At a special meeting of the Barnwell County (South Carolina) Medical Society, called March 8th, 1892, to discuss the character of the recent County fever outbreak, Dr. L. C. Stevens, President, in the chair, the following paper read by Dr. Martin Bellinger was unanimously endorsed and ordered to be published.

F. W. CHITTY, M. D.,
Chairman of Committee on Publication.

Mr. Chairman: I will ask the attention of the members to some remarks on the subject at issue, "The Barnwell County Endemic of 1891: Is it Typhoid or Continued Fever?" with clinical notes on the outbreak in my vicinity. These remarks will embrace its character in the County at large, with the sanitary condition pertaining. That these may be the more intelligible I will premise by briefly referring to the general history, etiology and prophylaxis of typhoid fever.

This fever, first described as a distinct affection by Louis of France sixty-two years ago, was soon after recognized by the profession; the term typhoid being rejected by some authorities as not sufficiently comprehensive. The earlier dissenting writers classed under the generic term continued fever, three varieties: typhus fever, simple continued fever, and common continued; the last mentioned term suggested to displace that of typhoid. For the latter, subsequent dissenting writers, discarding the generic term, simply suggested substitutes: notably, the enteric fever of Wood; the pythogenic fever of Murchison, and a host besides. In common with these endorsing fully Louis's pathological views, but studiously ignoring his name and term alike—"the play of Hamlet with Hamlet left out"—Watson, under the name of continued fever, gave us fifty-four years ago a history of typhoid fever, anatomical and clinical, so graphic that materially it has never been bettered. For the past twenty or twenty-five years standard authorities have by common consent endorsed the name given by Louis. Austin Flint, the elder, thirty years ago predicted that soon the affection would be universally known as...
typhoid fever; and as the eminent Dr. Middleton Michel of Charleston recently remarked to the writer, “there is now no author of repute but uses this term.”

Perhaps of all the substitutes proposed, that of the term continued fever was the most faulty. In use even before Louis’s day and variously, it is at best but a vague designation, obviously applicable to any fever short of the remittent or intermittent forms. As simple continued fever with its synonyms, ephemeral and irritative, the term is now restricted to the fever of the teething child, or gluttony, or undue exposure to the sun and the like, with attack ordinarily of a few hours’, perhaps days’, duration; this exceptionally reaches to eight days, maybe ten; never, of course, occurring as an outbreak, and only in the tropics ever fatal; when protracted, liable by the unwary to be confounded with typhoid fever, in abortive or even developed mild attack. Writers caution us against such error—one at times almost as grave as to mistake varioloid for chickenpox.

Noting the etiology of typhoid fever, it may be remarked that in this there is to some slight extent yet a difference of opinion. With only the two theories of contagion and infection now entertained, the germ theory of the latter is the most commonly accepted. In this, while the alleged specific germ—the typhoid bacillus of Eberth—has not yet been acceptably isolated, its existence is certainly as well demonstrated as that of the unseen forces of gravity and electricity. That the toxic or poisonous agent is organized and of animal character seems evident because capable of being destroyed (not as a chemical simply decomposed,) by poisons chemically varying widely and destructive only to animal life. Among these germicides so well and favorably known in the prophylaxis of typhoid fever may be noted the chlorides of mercury and lime, iodine, carbolic acid, sulphate of iron, permanganate of potassa, etc.

