THE RELATION OF PUERPERAL FEVER

TO THE

INFECTIVE DISEASES AND PYÆMIA.

AN ADDRESS

DELIVERED AT THE OBSTETRICAL SOCIETY OF LONDON, JULY 7, 1875.

By FORDYCE BARKER, M. D.,

Of New York.

LOUISVILLE:
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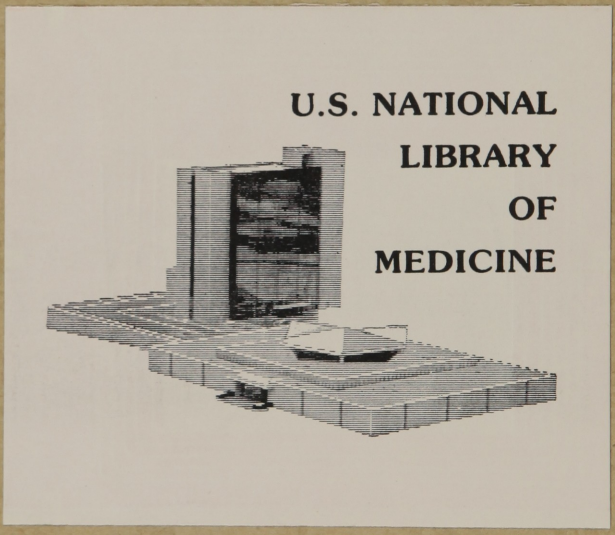

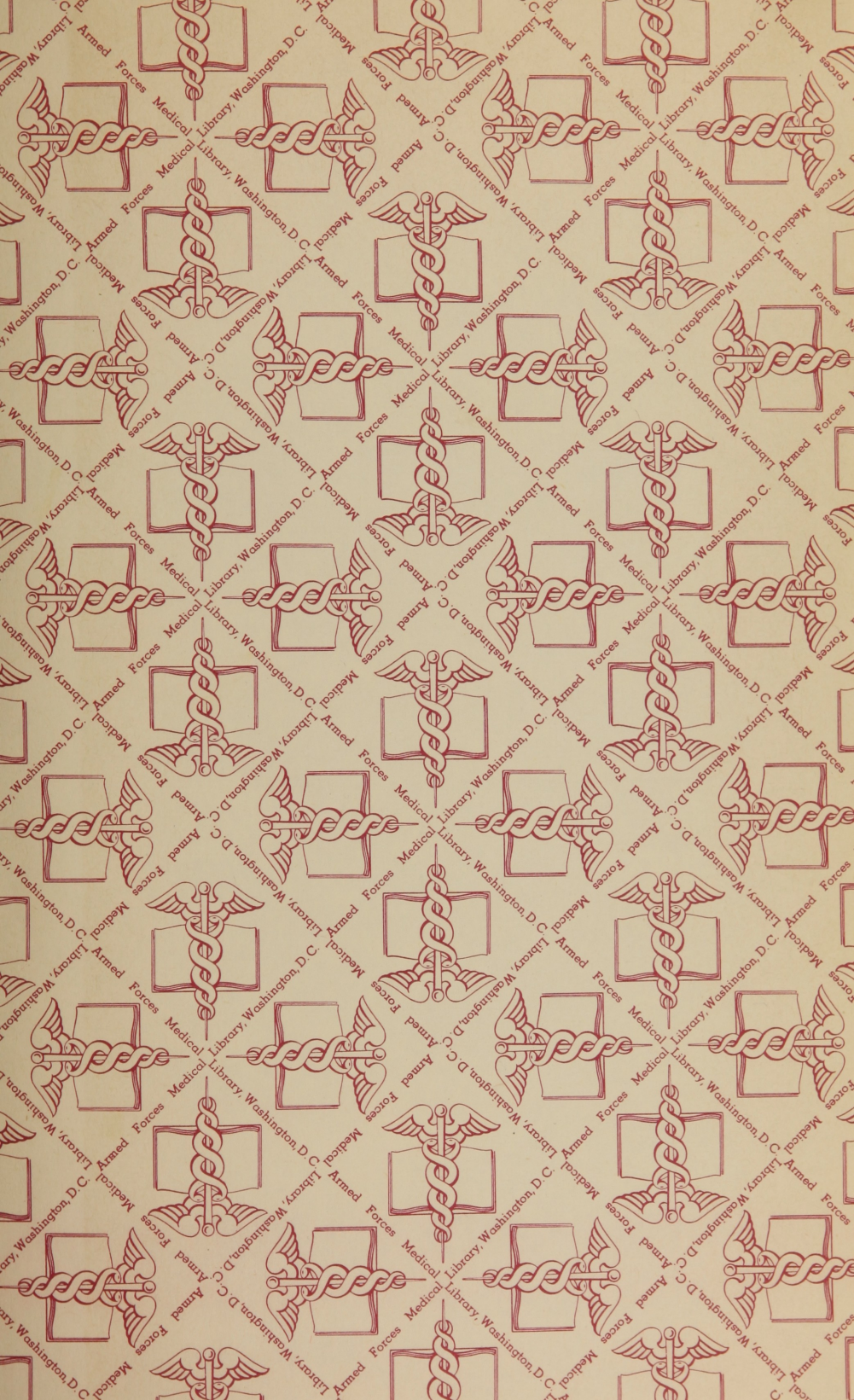
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I feel that I have no right to waste any of your time in personal topics, except briefly to express my grateful appreciation of the honor that I have received at your hands, and to appeal to your courtesy to excuse such deficiencies as may be charitably ascribed to weakness of the vocal organs, or to that embarrassment which a stranger must feel in addressing such a body of obstetrical men on such a topic as puerperal fever. I may be permitted to say that this discussion is now watched with the greatest interest by your brotherhood on the other side of the Atlantic; but, as yet, this discussion does not appear to have led to that happy result spoken of by the Psalmist, that "maketh men to be of one mind in a house."

