Tribute to Alex Langmuir on his leaving Harvard University,
where he was a visiting professor of epidemiology from 1970-1977.

By DA Henderson, delivered Jun 27 1977

ALEX LANGMUIR - TRIBUTE
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There seems to be an element of confusion tonight as to what this occasion is meant to signify. You who are residents of this town of the redoubtable Red Sox may feel that you are saying goodbye to or paying homage on the occasion of the departure of one of the finest pitchers the team or baseball has ever known - I would only remind you that, in 1920, Boston bade farewell to one of its finest pitchers - George Herman Ruth - only to find him all too soon in New York in a quite different role.

Thus, while those of you with the more parochial concerns of Harvard are saying farewell - on behalf of the international community, may I say I regard this as the launching of a refitted S. S. Alexander Duncan Langmuir in a new role as full-time international consultant - critic - raconteur, although I will refrain from breaking a bottle of champagne over his bow. If you think he is retiring, just try to get a week or two of his time over the next 12 months.

As Leona will affirm, I agreed to participate tonight with more apprehension than in regard to any such occasion since I gave my first speech at the American Epidemology Society. To do justice to Alex's contributions while at CDC is a formidable task - and despite having known him reasonably well since July 2, 1955, I find myself quite out of my element.

Appropriate is the story of Jesus and Moses at the 12th hole at Augusta - a 200 yard hole requiring a drive directly over a lake. Moses said he needed a 2 iron but Jesus said "no-no" a 3 iron would do. He drove a solid shot which fell some 10 yards short of the far edge of the lake. Moses parted the water, retrieved the ball and said "now see". Jesus claimed he simply had not connected solidly and again - a powerful swing but another splash in the lake. Again Moses parted the water and retrieved

the ball. Jesus said "you win - a 2 iron it will be". The ball landed 10 feet from the pin. Jesus picked up his bag and started across the water. A golfer from a following foursome gasped, seized Moses' arm and said "Who does that fellow think he is - Jesus Christ"? Moses said "yes he is but he's under the ~~delusion~~ illusion that he's Jack Nicklaus."

With a disclaimer as to personal competence to do justice as author of Chapter II, may I present but a few highlights and episodes of a period which will one day be recognized and acknowledged to have represented an era which so profoundly changed fundamental approaches in epidemiological training and application as one day to be heralded as unique a milestone in progress as the Broad St. pump or William Farr or Sir William Osler. Dramatic, immediately visible applications such as the development of Salk vaccine or smallpox eradication are easily perceived and widely acclaimed by the press - the fundamental developments which made these possible are often less well-recognized. As you know, Enders, Weller and Robbins received the Nobel Prize, not Jonas Salk. In regard to smallpox eradication specifically and other areas as well, I submit there are applicable parallels in regard to one Alex Langmuir.

In 1949, Alex arrived in Atlanta and at a newborn CDC to direct a program in epidemiology staffed by a mere handful of professional staff, heavily oriented toward activities, disciplines and competence in malaria control. The Center had been developed during World War II to control malaria around troop training areas and was subsequently charged with eliminating malaria in the USA. Characteristically, one of Alex's first questions went to the heart of the matter. He inquired simply as to how much malaria there really was and what was CDC controlling? Surveillance began and soon he and his handful of epidemiologists had succeeded in destroying the very raison d'etre of the Center itself. Many cases were still being reported but few could be confirmed. The evidence soon accumulated that malaria, under the influence of economic development, screening and flit guns had vanished before the Center's program had really begun to develop. Alex's penchant for striking at the heart of a problem, irrespective of consequences, did not always endear him to

colleagues - as the time he spoke with Mr. Basil O'Connor, Director of the National Foundation of Infantile Paralysis, then riding the crest of well-fostered public accolade but with polio vanishing - Alex said "Now that you've achieved the objective for which the Foundation was established, why become just another Foundation in search of a problem? Why not dissolve it?" Mr. O'Connor's reply was unprintable.

With malaria patently no longer a problem, the Center's existence was precarious. National centers outside of Washington were then few and far between - however, there was NIH, far overshadowing CDC in size and competence, it's Institute of Infectious Diseases well-established and staffed. What role could CDC possibly have?

Fortunately or unfortunately, the Korean War broke out and Alex, always an opportunist, persuaded the government of the need to train epidemiologists who would be prepared to detect and combat a possible biological warfare attack. I have no notion as to how realistic that concern was - frankly, that there was real concern always seemed dubious to me, but with Alex arguing the cause in ringing, stentorian tones and capable of conjuring up a frightening scenario, he persuaded the government to provide funds for an EIS with service in CDC's EIS satisfying the requirements for military service. Applicants then and for years afterward flowed in by the hundreds. Some 900, in all, have been trained in the EIS - 2/3 of whom continued in public health careers or in careers in which they fully utilized their epidemological training. Few of them, no less than I who came aboard 4 years later, were initially interested in public health. From medical school days, it was conceived of by most of us as a group of workers interested in little more than pit privies, restaurant inspections and dull statistics.

