Correspondence

"ALLEGED PLACENTAL FUNCTIONS"

To the Editor:—In an editorial comment (THE JOURNAL, Dec. 6, 1919, p. 1774), based largely on certain clinical observations recorded by Hammett and McNeile, your conclusions appear to be that we must "hesitate to give the placenta a place in endocrinology." I heartily concur with the display of such a laudable spirit of conservatism in the new and untried field of endocrinology, in which the tendency has been to allow speculation to outrun discretion. However, neither in Hammett's articles (let me instance the one on the "Function of the Internal Secretion of the Placenta," *Endocrinology* 3: 307 [July-Sept.] 1919, which contains a summary of his work) nor in your comment has the evidence of the endocrine function of the placenta been favorably presented. The difficulties confronting research on this problem, because of the presence of ovaries and fetus, are numerous and baffling, and until recent years little progress had been made:

1. The earlier work of Veit and his successors who attempted by means of precipitin, complement fixation and similar tests to prove that eclampsia is due to an overwhelming of the maternal organism by foreign (placental) protein has been discredited, although the hypothesis has not been disproved.

2. The researches of Lane-Claypon and Starling and of others dealing with the growth of the breasts during pregnancy were performed with aqueous extracts of the placenta which contain none of the active principle, or mere traces of it. Moreover, these investigators were unaware of the cyclic changes occurring in the breasts during rut and were misled by these periodic changes, as Unger and I pointed out (*Arch. Int. Med.* 7: 812 [June] 1911).

3. Not until extracts prepared by extracting placental material with lipid solvents had been used (Iscovesco: *Compt. rend. Soc. de biol.* 73: 104, 1912. Aschner: *Arch. f. Gynäk.* 99: 534, 1913. Herrmann: *Monatschr. f. Geburtsh. u. Gynäk.* 51: 1, 1915. Frank and Rosenbloom: *Surg. Gynec. & Obst.* 21: 646 [Nov.] 1915) were the results positive or concordant. The positive results were due to the greatly increased concentration of the active substance which is present in minute quantity only in the fresh placenta.

4. The problem is still further complicated by the fact that the corpus luteum of the pregnant ovary contains an active principle which acts similarly on the breasts (and uterus) to the substance contained in the placenta. So far as studied, a close biologic identity exists between these two substances (Frank: *Surg. Gynec. & Obst.* 25: 329 [Sept.] 1917). For that reason, experiments dealing with breast hyperplasia must be conducted not only on virgin animals but also on animals castrated before their first rut (compare paragraph 2). As an additional precaution, at least one breast should be removed and kept for control before beginning the experiment.

5. A sharp distinction must be drawn between the physiologic growth of the glandular structures of the breast during pregnancy (hyperplasia) and the post partum secretory activity of the fully formed gland. This question was discussed by me as early as 1912 (*Arch. f. Gynäk.* 97: 183, 1912), as the distinction between substances causing breast hyperplasia and galactagogues was already frequently lost sight of. Hammett appears to have fallen into the same error. "In an experiment carried on at the Boston Lying-In Hospital during the winter of 1917-1918, it was impossible to detect by bedside observation [the italics are mine] an increased growth of mammary tissue when desiccated placenta was fed post partum to lactating women, as compared with a series of patients not receiving the placental material" (Hammett: *Endocrinology* 3: 307 [July-Sept.] 1919). Post partum, let it be understood, the mammary gland has reached its maximum development and is not amenable to further stimulation (the increasing refractoriness to stimulation, as the physiologic maximum is approached, has been mentioned

by me in the *Journal of Cancer Research*, Proceedings of the American Association for Cancer Research, 2: 515, 1917). Moreover, bedside observations do not lend themselves to delicate quantitative determinations. The question as to whether placental extracts exert a galactagogue action is quite distinct from the question of placental internal secretory activity. With Halban (*Arch. f. Gynäk.* 75: 353, 1905), I believe that the placenta inhibits milk secretion. The infinitesimally small amount of active substance contained in 10 grains of desiccated placenta, as given by Hammett, is far too small to produce such an effect, were it obtainable, particularly when introduced by mouth.

6. The report of Hammett that "it is evident that there is produced in the placenta some substance capable of acting as a stimulus to growth, when ingested by the mother and passed on to the infant in the lacteal secretion . . ." need not be dilated on in this connection. This is a question for pediatricians and food experts to settle from the clinical standpoint, but cannot be proved or disproved by means of infants observed under the varying and uncontrollable conditions existing in the best conducted maternity hospital; nor is an observation period of two weeks sufficient to permit the drawing of conclusions. To apply these observations to the fetus in utero is even more unjustified.