I shall aim, in the remarks that I am about to make, to confine myself closely to a discussion of the questions proposed to the Society, and to state my opinions, and my reasons for holding such opinions, in the most terse, compact language compatible with clearness. If these opinions seem to be in antagonism with a great majority of those which have been expressed in this discussion, I ask that they may not be regarded as partisan in their tone, but as a presentation of views necessary for a full and comprehensive study of the

subject. I ask, for such arguments as may be urged, that candid analytical sifting of evidence which is requisite for sound decision as to what is the true answer to the several questions now before us. I concede to all, and I beg all to concede to me, that it is the truth and not forensic success which is sought for by us all who speak in this discussion.

Of the six questions proposed, the second and third only admit a direct categorical answer of yes or no, and this will be one or the other, depending upon the answer given to the first question. If the first be answered in the affirmative, the second must be answered in the negative, and the third in the affirmative; or the answers may be exactly the reverse.

I suppose the meaning of the first question is clearly defined by the second and third to be, whether there is a disease peculiar to women in childbirth, never met with under any other circumstances, as distinct as typhus or typhoid fever, scarlet fever, measles, or small-pox.

I can not think that the proposer of these questions regards it as necessary that those who believe that puerperal fever is a *distinct essential* disease must, therefore, accept all the qualifying phrases of the first question. For example, "distinctly caused by a special morbid poison," is one of the qualifying phrases. Is this a necessary characteristic of a distinct disease? Has science yet determined the "special morbid poison which causes typhoid fever?" When a disease is induced by contagion or infection, then it is "distinctly caused by a special morbid poison." If the phrase had been "often caused by a special morbid poison," I should have accepted it as true of puerperal fever, as I believe it to be true of diphtheria and some other diseases. It is just this phrase which seems to have debarred Dr. Farre and Dr. Richardson at the last meeting from answering the first question in the affirmative. And here I wish to remark that it seems to me that the idea involved in this phrase has been a great barrier to a clear conception of the disease, and has greatly contributed to the obscurity and ambiguity of its discussion. It implies that puer-

peral fever can not be properly ranked as a distinct disease unless its cause can be proved to be an unit, "*a special* morbid poison." But this test is not demanded for many other affections which the profession universally accept as distinct diseases. There are many such which originate from multiple causes, so far as science has yet been able to determine, of which I may instance typhoid fever, diphtheria, erysipelas, and rheumatism.