From day 1, as Alex in his spellbinding manner led us through such as the incredible, now infamous Oswego diarrhea epidemic and the West Point hepatitis problem, perceptions changed. The drama and high adventure implicit in the routine of field epidemiology were never more eloquently expounded. But what to do with this raft of people. The conventional

academic approach, I'm confident, would have been to develop a series of research studies focused around a university or government laboratory. Alex, who knew well the field and was not, as many in academic centers, terrified of the real world, assigned them around the country - to states and cities. The injunction was that first priority be given to service - if there was an outbreak it took first priority over anything else. Speed was of the essence. If a call came at 5:00, why not catch that 6:30 plane? The immediate responsiveness to a call from a state health officer was simply not typical of government. But it set a pattern - CDC changed and state and local health officals changed. Service to states was the watchword and gradually they came to believe that CDC (or at least Alex Langmuir) really meant it.

But there was more than service involved - as Alex preached, each epidemic was a natural experiment. From each, the perceptive could learn something of value and everyone, constantly, was under pressure to write up their observations - to publish them. To do so, however, was an arduous ordeal, as Alex himself, long after hours, on nights and on weekends, read, discussed, critiqued and passed on every paper. For each of us in the EIS, each paper assumed the magnitude of a thesis dissertation. It was blood, sweat and tears - one EIS officer likened the process to writing a paper in a firehouse under the stern direction of a combination of Plato and Winston Churchill. To Alex, it was part of the continuum of the learning process. And throughout - he demanded nothing short of excellence.

NIH was intensely jealous of its prerogatives and the upstart CDC and, more specifically, Alex, were thorns in its side. Alex, in his inimitable style, evolved a compromise. Each time CDC was invited to participate in an epidemic investigation, a memorandum would be written immediately and copied to NIH with the understanding that they could send investigators to join the CDC group. Wedded to the laboratory and anything but interested in field investigation of a miscellaneous collection of often apparently routine outbreaks and sometimes false alarms, they never joined. As on so many other occasions, Alex confronted this obstacle with the philosphy

"Forget the strictures, we'll simply run circles around them." NIH faded from the field and CDC assumed this domain.

It was in 1955 that the concepts and application of surveillance really took root. Cases of paralytic polio began occurring after the first Salk vaccine campaigns. Alex, a disciple of William Farr, was adamant in the belief that the best service which CDC could perform was to marshal rapidly all available facts and to make the information available concurrently to those concerned with the program so that they would have the best available data upon which to make a decision. A simple, logical proposition. But, in the hysteria prevalent, a formidable task. A terrified bureaucracy was less than happy to have the available facts daily before the press, a politically powerful NFIP and its crowned prince Jonas Salk could simply not accept that anything could possibly have gone wrong. Polio Surveillance Reports for months were mimeographed and distributed literally daily; Alex shuttled between Atlanta and Washington endeavoring to prevent a highly nervous Surgeon General Schule and Secretary Hobby from stopping publication; predicting correctly at an early stage that the total of cases would be little more than 100; defining specifically the problem in terms of lot numbers of vaccine and manufacturer; and, finally, persuading the government to augment his beloved EIS whose raison d'etre, based on possible biological warfare, was then rather shaky.

The polio survillance program pinpointed and accurately defined the problem, was effective in early restoring public confidence and dramatized clearly the need for SURVEILLANCE - a term, a concept, a process which is Alex's baby and no one else's.

From polio in 1955, the program extended to Asian influenza in 1957, to the hospital infection problem, to hepatitis, tetanus, measles, abortions and others.

Underlying all of this - the orientation at CDC as a whole became increasingly clear - a national resource group with expertise whose first

mission was service but, to do this well required research and teaching. Now it can be seen that Alex, and his EIS, shaped the Center as it is today. In Indonesia, in the Philippines, in Nigeria - in fact, across the world - increasing efforts are being made to emulate the CDC pattern with epidemiology and surveillance serving as the core and cutting edge, with increasing recognition that to make good epidemiologists - "you get 'em young and train 'em yourself", to quote Alex.

Surveillance, as it is applied today, is uniquely the contribution of Alex Langmuir; the number of capable, young physicians whom he has attracted into public health and trained in epidemiology far exceeds the output of any of the schools of public health, and these, in turn, have trained countless others in an orientation of surveillance and practical field epidemiology.

Often controversial, always provocative, forever asking the wrong questions of those directing ill-advised programs, one could never characterize Alex as the beloved senior statesman in the field.

There are those who have lauded the smallpox eradication program as one of the great triumphs of public health. In all candor and humbleness, I freely and happily acknowledge that its success reflects specifically our ability to apply Alex Langmuir's principles of surveillance and training. This is but one program of many whose roots are in the EIS. There are many and more important ones yet to come.

Alex, it is a pleasure to launch you on your next career - I would hope some day soon to have the opportunity to toast you with proper champagne in Stockholm.