In Remembrance of Prof. Dr. Aller G. Ellis

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Fifty-four years ago, on 19 February 1953, we lost Prof. Dr. Aller G. Ellis (Fig 1) to cerebral hemorrhage from arteriosclerosis at the age of 84 in Plainfield, New Jersey, USA.[1] Prof. Ellis at one time an associate professor of pathology at Jefferson Medical College, his Alma Mater, decided to help His Royal Highness the late Prince Mahidol of Songkhla (written as "Songkla" in the original document) under the auspices of the Rockefeller Foundation and the Siam government to establish pathology department at Siriraj Hospital and reorganize medical education in Siam (Thailand).[2-6] Prof. Ellis first spent his first two years from 1919 to 1921 as head of pathology department at Siriraj Hospital. During the period of "some weeks" in 1920, he had a chance to meet Prince Mahidol who chose to work in pathology laboratory prior to his study at Harvard University. Prof. Ellis described that period as "one of the most fortunate and pleasing events" and he appreciated the friendship he received from the late Prince that "is treasured as one of the great privileges" of his life.[7] At the end of the two-year contract, he returned to Jefferson Medical College and was promoted as acting chairman of pathology department from 1922 to 1923.[8] Only a week before his scheduled election as a prestigious professor of pathology and chairman at Jefferson, he received the invitation from Siam requesting him to help with the curriculum revision for medical degree. "Decision between the two places was most difficult to make but this Faculty (of Medicine Siriraj Hospital) won" as he described how his second period of service in Siam began in 1923.[7] Those written in the "Thomas Jefferson University Tradition and Heritage" by Frederick B. Wagner, Jr., M.D. in 1989 were: "On returning to Jefferson in 1922, Ellis filled in for Coplin for one year but left in 1923 when his appointment was inexplicably not renewed" and "little is known of his career beyond 1923." Moreover, "The contribution of Aller G. Ellis as interim Head of the Pathology Department were minimal" was added in that particular chapter.[8]

But we here know very well that the late Prof. Ellis, M.Sc., M.D. (Jefferson), M.D. hon. (Chulalongkorn), Professor emeritus of Pathology, formerly Dean of the Faculty of Medicine, Director of Siriraj Hospital, Director of Siriraj Nursing School, and sometime Rector of Chulalongkorn University, had spent his precious time from 1923 to 1938 in Bangkok, Siam. The following were excerpted from the obituary of Prof. Ellis published in Siriraj Hospital Gazette in 1953: "For nearly twenty years

Fig 1. Prof. Aller G. Ellis (circa 1927). This portrait was first published in the B.E. 2478 Year Book of Siriraj Medical School in 1935. It is now on display in both Ellis Pathological Museum and Ellis Laboratory for third year medical students at Siriraj Hospital. It was taken by Harris & Ewing, Inc., a famous photography shop in Washington, D.C. during 1905-1945. One can notice the printed name "Harris & Ewing" at the lower right hand corner of the photograph. Harris & Ewing, Inc., gave its collection of negatives to the Library of Congress, U.S.A. in 1955. This portrait is not listed among the 50,000 news photographs and 20,000 studio portraits of notable people (approximately 28,000 negatives have been processed and available for printing - available at URL: http://www.loc.gov/rr/print/coll/209_hande.html.)

Dr. Ellis held the helm and directed the Medical School, the School of Nursing and the attached Siriraj Hospital through difficult passages and countless obstacles to a stage of perfection far beyond the expectation of even the greatest optimist. His period of office may not have been as long as that of some others, but it was certainly the most fruitful and the most significant. For it was during those years that Siam's only Medical School metamorphosed from a backward and unknown place into an institution up-to-date in every way and respectable to

everybody. In his eulogy delivered before a mass meeting of the faculty members and students of the Faculty of Medicine and Siriraj Hospital on July the fourth, 1953, Dr. Luang Pynpakya Bidyabhed, the ruling Dean, pronounced with conviction that there was no exaggeration in stating that what Dr. Ellis had done for Siriraj ranked second in importance only to the deeds of our great benefactor, His Royal Highness the late Prince Mahidol of Songkla. The assembly could only corroborate the Dean's statement."[9]

Prof. Ellis was born on 6 July 1868 at Cambridge Springs, Crawford County, Pennsylvania, USA. He attended Geneva College and received his B.Sc. in 1894, having been an athlete in three sports (baseball, football, and track). He served as a class president during his studying at Jefferson Medical College where he graduated in 1900. After internship in Jefferson Hospital (1900-1902), he was appointed Demonstrator of Morbid Anatomy in 1902, beginning a long association with Prof. Coplin, head of pathology department. In 1903, he was appointed as Instructor in Hematology and, later in 1904, as Associate in Pathology. In 1907, he was the first awardee of the "Corinna Borden Keen Research Fellowship," founded in 1905 by Prof. W. W. Keen, a famous surgeon at Jefferson. With this award, he was able to spend a year studying in Germany. He returned to Jefferson in 1908 for a two-year appointment in neuropathology. As a rising star in pathology department, he was sent by the Board of Trustees of Jefferson Medical College to evaluate cancer research in England and the mainland Europe in 1913. This was a great opportunity for him as he visited with Ehrlich, Pick, Levaditi, and other leading researchers.[8]

From 1917 to 1919 Prof. Ellis was then Director of the Ayer Clinical Laboratories at Pennsylvania Hospital.[8] The experience he received during this period was helpful as some of the illustrations in his "Elements of Pathology" textbook were taken during his service here.[10] In 1919, under the auspices of the Rockefeller Foundation and His Royal Highness Prince Rangsit of Chainad who was acting Rector of University Department, Prof. Ellis accepted the offer granted by the Siamese Government to establish pathology department at Siriraj Hospital, then an affiliation with Faculty of Medicine, Chulalongkorn University.[3,5] Prof. Ellis was thus the first head of pathology department from 1919 to 1921. In his memoir - my fourteen years at Siriraj" published in Siriraj Medical Yearbook 1935 (Wet Nisit B.E. 2478), he wrote the following: - At that time the first four years of the medical course were given at the (Chulalongkorn) University and the fifth and sixth at Siriraj Hospital. Definite medical laboratories were not in use. The clinical laboratory of the hospital was then in the upper story of the building that still stands near the center of the compound (Saowaphak Building). This laboratory was moved to the ground floor and the upper one converted into a lecture room and my workshop. Supplies brought along included a microtome and section cutting was begun. Postmortem examinations were conducted in a small building situated in a region of near jungle where the surgical operating building now stands. My first meeting with a cobra was in front of that place. The speed with which he disappeared around a corner into the tall grass was interpreted as meaning that he was more afraid of a pathologist than the latter of him; whether this diagnosis was correct or not, the pathologist was entirely satisfied with the direction and the speed of that particular specimen."[7]