The distinct character of a disease is determined by the evidence derived from three sources: the causes, the clinical phenomena, and the pathological anatomy. Some diseases give us proof of their distinctness by evidence derived from all three of these sources, others from only two, others from one alone.

Directly in connection and associated with the idea implied in the phrase "distinctly caused by a special morbid poison," is another idea, which fallaciously colors and obscures much of the reasoning on puerperal fever, and that is, that identity of cause must be followed by identity of result. In other words, a given cause, a special morbid poison if you please, known to develope a special distinct disease, must always produce this particular disease. In a wealthy family belonging to my *clientèle*, a year ago, I saw a lady dangerously ill from pyæmia, in consultation with Dr. Sayre, who was attending her for a traumatic injury. By our suggestion, the house was carefully examined by a plumber, but no defect was then discovered which could explain the source of the blood-poisoning. Very soon, three members of the family were severely ill from a typho-malarial fever. As soon as the condition of the patients would permit their removal, I insisted that the walls of the rooms covering the plumbing should be torn down, when it was found that there was a defect in the leaden waste-pipe sufficient to permit the noxious gases to permeate the house, but not sufficient to cause an escape of fluids to stain the walls of the rooms. During the past winter, I attended a gentleman with severe typho-malarial fever. His

residence was in a large house, constructed on the plan of the French apartments, which was entirely occupied by families of refinement and abundant means. During the time of convalescence of this gentleman, diphtheria appeared in another family in this apartment house. I saw the first child attacked, in consultation with Dr. Morris. Subsequently, the father and two other children, one of whom died, were severely ill from diphtheria. It is worthy of mention, that, while these were ill, the wife and mother was removed into another house, and she was confined with her fourth child, under the care of Dr. I. O. Stone, one of our most prominent physicians, and her convalescence was not impeded by any puerperal disturbance from either diphtheria, typho-malarial, or puerperal fever. On examination, it was found that the waste-pipes in this house were in precisely the same condition as that of the house of which I have just spoken.

Who can doubt that the pyæmia, the typho-malarial fever, and the diphtheria were all caused by the same "special morbid poison?" At the last meeting of this society, Dr. Playfair related some facts which recently occurred at Notting Hill, where puerperal septicæmia in a wife, "from which she barely recovered with her life," and diphtheria in the husband, "from which he nearly died," seem to have been due to the same causes which I have mentioned. I ask you to note the language by Dr. Playfair, for I shall again have occasion to refer to this. He says, "Who could rationally disbelieve that those two diseases were produced by the same *septic* poison?" One he names, because of his theory of its cause, septicæmia; the other, produced by the same cause, he names, from its clinical phenomena, diphtheria.

The other qualifying phrase to which I will simply allude, but which time will not permit me to discuss in detail, is the following: "as definite in its progress and the local lesions associated with it" as certain specified diseases. This qualification involves two distinct and different points, the clinical history and the pathological anatomy. I will only say that

in my judgment these several diseases mentioned differ in degrees as to their definiteness in progress and the definiteness of their local lesions, and consequently puerperal fever cannot be compared or contrasted with them as a group in these particulars.

I will now give my reasons for believing that there is a distinct disease which may be properly called "puerperal fever." I think the definition given in the *Nomenclature of Diseases*, emanating from the College of Physicians, is absolutely perfect: a "continued fever communicable by contagion, occurring in connection with childbirth, and often associated with extensive local lesions, especially of the uterine system." It is a disease which presents a group of general symptoms, independent of local inflammations, resulting from the absorption of some poison into the system. It is needless for me to discuss this point here, because it is evident from all that has been said that "localism" or "Broussaisism" has no *status* in this Society. Those who would call this disease septicæmia or pyæmia are in agreement on this point with those who call it a fever.

We can arrive at truth in medical discussion only by using language accurately. There can be no accuracy of idea without accuracy of language. It is the established usage of standard authorities in medicine to designate as fever all those diseases which result from the absorption of some poison which produce certain morbid blood-changes and give rise to certain general characteristic symptoms, where the specific poison is unknown. Under the denomination of fever are properly and legitimately included not only those diseases which are severally called typhus, typhoid, relapsing, remittent, intermittent, and yellow fever, but all the infectious constitutional diseases which occur either epidemically or endemically.

