Samuel A. Levine and His World War I Encounters with the Brothers Regii, Allbutt and Osler

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The broad, diverse World War I US medical experience produced changes in medical thought far out of proportion to the actual duration and extent of the US wartime military involvement. Volunteer US hospital units serving in Europe were organized early in the war and influenced the design and organization of military field hospitals when the United States entered the war.[1] The massive wartime mobilization process involved large numbers of medical officers in the examination and classification of 4 million young men and required new physical standards for separating the "fit" from the "unfit." [2]

Less documented but quite important in retrospect was the US medical officers' experience at the British military "Heart Hospital," which brought a group of these officers into contact with leading figures in British medicine and the developing specialty of cardiology.[3]

As part of our research into the irritable heart, soldier's heart, neurocirculatory asthenia and mitral valve prolapse lineage, we have been privileged to share in the legacy of Samuel A. Levine (Figure 1) and his reflective analysis of his World War I experiences.[4] This article presents the reflections of the mature Samuel A. Levine about his encounters as a young medical officer with Clifford Allbutt and William Osler.

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BRIEF ENCOUNTERS WITH BRITISH MEDICAL GIANTS

"During the first World War, I spent some time at the British Heart Hospital in Colchester, England. Here it was a happy and fortunate privilege for me and the other medical officers to meet and get to know four celebrated and distinguished medical men—Sir Clifford Allbutt, Sir William Osler, Sir James Mackenzie and Thomas Lewis (who was later knighted). The first three were consultants to the British Heart Hospital and every month or so one or another would visit our hospital

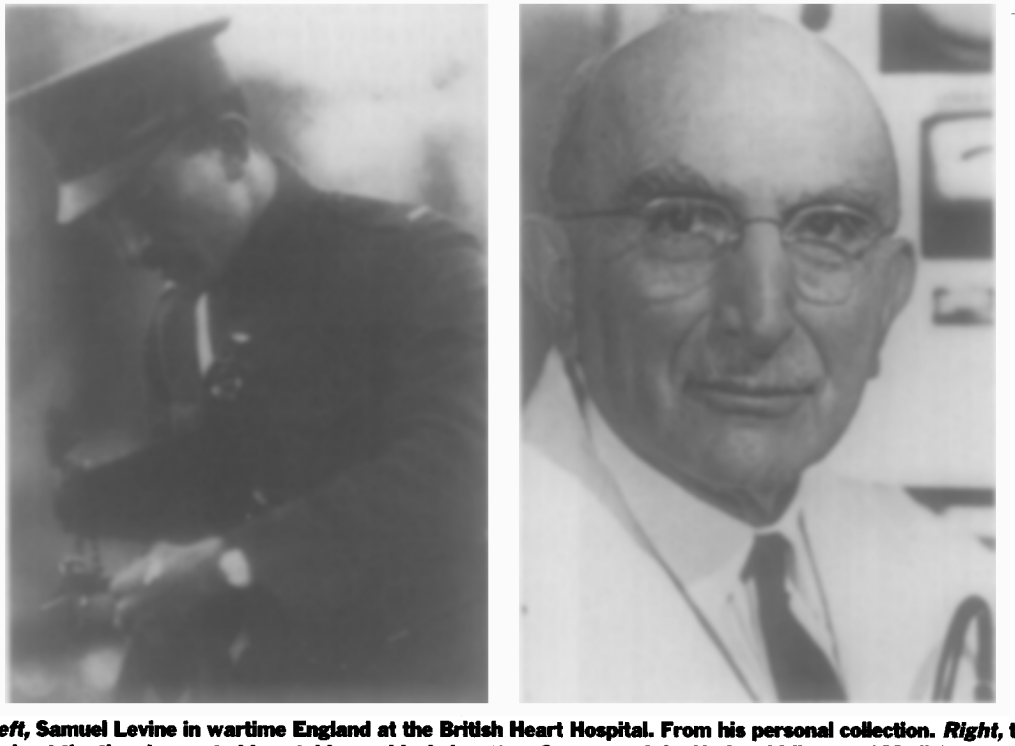

FIGURE 1. ***Left,*** **Samuel Levine in wartime England at the British Heart Hospital. From his personal collection.** ***Right,*** **the senior Dr. Levine at about the time he wrote his autobiographical vignettes. Courtesy of the National Library of Medicine.**

and make medical rounds. These were very stimulating and memorable occasions for all the young medical officers. A recounting of a few of the events and conversations that took place at that time may be of interest and may reveal some aspects of the personalities of these great physicians."