Thus, Prof. Ellis was the first pathologist who performed a complete pathological examination of both autopsy and surgical specimen in Thailand. The first surgical specimen received for pathological examination by Prof. Ellis was recorded on 19 September 1919 in the login book, now on show in the Ellis Pathological Museum on the second floor of Adulyadejvikrom Building. This very first case was a mass at tibia proven histologically as myeloma.[11] The first autopsy case report "a rare lesion of the duodenum" published in Medical Journal of the Siamese Red Cross in 1919 by Prof. Ellis and Dr. Plankul (Phra Abbhantrabadhbisal)[12] was also recorded in the same login book as case number 10 (S-10). The postmortem specimens received for histologic examination included stomach and duodenum; they were diagnosed as "lymphosarcoma." This was the only lymphoma case included in the "analysis of one hundred postmortem examinations at Siriraj Hospital" reported by Prof. Ellis that was also published in Medical Journal of the Siamese Red Cross in 1920.[13] Prof. Ellis was quite prolific in publication of his works during this two-year appointment; he published 5 articles in Medical Journal of the Siamese Red Cross.[12-16]

About teaching of pathology and history of medicine, it was difficult for both Prof. Ellis and his medical students because Prof. Ellis could not speak Thai. Prof. Ellis himself did not mention about the communication problem during teaching pathology to Thai medical students. But, in Siriraj Medical Yearbooks, medical students described how difficult to concentrate and understand his lecture due to his soft and low voice - "not as big as his built" - and limitation in English listening among Thai medical students; many of them fell asleep during his lectures.[4] However, there were comments on Prof. Ellis' lectures about his great effort in order to explain pathology in plain English over and over again such as "trying very hard to playing music to herds of water buffaloes until the buffaloes appreciate music listening."[17]

The most memorable period during Prof. Ellis' first two-year period at Siriraj Hospital that certainly influenced his later decision to return to Siam was the friendship he received from His Royal Highness Prince Mahidol of Songkhla as he wrote in his memoir "my fourteen years at Siriraj" as follow: "One of the most fortunate and pleasing events of that period was meeting His Royal Highness the late Prince Mahidol of Songkhla, who worked in our laboratory for some weeks during the year 2463. A friendship was then began that continued to the time of his passing away and is treasured as one of the great privileges of my life."[7]

Prof. Ellis returned to Jefferson in 1922 at the end of the assignment, he filled in for acting chairman during 1922-1923. During that period, he knew all along that negotiations for the reorganization of the medical school were being discussed with His Royal Highness Prince Mahidol, one of the chief supporters of that project as appeared in his memoir "my fourteen years at Siriraj." He wrote: "At the end of another two years, when the principles of that reorganization had been adopted, the Minister of Education extended to me the honor of a request that I return to Siam and help with the program that had been laid down. This invitation came to me a week before my scheduled election as Professor of Pathology in my Alma Mater, Jefferson Medical College. Decision between the two places was most difficult to make but this Faculty won and my second period of service began in B.E. 2466, as Professor of Pathology and Director of Studies, the latter referring to revision of the

curriculum."[7] The reason behind his decision was Prince Mahidol's recommendation that Prof. Ellis be the choice as aforementioned about the invaluable friendship between these two great supporters of Siriraj Medical School.[18] So Prof. Ellis decided to leave behind the prestigious professor and head of pathology department at Jefferson. Dr. Frederick B. Wagner, Jr., Grace Revere Osler Professor Emeritus of Surgery and University Historian at Jefferson, wrote about Prof. Ellis concerning this period of his career in Thomas Jefferson University Tradition and Heritage as follow: "Between 1920 and 1922, under the auspices of the Rockefeller Foundation, he (Prof. Ellis) organized and directed the Department of Pathology of the Royal Medical College in Bangkok, Siam (Thailand). On returning to Jefferson in 1922, Ellis filled in for Coplin for one year but left in 1923 when his appointment was inexplicably not renewed. Little in known of his career beyond 1923, except that he was a member of the Colorado State Medical Society. He retained at least one tie to his alma mater, as evidenced by the memoir he wrote for the Alumni Bulletin in May, 1944, on the death of Randle C. Rosenberger. Ellis died on February 19, 1953, in Plainfield, New Jersey, of arteriosclerosis at the age of 84. The contributions of Aller G. Ellis as interim Head of the Pathology Department were minimal, although he did train a pathology intern in 1922-1923, Frank Hammond Krusen, who later achieved great prominence in physical medicine and rehabilitation."[8]