7. The evidence in favor of considering the placenta as a true gland of internal secretion may be thus indicated, in bare outline: By extraction of placental substance with lipid solvents, a viscid concentrate is obtained which is thermostable and resists fairly concentrated acids and alkalis. When it is injected subcutaneously into virgin immature castrates (rabbits show the changes most conclusively, but guinea-pigs, white rats and female dogs also react positively), rapid hyperplasia of the uterus and breasts results. On withdrawal of the extract, both uterus and breasts (the latter mainly in their acinous structures) regress. Colostrum then appears in the breasts, if the stimulation has been carried to the proper degree of development, in from three to seven days after conclusion of the injections. (For a short outline, the reader may consult Frank: *The Placenta Regarded as a Gland of Internal Secretion*, *Surg. Gynec. & Obst.* 25: 329 [Sept.] 1917.)

8. As stated in the article just referred to, the possibility cannot be denied that the active substance originates in the corpus luteum of pregnancy, and is merely stored in the placenta. Against this hypothesis, the fact that only minute amounts occur in the placenta, and that when inaugurated, the changes continue in spite of castration, must be weighed.

No experiments have been performed to determine whether the placenta of animals castrated during pregnancy contains less of the active substance, nor would such experiments prove conclusive even if exact quantitative methods of extraction were at our disposal. Therefore, the origin of the active substance obtained from the placenta must at present be ascribed to this temporary but important gland.

ROBERT T. FRANK, M.D., New York.

"ACUTE ABDOMEN"

To the Editor:—In reply to Dr. M. W. Lyon, Jr., whose letter (THE JOURNAL, Dec. 20, 1919, p. 1897) takes issue with the designation "acute abdomen": The reference is to a report of remarks by Dr. Deaver. I wish to refer to the usage of the same terminology by Dr. Charles L. Gibson of New York, whom every Cornell student remembers as a purist in surgical nomenclature. Lymph glands exist for some surgeons, but only lymph nodes for Dr. Gibson. My own memories of the course in medicine at Cornell include none more vivid than Dr. Gibson's "Please do not say 'lymph glands' in my clinic!" Did a student mention carcinomas or sarcomas? He learned instant that he meant carcinomata or sarcomata. Let a student, demonstrating on a patient, say to Dr. Gibson "And here is your adenitis," and the response would inevitably be "Not my adenitis!"

This is submitted as evidence that Dr. Gibson is untiring in his efforts to instill into his students a sense of accuracy in nomenclature. Therefore, when he begins his lectures in

surgery with "Acute abdominal disease—the so-called 'acute abdomen,'" it is my own feeling that "acute abdomen" has the endorsement of usage by a past master of terminology. Dr. Gibson's syllabus of lectures, open before me as I write, begins:

A. ACUTE ABDOMINAL DISEASE
"ACUTE ABDOMEN"

The quotation marks that indicate Dr. Gibson's attitude toward the term that he uses with this qualification were omitted from the report of Dr. Deaver's remarks referred to before. I cannot refer at the moment to any writing of Dr. Deaver's that will show whether he uses quotation marks as does Dr. Gibson. At all events, with or without quotation marks, "acute abdomen" gives the impression of a condition for which something should be done in a hurry; and I do not feel that it is advisable to adopt a longer terminology even as a concession to purity of diction.

RAMSAY SPILLMAN, M.D., Washington, D. C.

Dr. Spillman's letter was referred to Dr. Lyon who replies:

To the Editor:—Dr. Spillman's chief argument for the employment of "acute abdomen" seems to be that it has the sanction of Dr. Charles L. Gibson, an undoubted purist as shown by several examples. The fact that Dr. Gibson uses the term within quotation marks is an admission that the expression is irregular. I see no special objection to using it with quotation marks. Like "T. B. bugs," "beasts" as applied to protozoa, and "shots" of bacterins, such expressions as "acute abdomen, acute appendix, chronic appendix," etc., would be better confined to familiar conversations than be used in formal speech or publication.

The Century Dictionary defines acute as follows: "1. Sharp at the end; . . . 2. Sharp or penetrating in intellect; . . . 3. Manifesting intellectual keenness or penetration; . . . 4. Having nice or quick sensibility; . . . 5. Keen; sharp; intense; poignant; said of pain, pleasure, etc. 7. In *pathol.* attended with more or less violent symptoms and coming speedily to a crisis: applied to a disease: as an acute pleurisy: distinguished from subacute and chronic." Such definitions scarcely apply to the human abdomen. With respect to the seventh definition it must be borne in mind that the abdomen is not a disease and that the abdomen does not have symptoms although diseases of the abdomen are characterized by symptoms.