Clifford Allbutt—a background: Clifford Allbutt (1836–1925) (Figure 2) was 81 years old and Regius Professor of Physic at the University of Cambridge when Levine met him in 1917. He experienced several medical careers during his 89-year-span and 65 years of active professional life. Twenty-eight years of medical practice in industrial Leeds placed him in a variety of institutions where he had contact with all of the diseases of industrial England—in particular, fevers, tuberculosis, insanity, and rheumatic and neurosyphilitic disease states.

Allbutt[5] joined with Mackenzie[6] and Osler[7] to support the British World War I Military "Heart Hospital" concept, an idea which became reality at Hampstead and later at Colchester. Allbutt, Osler and Mackenzie were appointed as an Advisory Committee and consultant physicians and it was in their capacity as consultants that young Sam Levine encountered them. During this time Levine worked directly with Thomas Lewis, director of the Heart Hospital.[8] Levine referred to the quartet as the "four giants of British cardiology."

DR. LEVINE RECALLED: "Sir Clifford Allbutt was at this time Regius Professor of Medicine at Cambridge University. He was a small man, about 80 years old and was very neatly dressed. His manner was quiet and gentle. Because he was hard of hearing and used a monoaural stethoscope, we realized that he had difficulty hearing cardiac murmurs. However, our interest was in his general and historical remarks rather than in the discussions of the diagnosis and treatment regarding a specific case.

I recall one conversation that took place in the fall or winter of 1917. He described an event that he referred to as the only worthwhile original idea he had ever had. In 1867 he had been the medical consultant for several mental institutions. One of these was in Liverpool and the other in the Midlands, or interior of the country. After he had been serving in this capacity for about three years, he was asked to speak at a medical meeting, and he chose to review his experiences as an internist in these insane asylums. During those three years he had seen a great many patients with dementia paralytica (general paresis) and only a few with dementia praecox in Liverpool but that, in contrast, there were only a few individuals with the former condition and many more with the latter to be found in the Midlands. Inasmuch as the general social background of these populations was the same, he remarked that the only difference he could detect was a geographic one. Liverpool was a port while the other towns were located inland. He therefore suggested that one might be more likely to find venereal disease in a port than in the interior of the country—an observation that antedated the discovery of the spirochete pallida or the development of the Wasserman test and long before general paresis of the insane was attributed to syphilis. A wise, simple and prophetic observation!"

FIGURE 2. Clifford Allbutt, Regius Professor of Physic, University of Cambridge. Courtesy of the National Library of Medicine.

Perspective—Allbutt and Levine: Levine's observations about Allbutt were quite perceptive. Garrison[9] noted that although Allbutt studied disease at Yorkshire bedsides and in the Leeds institutions, he "saw the protean manifestations of the gouty, rheumatic and neurosyphilitic diatheses as distributed laterally (in space) as well as lineally (in time)." Garrison saw Allbutt as a leader in geomedicine—the distribution of disease among the ascendants, descendants and collateral sibs of a familial stock, the relations of civilization and disease and the impact of disease upon ethnic groups—i.e., the study of series and families of diseases in space.

Allbutt's US travels and exposure to North American physicians before the Heart Hospital experience may have accounted for his warm, perceptive response to the receipt of Levine's article on the surgical treatment of mitral stenosis in January 1925. This was shortly before Allbutt's death. Cutler and Levine had published their experience with cardiotomy and valvulotomy for mitral stenosis in 1923.

"My Dear Dr. Levine—It is nice to receive a greeting from you. The pamphlet came just before I was to lecture (I did so) on mitral stenosis. So I handed the book around the class and thence it goes on the table of our Medical School Library. It is a bold enterprise, but so was ovariotomy, as I too well remember. All well herein. Our best wishes to you and yours.—Yours very sincerely, Clifford Allbutt." [10]

William Osler—a background: Osler's career does not permit an easy, simple abstract. Levine's contact with Osler (Figure 3) came toward the end of an illustrious career and at a time of great personal tragedy for Osler.