As already mentioned, Prof. Ellis decided to come to Siam in 1923 as a visiting professor to Chulalongkorn University under the auspices of the Rocekefeller Foundation and the Siamese Government. Based on the letter from His Royal Highness Prince Mahidol of Songkhla to His Excellence Chao Phya Dharmasakdi Montri, Minister of Education on 16 November 1922, Prof. Ellis received 1,000 Baht a month (a newly built patient ward at that time costed 80,000 Baht).[18] Based on the letter from Dr. Vincent, President of the Rockefeller Foundation, to Prof. Ellis on 15 February 1923, Prof. Ellis was offered a position as visiting professor in pathology for a period of 5 years beginning approximately the middle of April 1923. He received a salary at the rate of $7,000 a year American gold currency and an extra allowance for commutation of $150 a month - the total annual rate of $8,800. Also in the offer, Prof. Ellis might receive a similar position elsewhere in connection with the work of the Foundation or an assistance to secure a satisfactory position in any university in the United States during the entire period of five years if any unexpected and undesirable emergency should arise to discontinue the assignment in Siam.[19] The late Prof. Sood Sangvichien wrote about Prof. Ellis' decision on return to Siam as a great sacrifice when he accepted this offer because he had left behind his opportunity to academic achievement when he turned down the professorship and head of pathology department at the distinguished Jefferson Medical College.[3] It is no doubt that the chance for Prof. Ellis to be a famous pathologist at Jefferson was very high because of his highly acclaimed study record, honors, awards, and experience about research in Europe. To exemplify this notion, one may read about Prof. Ernest William Goodpasture who is best known as a scientist for developing the chick embryo technique for cultivating virus.[20] From 1921 to 1922, while Prof. Ellis was in Siam during his first assignment, Prof. Goodpasture served as head of pathology department at the University of the Philippines in Manila. Prof. Goodpasture returned to the United States in 1922 and became the director of the Singer Research Laboratory to the Allegheny General Hospital in Pittsburgh. He received his salary $8,000 per year. In 1925, Prof. Goodpasture accepted to be head of pathology department at Vanderbilt University Medical College and his salary was $7,500. At that time, Vanderbilt University Medical College had started the reorganized medical school to the academic world after it had been given 5.5 million dollars from the Rockefeller General Education Board and 2.5 million dollars from the Carnegie Foundation. Prof. Goodpasture was head of pathology department at Vanderbilt for 31 years (1925-1955). During his professorship at Vanderbilt, he turned down the recruitments by Harvard Medical School in 1941 and by Johns Hopkins Medical School in 1942.[20] One can imagine that Prof. Ellis might be better known in world medical history as much as Prof. Goodpasture should he decided to accept the professorship at Jefferson in 1923.

After Prof. Ellis turned down the professorship at Jefferson in 1923, he went to practice at Colorado Springs Clinical Laboratory in Colorado before he came to Bangkok on October 10, 1923[6] as shown in the agreement settlement between Prof. Ellis and Dr. Vincent, the President of the Rockefeller Foundation.[19] While Prof. Ellis was in Bangkok in 1924, his wife, Louisa J. Ellis, sent information concerning Prof. Ellis needed by the Rockefeller Foundation in her letter dated of May 27, 1924 that Prof. Ellis worked as pathologist and roentenologist at Colorado Springs Clinical Laboratory in 1923.[19]

About the date of Prof. Ellis' death, it is different between Thai and American Archives. All documentation in Thailand was February the ninth in 1953 based on the obituary of Prof. Ellis written by Prof. Ouay Ketusinh, the editor, published in the July 1953 issue of Siriraj Hospital Gazette.[2,9] However, February the nineteenth was the date given in the "Thomas Jefferson University Tradition and Heritage" mentioned above.[8] This February the nineteenth was confirmed in the May 1953 issue of Journal of American Medical Association as Prof. Ellis was a member of the American Medical Association.[1] We do not have much information concerning Mrs. Ellis and his two children - one boy and one girl. We know that after Prof. Ellis' death in Plainfield, New Jersey, his remain was buried at Colorado Springs according to his wish. Mrs. Ellis received a donation of 43,485 Baht from the Siriraj Alumni to ease her poverty due to the great depression after the World War II.[21] The retirement pension, 400 Baht per month, he received from the Thai Government was worth only 20 dollars![5] In fact, Prof. and Mrs. Ellis had just moved from their happy home in Colorado Springs, Colorado (Their residence is now located in a wealthy community when one looks at satellite picture on Google Earth; there are many mansions with swimming pools, tennis courts, and golf courses in the vicinity.) to Plainfield, New Jersey (The address where Mrs. Ellis lived at the time donation was announced in Siriraj Hospital Gazette in 1953 was 710 Huntington Avenue.[22] Their residence is now just a very small house in a very crowded community.) in early February 1953, a few days or weeks before his death.[2] In 1949, Prof. Ellis was in good health (except for cataract) as shown in his two letters published in Siriraj Hospital Gazettes below.[23,24] But then in 1950, he suffered from arteriosclerosis causing cerebrovascular attacks, paralysis, and, later, blindness preventing him to enjoy his reading and other activities.[2] Prof. Ellis had been suffering for 3 years and he eventually passed away peacefully after repeated seizures of cerebral hemorrhage on February 19, 1953.[1,2,8]

A. G. Ellis, M.D.
Elm Avenue and Fourth Street
Broadmoor, Colorado Springs
Colorado
July 23, 1949

Dear Dr.....

I was very much pleased to get your letter and the list of the 1929 first M.B. class. It was very kind of you boys to remember me and I appreciate it greatly. And the niello ash-tray is a beauty and I thank you all for sending it. Please tell all the class you see that I received it safely and regard it very highly as a token of remembrance of the class of 20 years ago. It does not seem that long but the years go by. It is now 11 years since we left Bangkok.

I would like very much to visit you all again and see my former students and the teachers at Siriraj and all my Siamese friends who were so kind to me and mine for all those years. But expenses of living and the cost of travel seem to make that visit far away.

I have a note from Sobhon and he has seen Drs. Perkins and Albriton. I have never had a word from Dr. Noble since he left Siam.

Am busy now with garden, lawns and flower beds, as I do all that myself for exercise and it keeps me too busy to play golf. We have warm summer, 91 degrees the highest here but above 100 in the East. But we have cool nights and the air is dry here at 6,000 feet elevation. We are at the foot of a mt., 9300 feet. Have not been hiking so much this summer but was out last Sunday and on the 31st will go up Sierra Almagre that is 12,365 ft., the same as Fujiyama in Japan. We drive 16 miles to a town that is 9800 feet, then walk nearly six miles to the top.

The bowling season begins next month and I expect to be in two leagues this year of 35 weeks. Each league has eight teams of five bowlers each. It is good exercise for the winter.

I trust that the new arrangement of the Faculty of Medicine and the University is working out well. I hear that the medical school is overflowing with students which are perhaps a good sign for the future. Good luck to all concerned.

With best wishes to you and yours and all of the first M.B. class and thanking you again for your letter and list.

Sincerely Yours,
A. G. Ellis.

