited a quality found in the best leaders in the animal kingdom. He took a fierce pride in his own. He took a personal and genuine interest in the welfare of those who worked with him and I can attest to the fury with which like a mother hen he resisted attempts by interlopers to poach from his brood. It was not only to his scientific apprentices that he was generous and compassionate. Merris and her successors would all have been benefactors of his compassionate kindness in one way or another. I say compassion deliberately as I mean that there was passion with. The good master has passion, feeling with the apprentice and never deprecating pity.

It was appropriate that his major efforts began in a place that had the Pelican in its crest. I often refer to the graduates of our University of the West Indies as the sons and daughters of the Pelican and the imagery is very appropriate for our University founded as it was to impel and nurture development in the Caribbean. The pelican is fiercely protective of its young and myth has it that it tears out its breast and nourishes its young with its blood. Shakespeare has Laertes say of his father,

*"To his good friends thus wide I'll ope my arms;
And, like the kind life-rendering pelican,
Repast them with my blood."*

John did not exactly tear out his breast, but he certainly went beyond what would normally be the responsibility of persons in his position to protect, help and nurture others.

As I left John and Joan after what was to be the last time I saw him, I reflected on what was it that made a man like him, from an aristocratic or at least an upper class background devote himself to science in an obscure part of the world and to believe that there could be permanence in scientific institutions there. Was it a sense of the duty that comes with position? Was it the sense that the privileged had a responsibility to help the less fortunate? These are among the things that are unknowable, but let us be grateful for what he did. He is my hero, but I have ever been conscious of the fact that heroes are not saints-they are nothing more and nothing less than ordinary men and women do extraordinary things. John Waterlow did extraordinary things-some of which Merris saw.