According to this theory the typhoid germ passes from the body of the sick mainly in the stools, dormant and incapable of further infection till developed in its only congenial soil—putrid human feces. If any of the above mentioned prophylactics, the chlorides and the like, are promptly and habitually incorporated with the fresh contents of the night glass, while incidentally fecal decomposition is delayed, these germicides, destroying the typhoid germ, effectually prevent the spread of infection. Uni-
versally sanctioned in enlightened communities, the every-day experience of well informed physicians and laity alike demonstrate the efficacy of these preventive measures. But when from the attendants’ carelessness or ignorance, usually the last from character of fever being mistaken, lacking such preventive means, the dormant germ meets in fecal putridity its congenial soil, and, thus developed, comes in contact with drinking water; other things being equal, the spread of the infection is inevitable. This congenial soil may be encountered from the patient’s stools being thrown in some foul privy, or carelessly aside to rot; perhaps from the sick one’s polluted bed or clothing. However small the putrid stain, it may quicken into active life myriads of dormant germs. If in this developed state received into the system of another individual in any condition short of prior attack of typhoid fever,* the toxic or poisonous effect peculiar to its kind follows from the subsequently forming ptomaines. In this condition of septicemia, or blood-poisoning, the severity of attack in common with that from any other poison “is in direct ratio to the quantity of the poison received into the system: in this instance to that in the drinking water imbibed.” (Professor F. L. Parker, S. C. Medical College.) A reasonable conjecture here would be that in the unknowing community infected, not infrequently in the original mild attack, the hand of mistaken kindness assiduously intent on cooling the fevered thirst continues the administration of the poison to fatal extent. For the fact is universally conceded that infected drinking water, however intense, may be as palatable and sparkling as from any mountain

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*By this is meant the specific morbid effect of the typhoid fever poison in any degree shown, however severe or slight. Notably among instances of the latter, is the condition of the so-called “special immunity” of earlier writers now conceded to be simply one of exhausted susceptibility from mild abortive attack prior. Of still common occurrence, but in the past more frequently than now, these instances were often mistaken for other known trivial affections; or, in default of specific diagnosis, grouped under that vaguely comprehensive term for which we have no English word equivalent, and, to put it mildly, should have but little use—the French word “Malaise,” signifying general ill feeling. This condition of “exhausted susceptibility” to the typhoid poison, analogous to that induced by vaccine as protective against the developed smallpox attack, is conceded by standard authority to be (from obvious cause) peculiar in point of frequency to dense communities. In the late “Civil War” the fact of the relative infrequency of typhoid fever among the troops levied in cities as compared with those from country sections was in common noted by the medical officers of both contending armies. A striking instance of this fact is officially recorded by Surgeon Charles Smart, U. S. Army (Med. and Surg. Hist. of Civil War, Part 3, p. 469). In a brigade alike situated in a sanitary point of view, and during its three years of service, repeatedly suffering from typhoid fever outbreak, while one regiment, the One Hundred and Twentieth N. Y. Infantry, composed of country lories, was almost decimated by the fever, in the other, the Second N. Y. Zouaves, composed of city men, the loss was small in the extreme.
spring. Indeed, for the assertion that this water is often of such unusually apparent excellence, "it is much liked and sought for," (Pepper's Syst., Vol. I, Art. Hygiene, p. 193,) we have the high authority of Dr. John S. Billings, on this subject perhaps the most eminent in America.

Common cleanliness, however rigidly observed, cannot exclude this infection, neither will the utmost degree of fecal putridity alone induce it—the presence of the specific germ is essential. In many instances recorded, (Austin Flint, Sr.; Hutchinson; Surgeon C. Smart, U. S. Army; Med. and Surg. Hist. Civil War, &c.) communities abounding in the foulest privies remained exempt from infection for many years, in some instances had always been, till a single case of typhoid fever, imported, with the stools encountering fecal putridity and polluting some common source of drinking water, promptly brought on outbreak.

Local outbreaks, recurring at long intervals, many months, and not infrequently several years, without fresh importation, apparently indicate great germ vitality, rather than the at times alleged spontaneous generation of the disease; this, in a germ, an organized structure, obviously impossible. In great degree refuting this, and sustaining the germ theory, may be cited the commonly noted fact of the extraordinary life tenacity in the nits of animal parasites, indestructible by any toxic means short of grave injury to other tissues adjacent. And again, reasoning from analogy, if certain seeds, resisting weather vicissitudes, retain germinating power for several years, a well known fact, why not the dormant germ of disease?