[News session. Siriraj Hospital Gazette 1949;1:516-7][23]

A. G. Ellis, M.D.
Elm Avenue and Fourth Str.
Broadmoor, Colorado Springs
Colorado
June 20, 1950

Dear Dr. Ouay,

Many thanks for the Siriraj Hospital Gazette. I was greatly pleased to see Prince Mahidol's portrait in the first number. He did a great deal for medicine in his country.

I apologize for this very late note of acknowledgement which is due to the development and later removal of a cataract of my right eye which has greatly interfered with my vision during the past months. That is now improving slowly but has not yet reached the typing stage and my wife is doing this for me.

We have followed with great interest the many newspaper and magazine articles concerning the coronation and marriage of your King, whom we have been privileged to know and admire since babyhood as the happy boy Lek. Our best wishes and prayers are with him.

Both of us are in general good health and I am doing my usual summer gardening but the eye condition has lessened mountain hiking.

Please give my regards to the Hospital staff and the many other friends who may inquire.

Sincerely yours,
A. G. Ellis

P.S. Please say to Luang Bin or any of the other fellows I will be delighted to get the news of Siriraj even if I may be slow in answering, A.G.E.

[News session. Siriraj Hospital Gazette 1950;2:372][24]

Summary of Prof. Ellis' publication and work

Despite his busy schedule of administrative work, Prof. Ellis published a significant numbers of publication - 1 textbook and 15 articles during 17 years. "Elements of Pathology" was written by Prof. Ellis and published in 1926, just three years after his second period at Siriraj Hospital. It was printed in York, Pennsylvania, U.S.A. by the Maple Press Company and under the copyright by P. Blakiston's Son & Co.[10] The cost of this textbook was not printed in the book, but the late Prof. Sood Sangvichien recorded that he could buy Prof. Ellis' textbook at the price of 11 Baht instead of 12 Baht.[3] The author has recently bought the used copy of this textbook via internet in October 2005 at the price of $25.73 with an additional shipping and processing fee of $12.95 - the total of $38.68 or 1,611.81 Baht. This used copy once belonged to Richard Hebble at Pennsylvania State College of Optometry who bought this textbook in February 1939 - 13 years after its debut. The textbook had 544 pages including index with 95 illustrations. There were gross photographs taken from specimens at Ayer Laboratory, Pennsylvania Hospital where Prof. Ellis was director from 1917 to 1919 and from Department of Pathology at Siriraj Hospital where he was head from 1919 to 1921 and 1923 to 1928. Prof. Ellis dedicated this book to "the beginner in pathology" and he wrote the preface in January 1926 while he was in Bangkok, Siam. Prof. Ellis gave his name and qualifications in his textbook as follow: Aller G. Ellis, M.Sc., M.D., Rockefeller Foundation Visiting Professor of Pathology and Director of Studies, Medical Department of Chulalongkorn University, Bangkok, Siam. One-time Associate Professor of Pathology, Jefferson Medical College, Philadelphia.[10]

The following are the 15 articles written by Prof. Ellis and published mostly in the early versions of Journal of Medical Association of Thailand since it was first named as Medical Journal of the Siamese Red Cross in 1919 and then Medical Journal of the Medical Association of Siam in 1925.[6]

1. Ellis AG, Plankul K. A rare lesion of the duode num. Medical Journal of the Siamese Red Cross. 1919; 2:355-60.
2. Ellis AG. An analysis of one hundred postmortem examinations at Siriraj Hospital. Medical Journal of the Siamese Red Cross. 1920;3:56-74 & 1921; 4:34-47.
3. Ellis AG. Betelnut chewing and its effects, including cancer of the mouth. Medical Journal of the Siamese Red Cross. 1921;4:15-43.
4. Ellis AG. A note on the structure of superficial epithelial tumors and its surgical significance. Medi-

cal Journal of the Siamese Red Cross. 1922;5:24-32.
5. Ellis AG. Statistics of two hundred post-mortem examinations in Bangkok. Medical Journal of the Siamese Red Cross. 1922;5:61-71.
6. Ellis AG. The future of medicine in Siam. Medical Journal of the Siamese Red Cross. 1924;7:32-48.
7. Phra Abbhantrabadhbisal, Ellis AG. A case of primary carcinoma of liver, with postmortem notes. Medical Journal of the Medical Association of Siam. 1925;8:1-9.
8. Ellis AG. Stone in the bladder. Medical Journal of the Medical Association of Siam. 1929;12:3-8.
9. Ellis AG. Medical education and medical practice. [Thai translation] Medical Journal of the Medical Association of Siam. 1932;15:606-44.
10. Ellis AG. Some Siriraj Hospital statistics for B.E. 2474. Medical Journal of the Medical Association of Siam. 1933;16:90-7.
11. Ellis AG. Statistics of tumors at Siriraj Hospital B.E. 2472-2478 (1929-1935). Medical Journal of the Medical Association of Siam. 1937;20(2):87-95.
12. Ellis AG. An unusual outbreak of amoebic dysentery in America. Medical Journal of the Medical Association of Siam. 1937;20(4):295-8.
13. Ellis AG. Statistics of tumors at Siriraj Hospital. B.E. 2472-2479 (1929-1936). Medical Journal of the Medical Association of Siam. 1937;20(6):550-6.
14. Ellis AG. Calculi of the urinary tract. Siriraj Hospital, Bangkok. For the eight years B.E. 2472-79, (1929-1936). Medical Journal of the Medical Association of Siam. 1937;20:557-9.
15. Ellis AG. The service to medicine in Siam rendered by His Royal Highness Prince Mahidol of Songkla, C.P.H., M.D. (Harvard). Bulletin of the Institute of the History of Medicine 1936;4(2).