When the specific poison is known which causes the morbid blood-changes and induces certain general characteristic symptoms, the disease is named from that poison, and so we

have the accepted terms in medicine of uræmia, septicæmia, pyæmia, and others of like character. I will here only allude to the fact that none of this latter class are known to be contagious or to occur as epidemics. The point we are trying to settle is not a question of name, except so far as this: I doubt not that we will all agree that the name given to a disease should be significant and appropriate.

The gist of the matter, stripped of its superfluous and obscuring elements, lies in the inquiry whether there be a disease which attacks puerperal women and only puerperal women.

A necessary preliminary is to ascertain from what sources we are to obtain our evidence by which we can settle the question whether there be a distinct disease peculiar to women in childbirth. I think we will agree that this evidence must be derived either—1. From the causes of the disease; 2. From the clinical phenomena; or 3. From the pathological anatomy.

I do not think that we are able, at the present day, to derive much information from studying the causes of this disease in settling this question any more than we can in settling the question whether typhoid fever, relapsing fever, or yellow fever are distinct diseases. In a sanitary point of view, I think a study of the causes of this disease to be of vast importance, and for this reason I esteem the paper which was read by Dr. Braxton Hicks before this society in 1870 as a most valuable contribution.

If a puerperal woman, not protected by the immunity of a previous attack or by idiosyncrasy, be exposed to the poison of scarlet fever or of any other infective continued fever, I have no doubt that she will have scarlet fever, or whatever specific disease she may absorb the poison of. The puerperal state does not protect her from the influence of such poison. Dr. Hicks, as I understand him, does not claim that puerperal fever is only scarlet fever in the puerperal women, but names this as one of the causes in the same category with erysipelas, diphtheria, mental emotions, etc.

I think the evidence is conclusive to the minds of a great majority of the profession, established by numerous incontestable facts—facts observed not only in sporadic cases, but in very many epidemics which have occurred, not in hospitals or cities alone, but in epidemics which have ravaged large tracts of country in sparsely settled rural districts, that the poison of erysipelas may cause in women after childbirth a distinct disease, which some of us choose to call puerperal fever; and that the poison of puerperal fever, if absorbed into the system of a man or a child, will cause in that man or child erysipelas. But the clinical phenomena and the anatomical lesions which result from this common poison are so diverse as to warrant us in regarding them as two distinct diseases.

Of course it is quite needless for me to refer to the medical history of Great Britain for proofs of this assertion; but I may be permitted to refer to that of my own country for most striking corroborative evidence.

A reprint of Nunneley *On Erysipelas* was published some thirty years since, with notes by Dr. John Bell, of Philadelphia, in which he gives most striking facts in regard to several epidemics in the United States, in which erysipelas and puerperal fever have appeared together.

I will also refer to a valuable monograph on *Erysipelas and Childbed Fever*, by Dr. Thomas C. Minor of Cincinnati, published during the last year, and which I had the pleasure of reading on my voyage over. The work is based on a most painstaking and laborious study of the vital statistics of the census of the United States for 1870, and of a puerperal fever epidemic which prevailed in South Western Ohio in the winter of 1872. The work is well worthy of perusal by all who assume to influence medical opinion on the subject of puerperal fever. This careful study of these vital statistics by Dr. Minor does not appear to show any connection of typhus fever, scarlet fever, septicæmia, and pyæmia, with puerperal fever. Epidemic scarlatina was very seldom associated with an outbreak of epidemic puerperal fever; but epidemic ery-

sipelas was "*invariably* associated with an outbreak of epidemic puerperal fever, or *vice versa*."

I have but a single remark to add in regard to the question of causes of this disease. The argument of those who deny that puerperal fever is a distinct disease, rests mainly on the ground that the disease so called is the result of a septic poisoning. Septic poisoning is a term now used very frequently and somewhat vaguely: but even those who contend that there is, properly speaking, no distinct disease of puerperal fever, do not allege that all the resulting disease from septic poisoning is one and the same thing, and that this disease should be called septicæmia. Is there anything improbable or unphilosophical in the hypothesis that septic poison, acting on a system in a peculiar state, such as never is found in the human system under any other conditions, the state which has been so graphically described in this discussion by Dr. Richardson and Dr. Farre, results in a distinct disease, which never is found except when the system is in this condition?