The typhoid germ in its developed state evidently does not pass into the open atmosphere to great extent. If otherwise, with no protective sanitary means availing, the typhoid fever outbreak in dense communities would be pandemic as in grippe. Antisepsis of the air, even of the sick room, must be effective mainly by destroying the floating germs of fecal putrefaction. The theory that infection is transmitted by means of drinking water alone, this used for dairy purposes, in turn, contaminating milk, seems now commonly accepted by the authorities. In certain outbreaks, well authenticated, (Pepper's System, Med. and Surg. Hist. Civil War, &c.) the fever has been traced to given wells or cisterns; persons using these becoming infected, while others, living near, but drinking water elsewhere obtained, es-
In New Orleans, from its better classes drinking water only from raised cisterns of cypress wood, with fecal pollution of this impossible, the outbreak is always at a minimum. The Croton Water Works of the city of New York and those of Baltimore are also instances in point. For the like reason of precluding fecal pollution, an exclusive artesian water supply could, unaided, shut out infection for all time, but for its restricted fitness for cooking purposes, necessitating the use of that from wells or cisterns, this, from its more palatable taste, being also freely drank.

In cities with fecal deposits unavoidably near the drinking water supply, in default of timely disinfection, and with the typhoid germ from fever case, or ice imported, or that remaining dormant from prior outbreak, the question of the coming of infection can be only one of privy and cistern leaks. In the country sections, with open wells and springs, the drinking water poisoning comes mainly from surface washings, often far-reaching in cloudbursts on even apparently level ground. The dormant germ probably resisting weather vicissitudes for several years, certainly many months, may be carried in dust by passing winds. This, aided by running waters and by percolation, free in porous soils, may explain the spread of infection in the sparse country communities, abounding in fecal putridity. The outbreaks so commonly noted after protracted drought are due perhaps to the often following cloudbursts. Their frequency the past Summer, with the widespread accompanying outbreak, apparently sustains this view.

With a history reaching almost to the date of Louis's isolation of the disease, typhoid fever, with intervals seldom exceeding a year or two, has to some extent prevailed in this county. Among the traditions of this town of Barnwell is an instance, sixty years ago, of mob law destroying on its outskirts a tannery, the alleged cause of a fatal fever outbreak. My preceptor, the late Dr. James O. Hagood, an eminent physician of that day, and for nearly forty years after, attributed the fever to the filthy condition of the town itself. This gentleman assured the writer that subsequently he identified this outbreak in the history Louis, through Bowditch's translation, soon after (1836) gave to the profession in America. In Dr. Hagood's practice, thirty-seven years ago, I studied typhoid fever clinically for my first, and inspected the characteristic intestinal lesion Louis had isolated but little more
than twenty years before. Common in the practice of the County physicians since, the fact of its occurrence among us has never been discredited until perhaps some half dozen years ago. Prior to this time all the medical men in Barnwell County admitted the historical fact, undisputed by the profession throughout the world for the past fifty years, that, irrespective of climate, locality or season, there existed no region inhabited but was liable to the infection of typhoid fever.

In the recent outbreak with my immediate vicinity escaping in adjoining neighborhoods, my friends, the Drs. Cannon, Morrall and Turner, treated ninety-four cases. The following clinical notes are based mainly on the observation of these gentlemen, my own, with a single exception, being restricted to that in consultation, aggregating ten cases.

As noted by us, the attack, usually with marked physical and mental depression, and without rigors, commenced as a gradually forming continued fever; seldom fully developing till a period reaching from the fifth to the eighth day, exceptionally to the ninth or tenth. In the rare instances commencing abruptly with marked chill and high fever, subsequent, in a few days these assumed the slow typhoid character of the others, whether from quinine used or spontaneous could not be determined.

The symptoms most frequently presented were those from cerebral trouble in some form. With infrequent headache and usually dull; there was to some extent, in most instances, coma-vigil, muscular tumors with perversion of special senses, notably deafness, in mild attack, with increased severity in the graver, with at times the added history of low delirium, coma, picking at bedclothes, indifference to thirst, touch, &c.

The symptoms commonly presented were dusky skin, tympanites, with abdominal gurgling, and tenderness generally of right iliac, and diarrhoea frequently fisted. The diarrhoea often in the same attack; alternated with apparent constipation of occasionally several days' duration. Exceptionally and only in mild attack there was no diarrhoea throughout, but in all instances with marked tendency to hypercatarrh from even the mildest laxatives.