Prof. Ellis was the first who introduced statistics for analysis, tumor registry, and epidemiology to modern medicine in Thailand. In 1930, he was the first doctor and the first foreigner who received honorable degree in medicine from King Rama VII in the commencement first ever held in Thailand.[3]

In administrative role, Prof. Ellis was the first head of pathology department in Thailand founded at Siriraj Hospital in 1919. He was also Director of Studies since 1923, Dean of Faculty of Medicine, Chulalongkorn University and Director of Siriraj Hospital since 1925, Rector of Chulalongkorn University from October 21, 1935 to November 24, 1938, and one-time Director of Siriraj Nursing School[2-6,25] In 1935, Rockefeller Foundation withdrawn the help to Thailand, but Prof. Ellis still worked under Thai Government as the first and only foreign Rector of Chulalongkorn University as well as Dean of Faculty of Medicine and Siriraj Hospital, Chulalongkorn University before his retirement in 1938.[5,26] During his administration, he planned and supervised the construction of 22 buildings including equipped laboratories for preclinical teaching, operating theaters, patient wards, dormitories for medical students and nurses. Prof. Ellis was also in charge of taking care of the other 9 professors who were recruited under the auspices of the Rockefeller Foundation as well as sending 17 Thai M.B. graduates and instructors to study abroad. Prof. Ellis' administration style was exemplary.[3]

Reorganization of the medical curriculum to become the first-class standard was the most successful task Prof. Ellis was assigned to do. In his viewpoint, the premedical college work of 2 years was the minimum for first-class medical schools and secondary school graduates in Siam at that time were not properly prepared in science to enter the university.[27] So the 2:2:2 curriculum for medical degree (M.B.) was introduced by Prof. Ellis and the first M.B. graduates received their degree in 1928. Only those who completed secondary school (eighth Madhayom at that time) were eligible to enter the university for studying medicine. Medical students spent 2 years in premedical classes in Faculty of Arts and Sciences learning English and Science sufficient to gain scientist characteristic. Then they spent another 2 years in preclinical classes learning about normal and diseased bodies and the other 2 years in clinical classes learning to taking care of patients. In 1961, another year of internship was introduced after graduation. This 2:2:2 curriculum created by Prof. Ellis had been conducted in Thai medical schools for nearly 60 years until 1979 when premedical year was reduced to 1 year, the clinical years were expanded to 3 years, and the internship was aborted - the 1:2:3 curriculum — that has been used since then.[5]

There is no doubt that Prof. Ellis had done for Siriraj considerably, just second in importance only to the deeds of His Royal Highness the late Prince Mahidol of Songkla.[9] Therefore, there are 3 commemorative places in Faculty of Medicine Siriraj Hospital — Prof. A. G. Ellis Periodicals Room on the first floor at Siriraj Medical Library, Ellis Pathological Museum on the second floor and Ellis Laboratory for third year medical students on the fourth floor at Adulyadejvikrom Building. Prof. Ellis was also known as "Father of Thai Pathology" and Royal College of Pathologists of Thailand has provided "A. G. Ellis Award" for the best platform presentation in research by pathology residents given at the Annual National Pathology Conference.

Based on the accomplishment Prof. Ellis received during his career in Thailand, one can assure that he would be a successful pathologist in the United States and in the world if he accepted to be professor and head of pathology department at Jefferson Medical College, his Alma Mater in 1923. The author has a strong belief that Prof. Ellis had potential as much as Prof. Goodpasture, the famous pathologist at Vanderbilt University Medical School during the same period who once served as head of pathology department at the University of the Philippines in Manila from 1921 to 1922, while Prof. Ellis was in Siam during his first assignment.[20] Should Prof. Ellis have accepted to be head of pathology department at Jefferson Medical College in 1923, Dr. Wagner, Jr. would not have written "The contributions of Aller G. Ellis as interim Head of the Pathology Department were minimal." in Thomas Jefferson University Tradition and Heritage.[8]

The following two addresses given by Prof. Ellis are important for us to understand what Prof. Ellis had done for modern medicine in Thailand.[27,28]

FACULTY OF MEDICINE[28]

Opening Address by the Acting Dean, Dr. A. G. Ellis, May 16, 1928.

An address at the beginning of a school session is supposed to be especially for the incoming first year class. But there are things either new or desirable to repeat that can be said to the other classes, individually or

to the student group. My remarks today will be partly to the different classes, largely to the whole student body.

The announcement that school work begins on the 21st brings up the question of attendance. For that we have but one rule — each student is expected to attend every scheduled exercise, whether in a lecture room, a laboratory, a ward, or other stated place. The only acceptable excuse for absence is illness. If absence occurs, the Head of the Department decides by the character and amount of work lost what the student shall do to make up for it.

The question of behavior is also governed by one rule — each student is expected to be a gentelman. Here the student residential halls are in the compound with the school and hospital. These conditions make necessary special care in behavior toward patients, nurses, and teachers who are also in the compound in their respective places. The actions of each student should be governed by the principles of right and wrong. In addition each should remember that the conduct of individuals does much to establish the reputation, good or bad, of his class and of his school. Especially should the medical student and physician be clean morally.

This is the first year that all four classes of the medical school are of eighth Madhayom students, pursuing the regular course of two years premedical work in the Faculty of Arts and Sciences and four years in the Faculty of Medicine. The more recent classes have had the best premedical course and the departments of the medical school are each year better organized. For both these reasons, a higher type of scientific work should be done by the lower classes. That is, each class should do better work that the preceding one. This is simply following the rule that the greater the opportunities a man is given, the greater the responsibility he must assume.

Speaking now to members of the first year class, you are beginning new work in a new place. Adapting yourselves to this is your first task. The work of the year is learning the fundamentals of medicine. In order properly to study diseased bodies (sick persons), one must first know the structure and function of the normal body. The beginning is therefore anatomy and physiology and biochemistry. This is all laboratory or preclinical work; patients are not to be studied during this year.

Students in the second year class will find their year's work largely in the laboratories of pathology. This is the study of disease, of the abnormal, in contrast to the normal studied during the first year. In addition you will learn some of the principles of examining and studying patients. Contact with sick people will be begun.

Members of the third year class will start real clinical work. There will be much less laboratory, more work with the sick. In dealing with them you will apply the principles gained during the preceding years. You will begin to appreciate the real value of anatomy and physiology and pathology in the study of patients, begin to see how these fundamentals form the basis of practical medicine.

