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INTRODUCTION TO THE SECOND PROGRESS REPORT OF THE THOMPSON-McFADDEN PELLAGRA COMMISSION *

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The investigations of the Thompson-McFadden Pellagra Commission have been directed especially toward the study of the etiological factors in pellagra. We conceive this problem to include not only a study of the nature of the disease, the recognition and identification of the essential infecting or intoxicating agent, or the recognition of the dietary elements, the deficiency of which may give rise to pellagra, but also necessarily a study of the disease in its endemic centers, a study of the people who live there, their habits of life, their environment and occupations and their food, and, especially, a careful scrutiny of those respects in which the non-pellagrins of such a population differ from the pellagrins living in the same regions.

During the course of this work we have undertaken to record every known case of pellagra existing within a limited geographical district,¹ namely, Spartanburg County, S. C., to examine personally each suspected case, and to record a detailed history of each pellagrin in whom a reliable diagnosis could be made. The records actually made in respect to each case are quite elaborate and include a complete history of the individual from birth, with particular attention to foods, occupations, residences, relationships and diseases, as well as a careful description of the present environment and life of the individual. By the aid of maps of Spartanburg County, and larger more detailed maps

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1. The general plan of the epidemiological studies in 1912 has been outlined in detail in Section II of the First Progress Report. See Siler and Garrison: *Am. Jour. Med. Sc.*, 1913, cxlvi, 42.

of the more thickly populated districts, each known case of pellagra has been located, and the houses known to have been occupied at any time by a pellagrin have been designated.

In intimate collaboration with this commission, the Bureau of Entomology of the United States Department of Agriculture has undertaken a comprehensive study of the insects which occur in the region studied, with special attention to their possible relationship to pellagra. This work included a general entomological survey of the territory, an examination of all insects found there in association with man, and a particular study of those species the biology of which suggested a possible relation to the spread of pellagra.

Detailed clinical and pathological studies were carried out on selected patients. Fourteen of these patients were transferred to the Post-Graduate Hospital in New York and treated there during the continuance of the active manifestations of the disease. During their residence in the hospital a careful study of their metabolism in general and, in particular, of the utilization of foods, was carried out. For hematological studies, blood was obtained from these patients and also from pellagrins at their homes in the South. The hospital cases also furnished an important part of the material for study of intestinal micro-organisms and for experimental inoculation of animals, although other cases have also been utilized in this work. Finally, these cases were the objects of a clinical study, and their hospital records present information concerning the course of the attack of pellagra when it is uninfluenced by attempts at specific medication.

Certain progress reports on the investigations of the commission in 1912 were presented at the National Pellagra Conference at Columbia, S. C., in October of that year, and these reports have been published in succeeding numbers of the *American Journal of the Medical Sciences*² from March to August, 1913. A summary of these reports was presented at the Pellagra Meeting in Spartanburg, S. C., Sept. 5, 1913 and appeared in the *Journal of the American Medical Association*,³ Jan. 3, 1914. These papers have since been brought together and issued as the First Progress Report of the Thompson-McFadden Pellagra Commission.

2. Hillman, O. S.: Some Hematological Findings in Pellagra, *Am. Jour. Med. Sc.*, 1913, cxlv, 507. Myers, V. C., and Fine, M. S.: Metabolism in Pellagra, *ibid.*, 1913, cxlv, 705. MacNeal, W. J.: Observations on the Intestinal Bacteria in Pellagra, *ibid.*, 1913, cxlv, 801. Siler, J. F., and Garrison, P. E.: An Intensive Study of the Epidemiology of Pellagra, Report of Progress, *ibid.*, 1913, cxlvi, 42, 238. Jennings, A. H., and King, W. V.: An intensive Study of Insects as a Possible Etiologic Factor in Pellagra, *ibid.*, 1913, cxlvi, 411.

3. Siler, J. F., Garrison, P. E., and MacNeal, W. J.: Pellagra: A Summary of the First Progress Report of the Thompson-McFadden Pellagra Commission. *Jour. Am. Med. Assn.*, 1914, lxii, 8.

A considerable part of the work done in 1912 has not been included in these published reports for various reasons, but chiefly because of incompleteness of the work. This applies especially to the attempts to produce pellagra in animals by experimental inoculation, the clinical observations on the pellagrous patients treated in the hospital and the pathological study of necropsy material.

