

of Winston Churchill? In Germany, Professor and General Karl Haushofer, with a staff of a thousand experts in many fields, has exerted powerful influence on the grand plan of total world war. What is wrong with copying the best features of such an organization? Could we listen attentively in war and in peace to the advice of one hundred of our ablest scientists, economists, sociologists, manufacturers, labor leaders, military men and others chosen, not politically, but by their peers in their own professions or callings? We have the brains in this country to solve most of present and future difficulties if we will only give them a chance to function effectively.

In conclusion, let me deny that science is to blame from all the horrors of war. Destruction of life and property was relatively as great in the days of Genghis Khan as now. Perhaps the essential difference is that in Caesar's time the average cost of killing a soldier was twenty-four cents, while to-day it has reached several thousand dollars.

Science is the friend of the poor, for research has always lowered costs and raised the standard of living. A little more than a century ago, in England, a laborer worked 15 hours a day for a week to earn

two bushels of wheat. To-day he earns two bushels (at nearly the same price) in less than half a day.

The liberating influence of the much-criticized Machine Age is convincingly shown by consideration of the cotton gin. "Without this mechanical device 37,000,000 American citizens, working 300 days per year, would be kept busy removing seed from cotton if the present rate of cotton fabric production is to be maintained" (Hugh Davis). Think of it! One fourth of our population toiling to prepare raw cotton! With three more such demanding industries the books would be closed.

At the entrance to the Rochester Public Library is carved in stone a great and richly deserved tribute.

Science
The Master of
Light and Energy
Of Time, Space and Sound
Foe of the Forces
That Assail Life

Science, I may add, has vision, which the public and many of its leaders lack. Without vision the people perish.

WHO ESTABLISHED THE ELGIN BOTANIC GARDEN?

By Dr. C. STUART GAGER

BROOKLYN BOTANIC GARDEN

THERE has been published this year a biography of "Doctor Bard of Hyde Park," by John Brett Langstaff. This is a valuable and too long-delayed contribution to the history of American science.

In a review of this book in *SCIENCE* for September 15, 1942, it is stated (p. 299) that Samuel Bard (1742-1821) "with his pupil David Hosack (1769-1835) established the Elgin Botanical Gardens, where Rockefeller Center now stands."

In another review of the book in the *Journal* of the New York Botanical Garden it is stated that: "Mr. Langstaff gives in detail the history of Bard's gallant though unsuccessful fight to perpetuate this institution."

In a pamphlet of 56 pages, published in the spring of 1811, entitled "A statement of facts relative to the establishment and progress of the Elgin Botanic Garden and the subsequent disposal of the same to the State of New York," Dr. David Hosack gives the facts leading to the establishment of this garden by him. Considering the known integrity of the author of the pamphlet we must consider the record authoritative, and that if Hosack had merely collaborated with another person that fact would have been clearly stated by Dr. Hosack. However, in the pamphlet, he men-

tions Dr. Samuel Bard but once, and then only to quote two paragraphs from an address delivered on November 14, 1909, by Dr. Bard before the Medical Society of Dutchess County. In these paragraphs Dr. Bard expresses his regret at the failure the preceding year to induce the Legislature of the State of New York to purchase "Dr. Hosack's botanic garden."

"... it has become indispensable," says Bard, "and if we suffer this garden of Dr. Hosack's to sink, as sink it must, if left in the hands of an individual, we give a decided advantage to every medical school in the United States. . . . I hope, therefore, that the institution, as well as both our medical schools, may continue to receive a decided patronage from our government. . . ." So far as the printed records show, this would appear to be Dr. Bard's sole contribution to the endeavor to have the state acquire the garden. He was an influential citizen, and of course, may have used his influence orally in this connection. Notice Bard's own statement, "*this garden of Dr. Hosack's.*"

In May, 1795, Dr. Hosack succeeded Dr. Samuel L. Mitchell as professor of botany in "the medical school of Columbia College," and the following year he "was elected to the joint professorship of botany and materia medica." On page 7 of the pamphlet above

cited, Hosack writes: "I, immediately after my appointment as professor in the college, endeavoured to accomplish its [the botanic garden's] establishment. . . . I was also strengthened in my design by the advice of those of my friends to whom I made known my wishes."