With this year, students begin learning another very important thing, namely, the proper attitude and conduct of physicians toward patients. Each is to be an earnest, careful, conscientious, gentlemanly helper of sick people who have come to seek help. He is to remember always that a patient is a human being, ill, usually in pain, often restless and disturbed, anxious, afraid. Approach him therefore with the keenest attention to his personal condition; with sympathy, with tolerance, with kindness, with tact, with common sense. The physician must be the man, a very human man. The patient is thus quieted and his confidence secured. Then the required medical examinations can be made under the most favorable conditions. In respect to the examinations the physician must be the scientist. The examination, the findings, the interpretation, the conclusion, all are based on the highest technic skill he has acquired as a student and practitioner. His judgment must not be interfered with by the temper or pain or pleading or fears of the patient. The physician therefore has a double role. He should be, 1. A very kindly person having the highest regard for the humanities of his patients, and, 2. A scientific medical man whose professional judgment must not be swayed by human sympathy for the patient.

Can the physician be both? Should the medical student as he begins his work with patients aim to become a happy combination of the two? Undoubtedly yes. The ideal for which to work is exactly this. The physician not possessing it lacks the proper viewpoint. He is not well balanced. He has not learned the difference between a "case" and a "patient", two words very often used wrongly by physicians. A case is an individual instance of a disease, as a case of typhoid fever, a case of pneumonia, a case of dysentery. A patient is a sick human being. Cases are analyzed as to age, sex, duration of illness, symptoms, signs. They are impersonal, the basis of statistics; patients are personal. A physician says he has ten cases of malaria in the hospital; they include men, women, children of varied social condition. But if he says he has ten patients, he means ten sick persons of definite age and sex, each with his own symptoms and taking definite doses of medicine prescribed for him alone. Fortunate are the inmates of hospitals or homes whose physicians regard them first as patients, secondly as cases; unfortunate are those regarded first as cases and secondly, or not at all, as patients. True physicians are men, not scientific machines, although they are constantly increasing their knowledge of scientific medicine. Their ideal is service for sick people.

The work of the fourth year class consists of lectures and work with patients in the wards and outpatient department. The laboratory is used only in studying specimens from patients to aid in diagnosis. The present fourth year class will be the first to graduate from the reorganized school, the first to receive the degree of M.B. from the University. Members of this class have a special responsibility because outsiders (both friends and opponents) will judge the work of our better equipped school (commonly but wrongly called the "new" medical school) by this first class with the M.B. degree. This will be hardly fair, because neither the premedical nor medical work was so well organized and equipped when they began. But the class must do its very best during its last year of study in order that it may uphold the honor of the class and the honor of the school.

Finally, a word to all the classes, to each student. The school and hospital offer their facilities; laboratories are equipped to enable you to learn things at first hand, the library furnished books and journals for reading what others have done, the hospital wards make possible the study of sick people, teachers are here to direct and help. But each student must actually learn for himself. You must be active and go after knowledge and experience, not passive and expect to be filled with knowledge by the school. We do not get real information by the filling process. The student's own personal ambition decides how much he learns. Read. Think. Reason. Ask questions.

Seek to learn more than is told by the teacher in the short time at his disposal. Study patients early, late, all the time you possibly can. Failures in schools of all kinds are not so often due to actual inability to learn, as to lack of application, lack of ambition to learn, dread of the real work that is necessary to gain knowledge.

A PARTING WORD[27]

A. G. Ellis, M.D.
DEAN

As my connection with the Faculty of Medicine ends at the close of this year, the class of B.E. 2480 is the last I will see graduate and this is the final Classbook to ask for my contribution. Under these circumstances it seems I can do no better in my "swansong" than to state a few facts about our school and with these respectfully offer some thoughts regarding medical subjects in general. These thoughts have been aroused by experience and by opinions, rumors, plans and events that have occupied the stage at various periods during the past fourteen years.

First we ask our nonmedical readers to note that the medical school is not simply Siriraj Hospital. We have at Siriraj two different features: 1. The first part of a medical school, namely, a dozen expensively equipped special laboratories and demonstration rooms, in which students spend the larger part of their first two years studying the structure and functions of healthy and diseased persons. These fourteen years have seen the building up of staffs of specially trained teachers for this work and the purchasing and preparing of the many specimens, charts, models and pieces of apparatus used in teaching these subjects. 2. The second part of the medical school, Siriraj Hospital. In its wards students spend the larger part of their last two years in learning how to observe and examine sick persons and, when examination has decided what ails them, the treatment that should be given. This period is for "educating the eyes to see, the ears to hear, the fingers to feel." For this all-important experience with patients in order to make a diagnosis, the students have been prepared by their first two years' laboratory study which is, for that reason, the essential beginning of a medical course. As these special laboratories are not a part of hospitals themselves, it follows that no hospital can of itself train real doctors; whatever its standing as a hospital, it cannot alone function as a medical school. These statements are made to correct the conclusion naturally but wrongly reached by some that if Siriraj Hospital can teach medicine and graduate doctors, other hospitals can and should do the same.

It is very pleasing to me that the present class is the largest of the ten to graduate from the reorganized school - 34 members as compared to the previous high of 28. These ten classes total 204 graduates with the degree of M.B. This seems a small number to those who hoped to see the country well suppied with doctors in a few years; those persons expected, unfortunately without analyzing stern facts and possibilities, that the co-operation beginning in 2466 would bring about the desired result. And so they have been disappointed with the outcome. But the educational and financial tasks of furnishing and maintaining properly trained doctors for millions of people are tremendous and plans for performing them cannot be discussed in terms of "a few years." Such a desirable end can be reached only in decades or scores of years, whatever may be the good intentions of governments that rather suddenly realize such a need of their people and wish to meet it. Another point in this question of rapidly supplying doctors for millions of people is that such doctors will be employed by those people only as their faith in the powers of ancient medicine is supplanted by confidence in modern treatment. Like the furnishing of doctors, this is a great task and cannot be brought about as a mass movement by official command or in a few years by any other way; it can come only as a personal conviction in the minds of the people, based on that they see or experience of the new method as it is demonstrated efficiently to them. And that will take time.