With severe abdominal trouble existing, the tongue was thickly furred and dry, occasionally red, perhaps glazed. In mild attack ending early, and exceptionally in the grave from cerebral trouble only; the tongue was moist and but slightly coated. In one
instance early fatal in coma, it differed but little from that in health. In protracted attack irrespective of any special trouble, the tongue became eventually thickly coated, often red, and at times glazed, with sordes infrequent.

Bronchial cough often presented, usually dry, exceptionally with catarrhal expectoration.

Rose colored spots not observed.—This eruption, regarded as so highly diagnostic in climates colder than this, is, as remarked by my friends the Drs. F. L. Parker and E. F. Parker, of Charleston, S. C., and C. D. Clarkson, of Midway, S. C., less often to be noted as we approach the tropics and quite infrequently so with us. Professor Guiteras, late of the South Carolina Medical College, a distinguished lecturer and a native Cuban, claimed, as Dr. Clarkson states, that the rose spots never existed in the typhoid fever of tropical and semi-tropical regions.

Epistaxis presented in perhaps one-third the cases. Hemorrhage from gums slight and infrequently noted.

Hemorrhage from intestines often observed and slight, except in one instance when profuse, and accompanying the single case of fatal perforation of intestines reported in this local outbreak. Occurring once in ninety-four cases of fever here: this does not vary materially from published statistics. Hutchinson (on Typhoid Fever, page 290) quoting from Hoffman, in 250 deaths gives twenty instances of perforation; from Leiber Meister, in 2,000 cases of fever gives twenty-three of perforation; and from Murchison, in 1,590 cases of fever gives forty-eight of perforation. Flint the elder (Practice Med., page 285) quoting Professor Pfeufer, in 231 cases of fever gives five of perforation.

Falling of the hair noted in one-third the cases.

Duration of attack from fourteen to forty-two days, in one instance fifty-one; average, twenty-two.

Abortive attack with duration of from six to ten days, perhaps fifteen instances. In absence of systematic investigation the infection was not traced up in any instance. With no prophylaxis prior to outbreak, and but little during its prevalence, it ceased to spread, apparently from the approach of cold weather checking fecal decomposition.

With the view to correct report of outbreak throughout the
County, I requested by mail from the thirty-one resident physicians statistics as follows:

1. The number of typhoid fever cases treated?
2. The number of deaths?
3. The character of prophylaxis.

To this request fifteen physicians failed to respond. With thanks to those kindly replying, I will here express the hope that their reports, with the small aid of my comments, and with that efficient of the discussion to follow, will enable us to solve our problem: the character of the Barnwell County endemic.

From statistics received it is noted that without any instance of prophylaxis reported from country sections, there were but three from the towns. In the town of Blackville with the chloride of lime, and the town of Williston with common (carbonate of) lime, both to limited extent; in the town of Fairfax with sulphate of iron, extent not stated. Accompanying the last mentioned report was one of twenty-one cases of typhoid fever, and with the other two were reports of quite extensive outbreaks of "a form of continued fever." Such results were to be anticipated, with in one town the common lime at best ineffective, only partial disinfection in the others and none in the adjacent country, obviously embraced in the fever reports.

And in this connection it may be reasonably claimed that the frequency of outbreak in the County at large, in like manner, is due simply to lack of those sanitary means found elsewhere so efficient. The efficacy of the prophylaxis, the preventive means against the infection of typhoid fever, is as universally conceded as that of quinine in malaria, or vaccinia in smallpox. Dense communities, other things being equal, are peculiarly liable to infection, yet it is well known that in properly ordered cities the outbreak of typhoid fever is rare and short-lived. In these communities, with an intelligent public sentiment directing, all the resources of sanitary science are brought to bear in the premises. Within the corporate limits, as well on connecting ship and railway lines, even common observation notes the rigidly enforced cleanliness, with often the sharp odor of the protecting chlorides. In Japan, with a people noted for cleanly habit, in the absence of prophylaxis, the recent earthquake inducing fecal pollution of the drinking water (N. Y. Med. Record, February 13, 1892) caused widespread outbreaks of typhoid fever. After the Charleston
earthquake not a single instance could be traced to this, so thorough was the prior disinfection.