In November, 1787, Dr. Hosack addressed a communication "To the President and Members of the Board of Trustees of Columbia College" asking "that the professorship of botany and materia medica [which he held] be endowed with a certain annual salary, sufficient to defray the necessary expenses of a small garden, in which the professor may cultivate, under his immediate notice, such plants as furnish the most valuable medicines, and are most necessary for medical instruction," etc.

A committee of the trustees reported favorably on this proposal, and recommended that the sum of three hundred pounds "be annually allowed for the term of five years to Doctor Hosack for the above purposes. . . ." Since available funds were inadequate for carrying out this plan, Dr. Hosack, in February, 1800, made application to the Legislature of New York State to appropriate the necessary funds. The legislative committee to whom this request was referred reported favorably, but further consideration of the matter was indefinitely "postponed" by the Legislature.

"Thus disappointed of that public aid and encouragement which such an undertaking peculiarly demanded, and the wealth of the state enabled it to bestow, I resolved," says Dr. Hosack, "to devote my own private funds, the proceeds of my professional labor, to the prosecution of this object; trusting that when the nature of the institution should become generally known, and its utility more fully ascertained, it would receive the patronage and support of the public."

Dr. Hosack then goes on to tell how he purchased the land, and "at a considerable expense" enclosed the site with a stone wall, erected a conservatory and landscaped and planted the garden. No mention here of the name of any other person having anything whatever to do with the establishment of what was soon christened the "Elgin Botanic Garden." It should never be lost sight of that the establishment of this garden was conceived and carried through to successful realization by Dr. Hosack. Quite probably he may have conferred with his professor, Dr. Bard, and may have had his professor's approval and encouragement, but so far as the historical records show, including the published statement of Dr. Hosack, there is not the slightest foundation for the statement that Dr. Bard "with his pupil David Hosack" established the Elgin Botanic Garden.

Mr. Langstaff, on page 189 of his biography of Bard, records that Hosack, as a pupil of Bard, and twenty-seven years his junior, was interested in Bard's small hospital garden, but conceived the idea of "something more extensive than the hospital garden." Langstaff states further: "To encourage this botanic enthusiasm Bard hoped for the cooperation of 'the Society instituted in the State of New York for the promotion of Agriculture,' etc. which he had helped to found, and the society responded with the suggestion 'that a botanic garden under the direction of the society, or of the college with a view to further the agricultural interest will be set on foot and supported by legislative provision.' It was this suggestion Hosack proposed to carry out. . . ."

On page viii of "*Hortus Elginensis*" (2nd Ed., New York, 1811) Hosack, the author, records his "acknowledgement of the obligations I am under" to more than twenty men "both abroad and at home, who have contributed to this institution" by encouragement and the giving of plants and publications. The name of Samuel Bard is not included in this list.

Now as for the "fight" to save or perpetuate the institution. When the financial burden became too great for a man of limited means and "an increasing family of children," Dr. Hosack offered "the whole establishment for sale to the state." The bill for the purchase by the state was finally lost by six votes (Nays 49, Yeas 43). In recording the details of this struggle with the Legislature, Dr. Hosack mentions as his chief supporters "Mr. Van Vechten, General German, Colonel Van Rensselaer, Major Fairlie, Mr. Skinner, Mr. Sanford, Mr. Ross, and the speaker of the house, Mr. Wilkin." No mention of Dr. Bard. A second appeal was made to the Legislature with the "very spirited and honorable" support of Dr. James Tillary, president, and the members of the medical society of the county of New York. The board of governors of New York Hospital also passed a resolution concurring with the medical society as to the "public advantages" and value of the botanic garden "*established and owned by Dr. David Hosack*" (statement of facts, p. 39).

A committee of sixty-eight prominent citizens also passed a resolution urging the Legislature to purchase the Garden. Among the signers (*ibid.*, p. 77) appears the name of William Bard, son of Dr. Samuel Bard, but not the name of Samuel Bard.