Osler's "vagrant career" in Toronto, Montreal, London, Berlin and Vienna as a student, and in Montreal, Philadelphia, Baltimore and Oxford as a clinician,

teacher and administrator, served as background for his participation in the irritable heart, soldier's heart and Heart Hospital story. Osler's Philadelphia experience brought him into contact with Jacob Mendez DaCosta and the irritable heart[11]; Osler always referred to DaCosta when speaking or writing about irritable heart. While still in Philadelphia Osler returned home to Toronto and read the paper "Irritable Heart in Civil Life." [12] He acknowledged the DaCosta lineage and emphasized that the irritable heart of military life also occurred in civil life.

While at Johns Hopkins in Baltimore Osler incorporated "irritable heart" into his famous text under the section on functional affections of the heart and in further detail in the section on palpitation. This message was widely transmitted since Osler's text "played a leading role in the training of at least two generations of physicians and had an influence far beyond the direct one on medical practice." [13]

DR. LEVINE RECALLED: "Sir William Osler was unique. He immediately won the greatest respect, admiration, and affection of the young medical officers. The first time I met him several of us were playing cards when suddenly he entered the living room where we were seated. We all stood up and were properly introduced, but he insisted that we sit down and continue our game. In a relaxed manner, he sat on the arm of my chair, keeping us entirely at our ease. In fact, he passed cigarettes around and carried on as if he were one of us and had known us for years. He had an unusual charm, always finding the appropriate comment to make no matter what the circumstances.

He created a lasting impression, since apart from his broad knowledge and interests, he had remarkable bedside technique and clinical acumen as well as a friendly manner and personal approach. As he examined one patient after another (all of whom were British soldiers) and learned the details of the specific medical problem, he would begin to chat in an informal, almost intimate fashion with the patient. After he inquired what town the patient came from, he would frequently ask questions with the same specific nature, such as 'Do you know Reverend So-and-So?' and the patient would reply, 'Why yes, I attend his church.' Then he might continue, 'Is So-and-So still practicing in your town?' and the reply would often be, 'He has been our family doctor for years.' Dr. Osler even seemed to know the local school teachers in many communities in England.

One day we selected an interesting and somewhat puzzling medical problem to present to Dr. Osler for discussion. A soldier had been under observation for about two weeks, and we had finally come to our own conclusion about the diagnosis. Seeing that the lad looked quite well, Osler had him sit in a chair. As he started to chat with him, asking the usual three questions, Osler turned around and began to discuss the case with us. He had been holding the patient's wrist in the meantime, feeling the pulse, and of course observing whatever he could by simple inspection. He remarked that the young man obviously had some form of heart disease, since he could see a marked apex impulse well beyond the nipple line, and added that aortic insufficiency was not likely because the carotid pulsations were not prominent and the radial pulse was not at all of the Corrigan type. He then noted that there was no plateau quality to the pulse and, on placing his hand on the base of the heart, no thrill could be felt. Finally, he remarked that mitral stenosis did not produce that kind of apex impulse nor did the patient have a mitral facies.

With this more common type of valvular disease ruled out, he suggested that adhesive pericarditis might cause an enlarged heart and one should therefore look for a Broadbent sign (i.e., when the pulse is synchronous with ventricular systole on the posterolateral chest wall). Turning the patient around, he then carefully inspected the back just below the angle of the left scapula. On finding no systolic retractions, he appeared to be satisfied in eliminating the diagnosis of pericarditis. (Apparently Osler had more faith in the Broadbent sign than we now ascribe to it.)

At this point, he addressed the group of medical officers in attendance and stated that this must be a case of idiopathic hypertrophy of the heart. He then completed the examination. Finding the heart sounds of good quality and detecting no murmurs, he added that auscultation had thrown no further light on the diagnosis and that the patient probably had some form of heart muscle disease. Thomas Lewis was present at this conference, and inasmuch as he was an authority in the field of electrocardiography, Osler turned to him and said, 'Tom, you ought to be able to tell something we do not know about this man's heart muscle with this new electrocardiographic technique you employ.' In point of fact, the electrocardiograms did show bundle branch block.