In marked contrast to this, let us note the sanitary condition of Barnwell County. With even common cleanliness, rarely strictly observed, this obviously the more noticeable in the towns, in some of these, certainly in the privies accessible to the public, with stables alike used, and often on back streets, the fecal odor is almost insupportably offensive. In these foul receptacles, with often open wells in easy reach, except in the coldest weather, putrefaction goes on without let or hindrance. In the sparsely settled regions, with danger of infection less imminent, and the question of prophylaxis restricted to individual effort, often to be frustrated by the uncleanly habits of the ever present and largely outnumbering negro element, while this bad sanitary state cannot always be excused, it may in some degree be explained. But in the County towns, with their necessarily greater aggregate, intelligence, and with prophylactic measures, under the more effective municipal control, why the sanitary lessons of well ordered neighboring cities, practically the disinfection of a few dozen privies, are totally ignored, with the outbreak and its avoidable deaths often recurring; the explanation is yet to come.

With only half of the County physicians, as previously noted, forwarding statistics, I have tabulated from these 452 cases of endemic fever, with an average death rate of 10 per cent.; 222 of these were reported as typhoid fever, and approximately 230 cases reported as a “non-typhoid” form of continued fever. Of the five gentlemen forwarding these unlooked-for “continued fever” reports, only three complied with my request for its clinical history.

Four of these correspondents, from two towns, reported the outbreak alleged to be non-typhoid mainly from its low death rate, with a common history of attack of continued form and duration of fourteen to thirty-six days. In addition to this there was a specific report.

1. By Dr. L. C. Stevens of Blackville: The fact of fever attack resisting the abortive action of quinine, with a further history of epistaxis, dry, thickly furred tongue, at times red, deafness, (assigned to quininism) tympanites, right iliac gurgling and tenderness, with delirium.

2. By Dr. D. K. Briggs of Blackville: The fact of quite exten-
sive outbreak, defined merely as "the simple continued fever, often prevailing at the South, and called by many typhoid fever."

3. By Dr. L. Brooker of Williston: The fact of like failure of abortive treatment, with further history of attack gradually developing and without chill, with epistaxis, muttering delirium, intestinal hemorrhage and falling of the hair.

4. By Dr. W. C. Smith of Williston: The fact of extensive outbreak simply reported as of "common continued" fever.

In kindly forwarding the additional information requested, Dr. Stevens stated that the cases seen by him were too few in number to constitute an outbreak; and Dr. Brooker, in the absence of a more complete report, alleged this due to the defective memory of an invalid. While above noted clinical history comes mainly from these two gentlemen, with each one a common residence with one of the others, the character of the outbreak was doubtless common as well.

Dr. E. L. Patterson of Barnwell C. H., the fifth correspondent, disclaiming the typhoid character of the endemic, reported sixty cases, with a history of attack of fourteen to fifty days' duration, resisting the abortive action of quinine. This often without marked chill gradually developed, with accompanying mental depression, epistaxis, bronchial cough, tympanites, right iliac gurgling and tenderness, with diarrhea, or else, tendency to hypercatharsis, intestinal hemorrhage, muscular tremors and falling of the hair. This outbreak, alleged to be of non-typhoid character, was classed as "malarial remittent fever," because, with the attack, in no instance fatal, this lacked "the typhoid temperature curve," with the "characteristic pea soup color" in the diarrhea generally accompanying attack, and "mainly set up by purgatives."