Has any proof been offered by any one, anywhere, that epidemic and endemic influences, noscomical malaria, contagion or infection, do not develope this poison in such a system, which results in a distinct disease?

We must find the answer in a study of the clinical phenomena and the anatomical lesions of the disease. If septic poisoning never occurs as an epidemic, I do not say endemic, among those who are suffering from traumatism, and if it never develops contagion in this class of subjects, and if septic poisoning in puerperal women does occur as an epidemic, and is contagious and infectious, are not these elements sufficient to warrant us in regarding the two diseases as quite distinct?

The advocates of the septicæmia theory of puerperal fever, both on the Continent and in this country, have seen that they must accept this issue, and consequently they are driven to deny that puerperal fever ever occurs as an epidemic, or that it is contagious or infectious. One of your speakers at the last meeting said: "I do not believe that there is any

specific condition justifying the name of puerperal fever;" and he logically adds "nor do I believe that there is any special miasm arising from the puerperal patient capable of being conveyed to another patient; nor do I think that there is any evidence whatever to show that there has been an epidemic of puerperal fever in the strict sense of that word."

The author of the Address on Obstetric Medicine before the British Medical Association last year, said in that address: "I have not been able to find anything worthy of the name of evidence to prove its epidemic prevalence at any time or in any large district." The same author, in his work *On the Mortality of Childbed and Maternity Hospitals*, says: "I feel certain, and believe I can prove, that an epidemic of puerperal fever never occurred." He also denies, with equal positiveness, that the disease is ever contagious.

Now if, during certain years or seasons, puerperal women in a given territorial district die of a disease, call it either puerperal fever, puerperal pyæmia, or puerperal septicæmia, in numbers fiftyfold or a hundredfold greater in proportion to the births than they have in preceding years, or than they do in following years, I think the profession generally would call this disease an epidemic. When the mortality from puerperal disease, call it puerperal fever or puerperal pyæmia, in that part of New York which is in the best sanitary condition of any part of the city, and in which are the residences of the most wealthy part of the population, in four months of the year 1873 is twenty times as great as it had been for twenty-five years before, and the percentage of deaths in proportion to births is more than double what it is in the parts of the city where the poor women are crowded in tenement houses, and quadruple the proportion of deaths during the same period from the same cause in the lying-in hospitals, I think we are justified in saying that an epidemic exists in this part of this city. If in Cincinnati, Ohio, in 1873, the number of deaths from puerperal fever was one hundred and twenty-two, while the annual average of deaths from this cause for

five previous years was thirteen and three-fifths, I think most men would say that the disease was epidemic that year. In view of all the similar facts abounding in medical literature, I will not borrow a phrase from one of the speakers at the last meeting, and say that those who deny that this disease ever occurs as an epidemic "must have minds which I believe to be not open to conviction;" but I will say that such persons must attach a subtlety of meaning to the word epidemic not consonant with the common sense. Please to observe that I use the article, and say *the common sense*, as otherwise the remark might seem discourteous.

I will not detain you now by a discussion of the question of contagion, for all have undoubtedly fixed opinions on this point. Those who regard puerperal fever as a distinct disease, believe it to be "communicable by contagion;" while those who believe it to be only pyæmia or septicæmia in women after childbirth, do not consider the disease contagious.

Can a woman after childbirth be exposed to the danger of receiving the poison which produces typical septicæmia in larger doses than when she has retained within her uterus a portion of decomposed placenta? If puerperal fever be septicæmia, would not the disease under these circumstances appear in its most virulent forms? But we all know that this is far from the fact. One very important idea in this connection was first distinctly enunciated by Dr. Barnes in this Society some years ago; and that is that septicæmia in puerperal women is not actively contagious. "When arising from decomposition of the placenta, it generally began and ended with the patient attacked." During this discussion, Dr. Braxton Hicks has expressed a very similar sentiment; and I feel quite sure that all clinical observers will coincide with this statement.