The work done in 1913 has been directly continuous with that of 1912, and supplements and extends the observations of that year. Our main efforts have been devoted to the epidemiologic studies, chiefly because these studies were expected to indicate the fruitful fields for other experimental investigations. The method of epidemiologic study has been continued along the same lines as before, and has been further developed in two special directions; first, we have endeavored to obtain more complete information concerning every person living in certain selected industrial and rural communities in which pellagra is prevalent; and second, we have extended our field of observation to cover other selected communities resembling these in many respects, but showing marked differences in certain particulars, as, for example, in the prevalence of pellagra; the presence or absence of certain insects; the possession of a topography which would necessitate a difference in insect fauna, in the density of population, or in the method of disposal of human wastes.

Inasmuch as the work of 1912 had shown an especially high prevalence of pellagra in the cotton-mill villages, several of these were selected for intensive detailed study, and one rural district in which many cases of pellagra had occurred was studied in a similar way. The communities selected for observation because they exhibited special features could not be examined in such detail, as in many instances they were situated at a distance from our working base. For this study we selected certain mill villages situated in Oconee, Chester and Union counties in South Carolina; a rural district in Georgetown County, on the coast of South Carolina; a large island off the coast near Charleston, S. C., and a portion of the arid region of Texas. At the courteous invitation of Dr. L. W. Sambon, we were enabled to extend these observations to the British West Indies.

The metabolism studies of 1912 had yielded definite negative information and seemed to be sufficiently complete and were therefore discontinued. The study of the blood has been continued and a further report will be forthcoming. Further observations on the intestinal micro-organisms have been made and the attempts to produce pellagra in animals have been zealously pushed. The clinical observations have been continued in cases of pellagra treated in a hospital in Spartanburg, S. C.

The cooperation of the Bureau of Entomology of the United States Department of Agriculture has continued during the past year. The

work undertaken by this bureau has included a particularly careful study of insects in the endemic foci of pellagra and carefully controlled attempts at the experimental transmission of pellagra by means of certain of these insects.

We desire to make special acknowledgment to Dr. L. O. Howard, chief of the Bureau of Entomology, and to the field workers of the bureau, Mr. A. H. Jennings, Mr. W. V. King and Mr. A. W. J. Pomeroy, for this cooperation.

We are indebted to the American Genetic Association for the cooperation of its representative, Dr. Elizabeth Muncey, who has made a study of heredity in pellagra; to the Board of Administration of the state of Illinois for the collaboration of Dr. H. Douglas Singer, who spent several weeks with us studying the early nervous and mental manifestations of pellagra; to Dr. J. W. Babcock of Columbia, S. C., for generous assistance and valuable material; to Dr. E. M. Green, clinical director of the Georgia State Sanitarium, Milledgeville, Ga., and to members of his staff for similar cooperation; to Dr. J. A. Hayne, secretary of the South Carolina State Board of Health, for much valuable information and assistance; to Dr. L. W. Sambon of London, and to the government officials of Jamaica, Panama, Barbados and Trinidad, for courteous assistance and extensive records relating to pellagra.

Our field laboratory has been visited during 1913 by a number of noted scientists and students of pellagra; among them Dr. J. W. Babcock of the South Carolina State Hospital, Columbia, S. C.; Surg.-Gen. Rupert Blue of the United States Public Health Service, Washington, D. C.; P. A. Surg. R. M. Grimm of the United States Public Health Service; Dr. W. D. Hunter of the Bureau of Entomology, United States Department of Agriculture; Mr. M. E. MacGregor of Cambridge University, Cambridge, England; Mr. Paul Marchal of the French Department of Agriculture, Paris; Mr. C. W. Mason of Cambridge University, Cambridge, England; Dr. George N. Miller of the New York Post-Graduate Medical School and Hospital, New York; Drs. G. M. Niles, S. R. Roberts and G. C. Mizell of Atlanta, Ga.; Dr. L. W. Sambon of the London School of Tropical Medicine, London; and Dr. E. J. Wood of Wilmington, N. C. We are grateful to these men for their encouragement and counsel.

We desire to make special acknowledgment to Dr. Paul A. Schule, whose addition to the staff of the commission has contributed much to the success of the year's work.

It is our purpose to present, as the Second Progress Report of this commission, a series of papers by the various investigators, dealing with several phases of the work of the year 1913.

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