In the final analysis, both the supplying of qualified doctors and the acceptance of their ministrations by the public are going to progress slowly, which after all is the pace of most great movements of the world in which the result is permanent and satisfactory. It is to be regretted that such an outlook for the future has to be presented to those who expected the country to be staffed with doctors at a very rapid rate. At the same time nothing will be gained by optimistically disregarding the factors that control such staffing. Especially is it to be depolored if the overlooking of such factors leads to placing all the blame for the situation here upon the standard of the medical school.

For comparison on this point of progress let us look for a moment at a neighboring country. In China, six struggling mission medical schools that had united later became the Peking Union Medical College. An entire new plant was built for school and hospital and a complete staff of Western doctors and nurses (now being gradually supplanted by Chinese) was supplied. All this has been financed at a cost of many millions of dollars. How do the results of that massive undertaking compare with our relatively modest co-operative efforts here? That institution in China, with hundreds of millions of population from which to draw students, has in its first fourteen classes graduated 185 doctors. Think again of our 204 in ten classes! On general principles not nearly enough in either country we agree, but probably in China the same as here, practically enough to fill available government positions. In both countries private practice is unattractive, and outside of large cities virtually absent, because modern medicine is not well enough known and sought after by the people to promise private practitioners a living; of the first 151 graduates of the Peking school only six went into private practice.

The above points concern schools that are trying to maintain the teaching of scientific medicine and graduate doctors who are competent to deal with disease. But there is another side of this question of training doctors in a number of countries and it is of special importance here, because in the opinion of some authorities the standard of education in our Faculty of Medicine is too high; the course is too long and therefore doctors are being produced in too small numbers to meet the needs of the country. This view has been maintained during the entire period of reorganization; if it be correct, how could the present teaching of medicine on scientific principles be changed to meet it and what would be the result? The change itself could be made in one of several ways.

First, by lowering the standard of the school, which has been suggested. Presumably that action would lead to an increase in the number of students and graduates but what would it mean to this country that for fourteen years has let its neighbors in the Far Eastern Association of Tropical Medicine know it was placing its university in the ranks of those institutions that teach scientific medicine? Let us see. We wish to believe that, based on

comparison with medical schools throughtout the world, ours now has a theoretical standard that entitles it to be rated as a first-class medical school, standard meaning the requirements in years or efficiency of its preliminary, college premedical and medical education. The first of these three is the weakest and undoubtedly would attract the attention of a commission for giving our school a rating. In fact, authorities here have agreed that our secondary school graduates are not porperly prepared in the sciences to enter the University; this conclusion is supported by the number of failures of premedical students during the past years. Our premedical college work of two years is the minimum for first-class schools in most countries. These points are mentioned here because one of the chief advances in medical educaiton during the past thirty years has been raising the requirements of preliminary and college premedical training, the training before the study of actual medical subjects is begun. That feature is being emphasized in England even now and it is with England especially that Siam wishes to have a standing in medicine, in order that her graduates may be eligible fo English postgraduate study and higher degrees.

If then we are correct in assuming that a favorable pronouncement of a rating commision regarding our present standard be somewhat in doubt, there can be no serious question as to the result of lowering it. If the medical course be made three years, if the premedical be made one year or none, if the preliminary be the seventh or sixth Madhayom, if any one of these changes be made the school will surely not be a first-class school. Does Siam, regardless of the effect upon the future of medicine for her own people and regardless of the reputation of her school in other countries, wish to lower the standard of that school to increase the number of its graduates? Graduates who would be only second or third-class doctors, with corresponding professional standing in neighboring countries? A possible comment on these questions is that a country should do as it thinks best for its people, regardless of the opinion of others. With that principle in theory we heartily agree; it is patriotic and soul-satisfying. But if put into practice literally under all circumstances it is pure deception.

Second, there is a method of increasing the output of practitioners without changing a first-class school into a lower class by debasing its standard. That method is to retain the first class and in addition establish another school or schools of lower standard, these for example to require four years instead of six, with possibly another one or two years saved on preliminary education. Graduates of such schools are usually registered as qualified doctors but commonly are compelled to practice under annoying limitations (such as lower salaries when in government service and ineligibility for responsible hospital positions) that brand them with inferiority. This type of medical education (that is, with two recognized standards) is fairly common as a means for helping provide medical care for the natives in populous countries controlled by other nations. In this small free country such a method would seem to be particularly undesirable. And the latest information from India, where the double standard has been in force for many years, is that of a steadily growing belief that there should be only one standard of medical education.

Third, there is a plan for providing doctors rapidly that proposed to furnish a type of medical service in the form of Junior or other-named doctors of two years, or of one year, or of six months' training in a hospital. Various ways of employing these unqualified doctors have been suggested, allowing them to treat certain diseases only, allowing them to prescribed only a limited list of named drugs, theoretically regarding them as assistants to qualified doctors. But, whatever restrictions are laid down, if such men are sent into districts having no doctors (which is the prime reason given for thus hurriedly training them in numbers) they will practice medicine, must practice, without supervision. What this may mean to sick persons coming under the care of these incompetent practitioners can be appreciated only by properly trained physicians. And it is difficult to estimate what influence this method would have on educated young persons who, if they wish to take the regular medical course, must do so with the prospect of later competing with these scantily trained practitioners already in the field.

With these possibilities in medical education and with different views as to the best method for Siam, what is the present situation here? On the one hand, the Government has faithfully supported the Faculty of Medicine during the trying period of reorganization and, because of arguments against its standard, an official commission some three years ago upheld it as the recommended minimum for this country. On the other hand, the above third method is being used and, if published reports are correct, the furnishing of such doctors to the country or certain parts of it has been stated to be the policy of the Government. It would seem that the only conclusion warranted is that a unified policy has not been agreed upon, that the difference of opinion still exists, and that two methods of training doctors are being employed without definite correlation of the two.

To guard against the development of such a situation I have for some six years so persistently importuned various University officials regarding it that they now, whether in or out of office, must welcome my departure as the disappearance of a pest. The basis for settling this matter seemed very clear. If the opposition was right and the standard determined upon in 2465 was too high, then that error in judgment, discovered by usage, should be corrected by lowering the standard. If on the other hand that standard was still deemed correct and was to be maintained, official opposition to it should be silenced and all departments united in following a uniform policy. As the University authorities employing me steadily adhered to their adopted standard, the policy suggested by me was based upon it.