I will submit for your examination the following propositions:

1. The clinical phenomena of puerperal fever are quite different from those which are met with in surgical septicæmia or pyæmia.

2. These affections do not occur in puerperal women, and the result is a disease which does not constitute a continued fever "communicable by contagion."

3. When either of these affections complicate puerperal fever, they modify the clinical phenomena by symptoms which can be distinctly appreciated and described by any close observer.

I will not take up your time by giving the evidence on which these propositions are based, because I think that this has been done in a work *On the Puerperal Diseases*, which it will be indelicate for me to refer to in more definite terms.

I will add only a few words in regard to the pathological anatomy of the disease now under discussion. On the first evening of the discussion, Dr. Richardson argued that there were no local lesions "which would lead us in the dissecting room in any case to say this was a case of puerperal fever, as we should say this was a case of scarlet fever or of typhoid or of typhus fever." I think it would be impossible to prove by the anatomical lesions that scarlet fever or typhus fever, or relapsing fever, are distinct diseases. A child is put in bed at night apparently well. A few hours afterwards, it is awakened by vomiting, it is very delirious, its pulse is very rapid, and the temperature is six or seven degrees higher than is normal, and the child dies in the early morning without the slightest irruption on the skin. No anatomical lesions can be found to characterize the disease. But scarlet fever is epidemic in the neighborhood, or another child in the same family is taken ill with well marked scarlet fever within a few hours after the death; and any physician would feel warranted in registering the cause of death as scarlet fever. Such cases are not very rare, and, I dare say, have been met with by several gentlemen now present. Would the most able of the recent authorities on the continued fevers—would Sir William Jenner, or Murchison, or Hoffman, or Lebert—insist that no one would have a right to register a death as resulting from typhus fever or relapsing fever, unless certain

characteristic anatomical lesions are found in the dissecting room? All of these writers declare that these diseases have no pathognomonic lesions.

It was asserted by the author of the Address in Obstetric Medicine, that "pathologists believe that they have torn to tatters the view" that the disease we are now discussing "is an essential fever peculiar to puerperal women, as much a distinct disease as typhus or typhoid."

When? How? Where? Show us the proof. Is there evidence that such pathologists have studied the disease anywhere except in hospitals and large cities, where the disease is very probably complicated with septicæmia or pyæmia?

Of what value would be the researches of the ablest pathologists of Germany or England on questions relating to the pathology of yellow fever, if such a pathologist had no opportunity of studying this disease except in Germany and England? Have Spiegelberg, or Schroeder, or Schmiedeberg, or Mayrhofer, or Orth, or Heiberg, or Olshauser, or Fehling, or Cohnstein, or Breisky, or Von Haselberg, ever studied puerperal fever as it is found in epidemics in rural districts, where pyæmia and septicæmia are rarely met with? German is a difficult language to acquire; and it gives an attractive appearance of learning to introduce such names, even if nothing be quoted from them. I am familiar with their writings, and would not undervalue the merit of their researches; but so far as the elucidation of the question now under discussion is concerned, I think it of equal importance that we should carefully study for the clinical phenomena of the disease your English classical writers—Hulme, Leake, Kirkland, Clarke, Gordon, Hey, Armstrong, and Robert Lee. The hint on this point thrown out by Dr. Farre at the last meeting seemed to me most appropriate and timely.

What progress is made in science? How do "we free ourselves from error," or gain in scientific precision or accuracy of description in giving to this disease a new name—pyæmia, as Dr. Duncan would call it; while he confesses that it has

no etymological signification in this disease, and, in fact, has no definite positive meaning?

What propriety is there in giving to an obstetrical disease a name significant and appropriate to a surgical disease, unless it can be demonstrated that the two diseases are identical in their clinical phenomena and their anatomical lesions? The burden of proof to show this identity belongs to those who would call the disease puerperal septicæmia. Some think that the negative has already been established.

I have neither the time nor the voice to discuss the other questions which have been proposed. With my warmest thanks for your courtesy in listening to me so patiently, allow me to close with the suggestion that it may be well for all of us who discuss puerperal fever to remember the exhortation of Oliver Cromwell, when he lost patience with a Scotch Assembly: "I beseech you, brethren, by the mercies of God, conceive it possible that you may be mistaken."


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