FIGURE 3. William Osler, Regius Professor of Medicine, Oxford University. With permission from the Illustrated London News Picture Library.

This clinical exercise was impressive because by means of simple bedside examination before auscultation had been carried out and based only on simple inspection and palpation Osler had arrived at the correct diagnosis or at least at the same diagnosis we had reached after lengthy study of the case. Although the reasoning that Osler employed in this case was by no means infallible, it was a superb example of old-fashioned bedside clinical practice and teaching.

The dedication of this great man was poignantly displayed on the day when his turn as a consultant arrived. Not many days before, his only son, Revere, had been killed in action. Osler came to the hospital and carried on as usual, although we all knew his heart was heavy. He must have been greatly comforted in the knowledge that Harvey Cushing and George Emerson Brewer (of New York City), his old friends and colleagues and outstanding surgeons, had been with Revere before he died, ready to attend him if any help could have been given. Osler's behavior in the face of tragedy exemplified the old dictum that he himself often preached: *Arbeit macht das Leben suss* (work makes life sweet)."

Perspective—Osler and Levine: Osler's reputation and mystique is very much with us a century after he moved from Canada to the United States. Medical communities from Canada, the United States and England maintain his reputation, his ties and his heritage in serious and dedicated tones. The legend replaced the man even within his lifetime and efforts to separate and evaluate the 2 continue unabated.

The term Oslerian has been used so much in medical care, philosophy, teaching, ethics and commentary that it has taken on a generic aspect. In the process we have lost some of Osler's incisiveness. The Osler canonization process, frequently used to glorify the Oslerian acolytes or to justify their perceptions or perspectives, leaves us with Camelot and misty legends of the Round Table rather than the sweat, the intensity and the basic persona.

Osler's question to Lewis about the contribution of electrocardiography to the understanding of cardiomyopathy reveals a grasp of twentieth century technology by a clinician whose roots were of the nineteenth century. Levine's retelling the incident brings us an early account of the clinical diagnosis of cardiomyopathy and the association between myocardial disease and bundle branch block.

Allbutt and Osler straddled 2 centuries of medicine, participated in the "old" and "new" cardiology described by Lawrence[14] and brought young Sam Levine into contact with a world view that the senior Dr. Sam recalled with deep satisfaction.

Allbutt and Osler—The Brothers Regii: "It was during the middle of the Edwardian Age, the year before the outbreak of the first World War. The elegant salon lay bathed in radiant light from the beautiful chandeliers. The bands and decorations of the gentlemen shone in competition with the colorful dresses of the ladies. A distinguished dinner party was about to begin in London. Every moment one could hear through the conversations humming the loud voice of the doorkeeper, 'Lord and Lady X, Sir Thomas and Lady Y.' An observer who had stood at the entrance and observed the arriving guests would not have been able to avoid noticing two gentlemen who walked together up the wide stair while they smiled and chatted. The one was a tall man with a full beard. He had an attractive head and a fine carriage. The other was under medium height and had a pendulous mustache. His eyes were sharp and the color of his face somewhat sallow; he was in the habit of calling it olive green. They walked arm-in-arm as a symbol of a friendship which had lasted more than twenty years. The observer would now have been able to see the doorkeeper turn to the two gentlemen in order to ask their names but he would not have been able to hear what the medium-height gentleman whispered. It was a joke he was playing, but completely unaware of this, the doorkeeper announced, as he was asked to, the Brothers Regii, the Royal Brothers. The humming of the many voices died for a moment. Then there ran a wave of laughter through the entire company when the Royal Brothers, constantly arm-in-arm, came up and greeted the assembled company.

This little incident illustrates perhaps better than any other the close relation between these two men, who in no way were brothers and furthermore were born in separate parts of the world but who had watched the paths of their lives come closer and closer to each other until they both came to exercise a singular and increasing influence on the practical and theoretical medicine of their time. The man with the great beard was Sir Thomas Clifford Allbutt, Royal Professor in Medicine at the University of Cambridge. The man with the olive green hue was William Osler who occupied the corresponding position in Oxford and who would shortly become a baron. According to academic parlance, they addressed each other as 'My Brother Regius' and never were two royal brothers more closely tied to each other in affection and in high ideals." [15]

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