My recommendation was, and is, a very simple one, namely, that the Government, after a very careful survey of the subject, adopt for supplying medical care to the people of the nation a program that will require for its performance the direction of qulified doctors on salaries under the Department of Public Health. Such salaries need continue only until those doctors have created among the people a demand for their services that will enable them (or part of them) financially to go into private practice. If, as has been repeatedly set forth, portions of the rural population are too poor to pay for medical care, the Government is morally bound to continue salaried service to them. That program would tie up the medical school and the Department of Public Health (the supplier and the employer of doctors) in a co-operative campaign of preventive and curative medicine, with the Government unequivocally backing both of them. It would settle this perennial question of standard by placing qualified doctors in charge of every medical post established in the country, with of course under them and secondary to

them, as many lesser-trained assitants as could profitably be used in the work.

Admittedly the recommendation of this briefly outlined program was based upon the belief that assuring the service of well-trained doctors to the people is the practical and very necessary final step in the reorganization of medical education. But the value of such a program lies not only in making secure and translating into service an adopted standard. In addition to that result it would support the Department of Public Health by clearly adding to its efforts in preventing disease the responsibility for treating the sick, with the quarantee of properly trained doctors for those services. It was the urgent need of that Department and the co-operating Red Cross Society for an efficient field staff that seventeen years ago led to efforts which later culminated in reorganization of the medical school; surely giving the Department qualified doctors for its work is now more than due. Further, such a program would stimulate the study of medicine and increase the number of graduates by creating an incentive for students of ability to choose medicine as a career.

But time went on and this recommendation for a policy to bring about these things was not adopted. Still convinced of its value and its need, my furlough three years ago was devoted to a final effort toward that end. With the endorsement of certain officials here, I sounded the staff of the Rockefeller Foundation, first, as to their opinion of the idea itself as a working scheme, and second, their willingness to receive a request for further co-operation to the extent of contributing a representative to help for a year a local commission in making a survey and outlining a program. They unanimously endorsed the plan, including the principle of the Department of Public Health having charge of both preventive and curative medicine for the nation; that of course would make the Department vitally concerned in the type of doctor supplied by the school. They were also very sympathetic toward receiving a request for co-operation, if the program (which is largely one of Public Health) included reorganization of the teaching of Public Health in the medical school, in order that the project could be initiated by them under the head of medical education. I returned with enthusiasm in the hope that details could be arranged but even with this possible assistance the idea was not accepted. Naturally I could not press the proposition lest I be accused of trying to force co-operation where it was not wanted. Therefore I had finally to conclude that a definite program or policy was not considered practicable or desirable. But in spite of that, my one deep regret on leaving Siam is the belief that the reorganization of medical education on scientific principles, with all that such effort should imply, has not been completed. And therein lies a doubt for the future.

In the school itself that has been built during these years I have great confidence. With its accumulated staff of teachers, ably aided by the nurses of Siriraj Hospital, it is proving its worth. Of one occurrence during this year we are very proud. Two of our M.B. graduates, members of our teaching staff now on fellowship in Germany, have, after less than two years postgraduate work in their specialties, passed the German general doctorate examinations in medicine and obtained the degree of M.D. Six of our graduates are now in Germany and all are a credit to our Faculty and University.

Siriraj Hospital is still expanding in its efforts to keep pace with the increasing number of sick persons that seek its care. Two new buildings, one for medical, one for surgical patients are practically ready to be occupied. These, less a temporary building displaced, will add 85 beds. The X-ray department that has twice outgrown its quarters is soon to have a new building that includes space for a radium clinic. Baht 20,000 generously given by the Government this year for the purchase of radium and its equipment will give us at least 250 mgm. of radium with which to start its use. With accommodation for patients provided in this clinic, the hospital will have 440 beds, with an additional 56 cribs for babies born within its walls.

So the hospital grows. In ten years from 2,650 to 6,378 in-patients, from 7,840 to 33,690 new out-patients, from 10,247 to 172,111 total out-patient visits, from 502 to 1,582 babies delivered. The last figures in each instance are those of B.E. 2479; those for 2480 will be larger. Note here that the 6,378 in-patients do not include the 1,582 babies that came to town in the hospital; these babies are not registered as patients but they require a lot of care. During 2479 the X-ray department cared for 6,157 persons who came for diagnosis and the 694 patients who came to be treated were given in all 7,076 treatments. The department now has two stationary diagnostic machines (one of these is also used for treatments) and a portable one that can be taken into the wards. There is also a deep therapy machine of 200,000 volts and a second one is needed and will be added when the new building is ready for it.

This steady growth of Siriraj Hospital during these ten years lends support to our earlier statement that the belief in ancient medicine can be supplanted only by demonstrating the results of the modern. A benefited patient returns not only because of later ailment but he brings sick members of his family and he recommends the hospital to his friends and neighbors. The same process will occur (but will probably occur more slowly than in Bangkok) if medical centers are established throughout the country under the same type of service. Because of repeated assertions that finances are not at hand to start such centers, I beg to offer a suggestion. As a practical part of the program outlined, let the Government or the Department of Public Health run an annual lottery of say Baht 500,000, designated as the Siamese Hospitals Lottery. One-half would cover prizes and expenses, the other half be used for the establishment, equipping and maintenance of out-patient clinics, health centers, and small hospitals located at points selected by the survey commission. With such a fund capably administered, its itemized list of expenditures being published each year, who will doubt the success of such a plan? Ten years of this would give the country a great many medical service stations of the type suitable to each locality. If by that time, or before, hospitals of 50 or 100 beds were needed in the larger centers, the amount of the lottery almost certainly could be increased by half or even doubled because then it would have become a truly national affair.

And now to the class of 2480, and to previous classes, I can say only that an educational institution is judged by its graduates. You are going out from a school that is young in years, as yet small in size, and whose standard in the minds of many is still in doubt. You will be the quality of your service, by your principles of action toward patients and colleagues, by your personal conduct, help make or mar its reputation. For it and for yourselves and for your profession you cannot afford to do less than your very best.

A. G. Ellis

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