"Acute abdomen" might be used temporarily with propriety when something "should be done in a hurry," but after it has been done it would be in the interest of better English and pathology to employ a more elegant and accurate expression.

M. W. LYON, JR., South Bend, Ind.

[COMMENT:—Scientific medicine demands scientific phraseology. When a doctor "operates" his patient, let it be understood that he "works" him. And if he "operated on" him, let him say so. "Operated cases" and "The child had no temperature" are further samples of the loose English too often used by scientific men.—ED.]

PHYSICIANS AND GENETICS

To the Editor:—"Given an incorrect diagnosis and you can cure any disease" is, I believe, a current saying in the profession. It seems to draw attention to one of the most striking spectacles of modern times—the expanding field of knowledge which the physician is drawing on for his diagnosis. The day is gone by when a look at the tongue and a count of the pulse and a few words with the patient are enough. The modern physician has come to realize that his patient is more than the product of a few years of growth; that he is, in fact, a combination of human stocks with hereditary tendencies.

What diseases are coupled with the hereditary traits? Which are independent of them? How allay the unwarranted phantoms of "hereditary diseases" in nervous patients? How can we distinguish the hereditary tendencies from phenomena of nutrition? These have come to be real questions with every physician. In the field of heredity, as in few others, the evidences of the laws of inheritance are being

traced in widely different kinds of living creatures, and no physician can afford to overlook the great experimental work of the agricultural research men of America in this field. Their experiments in the breeding of plants and animals under conditions of control such as physicians cannot have, and on a scale which is impossible in the human species, are creating a fund of knowledge which the physician is bound to recognize.

Sixteen years ago, the secretary of agriculture established an association to bring together the breeders of plants, the breeders of animals, and those interested in human heredity. This association, now the American Genetic Association, has grown and become a real factor in the dissemination of the knowledge of heredity through the distribution to its members of a profusely illustrated journal—the *Journal of Heredity*—which is the property of the association. It is not a journal of the superficial class, but a serious one with contributions from specialists.

No longer should the confusion continue between what characteristics come to us in our inheritance and what ones are acquired. We must understand the importance of each, and not confuse them, if we would produce, by the only way possible, a better and nobler race of human beings.

The physician has become the father adviser of the race. It is in his hands, as in no others, to improve it by his advice and suggestion regarding the most vital problems that come to each individual. The science of genetics is already indebted to him for many great discoveries in eugenics, and from now on looks to him for many of the observations on which the generalizations of the future are to be made. No other class of people is more needed in the building of an American genetic association. May I ask your readers to send to the American Genetic Association, Washington, D. C., interesting photographs and accounts which illustrate the working of the laws of inheritance? A special illustrated folder, containing eighteen illustrations of heredity, will be sent to any one interested in this great subject.

DAVID FAIRCHILD, Washington, D. C.,
President, American Genetic Association.

MEDICAL VETERANS OF THE WORLD'S WAR

To the Editor:—Under this name, an organization was effected at the meeting of the American Medical Association in Atlantic City in June, 1919. At that time the membership numbered about 1,200. The executive committee held a meeting in St. Louis, October 15, and at that time the membership had increased to about 2,200. No profession responded more nobly to the country's call than did that of medicine. At least one third of all the legally qualified physicians in this country served in the Army, Navy, or on the Selective Draft Boards. All of these are eligible to this organization.

The purposes of the organization are multiple and varied. In the first place, it is hoped that annual meetings will give opportunity for renewing acquaintanceship begun and developed in camp and in field. It is desirable to preserve the memory of the hundreds of our profession who fell in defense of their country. Those who aided in making the world safe for democracy should be able to have some word in determining what kind of a democracy they fought for. It is not intended that this organization should be political in any sense, but it will be expected that it will be patriotic in every national and state problem that confronts us in the future. Provision is made in the constitution of this organization for state and local chapters. The membership should be extended until it includes all those that are eligible. The physician is interested in everything that touches the national welfare, and on many points in this connection he is the most competent man to speak. As individuals, medical men may have but little influence. Combined, the profession can be a tower of strength in everything that is good, wise and helpful.

VICTOR C. VAUGHAN, President,
Ann Arbor, Mich.