Several county medical societies also adopted similar resolutions urging the Legislature to purchase and thus perpetuate the garden, and Dr. Samuel Bard, in an address before the Dutchess County medical society, devoted two paragraphs in support of this proposal. This address, says Dr. Hosack (p. 30 of his "Statement"), "had no inconsiderable influence in

diffusing throughout the community, correct and liberal views of this subject." As stated above, so far as the published records show, this was the only part Dr. Bard had in the effort to perpetuate the Elgin Garden.

Perhaps it should be emphasized that the object of this note is not to endeavor to disparage Dr. Bard.

That would be unworthy and could find no support in the record of his admirable and altogether useful life. The aim has been merely to call attention to the historic facts concerning the founding and perpetuating of the Elgin Botanic Garden, and to counteract any misconception or unwarranted inference that might arise from reading the two reviews cited.

SCIENTIFIC EVENTS

DEATHS AND MEMORIALS

DR. JOHN FRANKLIN DANIEL, professor of zoology and head of the department at the University of California at Berkeley, died on November 2 at the age of sixty-nine years.

DR. RUDOLPH PINTNER, professor of psychology at Teachers College, Columbia University, died on November 7 in his fifty-ninth year.

DR. ALBERT L. BARROWS, executive secretary of the National Research Council, died on November 7 at the age of fifty-nine years.

NELSON J. DARLING, manager of the plants of the General Electric Company at Lynn and Everett, Mass., died on October 26. He was fifty-eight years old.

DR. WALTER RALPH STEINER, of Hartford, Conn., consulting pathologist and bacteriologist and consulting physician to the Hartford Hospital, died on November 4 in his seventy-second year.

Nature records the death of E. T. Sandars, O.B.E., author of popular handbooks of natural history, on September 19, aged sixty-five years, and of A. R. Warnes, author of works on coal-tar distillation, known for his special study of the restoration of stonework and ancient buildings, on August 25, aged sixty-four years.

A PORTRAIT of Alexander Lowy, professor of chemistry in the University of Pittsburgh from 1918 to 1941, by Norwood MacGilvary was presented to Chancellor John G. Bowman on October 30 at a memorial service. The memorial was made possible through subscriptions of alumni, students and faculty. Dr. Wilmer E. Baldwin, assistant professor of chemistry, presided, and the presentation address was made by Dr. Alexander Silverman, head of the department of chemistry.

A NANSEN CLUB has been formed by the Norwegian-British Institute in London to commemorate and carry on the work of Dr. Nansen.

PUBLIC HEALTH IN PERU AND ARGENTINA

THE government of Peru has increased the budget for expenses on public health to 14 per cent. more than that of last year, according to the Buenos Aires

correspondent of the *Journal* of the American Medical Association. The following national departments were recently established: an anti-tuberculosis department with centers for the care of patients of several categories in various regions of the country; a department of epidemiology for sanitary work concerning prevention and control of epidemics as well as for the preparation of statistics, and a department for work on rural sanitation and work against malaria. Attention is being given to the plan presented by Dr. John Winant, the ex-president of the International Labor Office, who is now the ambassador of the United States to Great Britain, for waging anti-tuberculosis campaigns. Vaccination against rural yellow fever is obligatory. It is given without any charge to persons who live in certain territories, which have been specified by the General Department of Public Health as foci of the disease. The persons living in those territories who do not want to have the vaccine and who are not immune are subject to a fine. The number of centers of the National Department against Plague, the personnel for clinical and laboratory research against plague and the number of anti-plague units have increased. The work against venereal diseases is intensified especially in the region of the port of Callao. Sanitary campaigns against endemic diseases and work for sanitation of the Peruvian selva are organized. The central laboratory of the government, which is established in the selvatic region, is in charge of the technical exploitation of many valuable plants which are of great industrial importance. The protection of mothers and children is constantly improving through the coordinated work of proper organizations, mainly the so-called ambulance for infantile hygiene, the Hospital del Niño and the Instituto Nacional del Niño. The latter organization has given medical care to more than 225,000 children, lunches to more than 55,000 pregnant women, medicine, dietetic products and about 290,000 liters of milk to children, and odontologic care, vaccines against several diseases and more than 2,400,000 lunches to school children in the various provinces. Work is carried on for increasing the number of hospitals, which is insufficient. There are seventy-two hospitals with a total number of 8,636 beds in charge of the societies of public