With the question at issue in the preceding four reports, mainly one of nomenclature, and all others with character in common with some in Dr. Patterson's report, this calling for more extended comment will be noted first. Reviewing this, it may be asserted that in remittent fever, with its duration of attack usually one of about ten days, exceptionally this may reach two weeks. When convalescence is delayed beyond this period the attack ends, as in fact it frequently begins, in the intermittent form. If therefore, as evidently intimated, the attack throughout was of the apparent remittent form, with the fact of its protracted duration, ex-
cluding the theory of remittent fever, the diagnosis almost necessarily would be one of typhoid fever, made all the more conclusive from the failure of the abortive treatment. Remittent fever, with always a death rate, is, as a rule, the least fatal of the two diseases, simply because its attack ordinarily may be cut short. Should this continue to great length, besides the otherwise almost inevitable and not infrequently fatal ills of chronic malarial poisoning, anaemia, dropsy and the like, it may develop into pernicious fever, often so dangerous to life in the congestive as well as hematuric form. The last mentioned, commonly known as hemorrhage of the kidneys, often prevailing in malarious regions and familiar to many of us in this County, has infinitely the highest death rate of any fever known, native or exotic, in America. Contrasting with this history, how often do we note the typhoid attack of many weeks,—six, eight, even ten,—and frequently of dangerous character, with complete recovery. In the report noted here, the fact of the uniform favorable ending in so many cases, and of such protracted duration, rather than to the well known shorter remittent fever, surely points to that of typhoid, with its universally conceded distinctive feature, a duration far exceeding that of all other fevers.

Noting the reported absence of the “Temperature Curve”: Explaining this, it may be remarked that in typhoid fever, with its attack as a rule so uniformly gradual throughout, in development, culmination and decline, theoretically an equally uniform temperature rate might be argued—one commencing from the normal, 98.9 degrees F., day by day ascending gradually, till, with culmination reached, a corresponding descent to normal again. Daily registered, the temperature line on the chart obviously would be (from the morning recessions irregularly) curved. Hence the ideal “Typhoid Temperature Curve” of Wunderlich. In this reported outbreak, with the constant use of antipyretics, notably of that most potent one, antifebrine, admitted here, its therapeutic aim being to hold the temperature practically to normal and necessarily preventing the formation of this “curve,” easily accounts for its entire absence here. When present it is conceded to be a most valuable diagnostic sign. But even at a period prior to the use of antipyretics, it was commonly noted as one much less frequently observed at the bedside than on the published chart. Quoting Pepper’s System (Vol. 1, p. 232) and
Lewis Smith on Children (page 352) together with Keating's Cyclopaedia of diseases of children (Art. Typhoid Fever, page 342.) (Traite des Maladies des Enfants, Paris, 1853.) We have authority for the assertion that the "Typhoid Temperature Curve," as a rule absent in adult attack, is almost never to be observed in the typhoid fever of children, a form so distinctly remittent.

Commenting on the reported absence of the "pea soup color" in the diarrhoea, it can be stated that this condition, alleged to be "characteristic" by Watson fifty-four years ago, has not, as far as the writer knows, been so regarded since. Though often with this color now termed "yellow ochre" to be observed, in common with some other conditions of intestinal disease, the stools in typhoid fever may assume almost any condition known in color or consistence. In evidence of this statement I cite Wood exclusively, not only because his clinical history of this fever is sustained by the standard authorities, but from my correspondent's evident preference for the term "enteric fever," implying his endorsement as well. Quoting this literally, we note (Wood Practice Med., Edition 1858, Vol. 1, p. 342): "The actions are generally yellowish or brownish and apparently healthy except in consistence. While in other severe fevers the stools are almost always greatly altered, in enteric fever they often remain nearly natural save in consistence throughout the complaint. Sometimes black or bloody, they may become dysenteric. Another circumstance not unworthy of record here, is the commonly noted fact of certain medicines—bismuth, lead and the like—usually administered for this diarrhoea, from their subsequently forming sulphurets, imparting a black color to the actions.

Noting the fact alleged in Report of the diarrhoea having been "mainly set up by purgatives," I again quote Wood (Vol. 1, Edition 1858, Art. Enteric Fever, p. 342,) literally thus: "I have noticed, however, that even with apparent constipation, the bowels are acted on much more readily and abundantly than in most other fevers. So much is this the fact, that in a doubtful case an extraordinary effect from purgative medicines should have weight in the diagnosis."

The entire absence of death rate as reported here, in so many cases, while quite exceptional in the typhoid fever attack, is not
unprecedented. Bartlett (on Typhus and Typhoid Fevers, pp. 100–1), quoting from the Massachusetts General Hospital Records, cites the fact of fifty-four cases of typhoid fever treated without a single death. In the instance reported here it must be noted that my correspondent refers to his own cases exclusively. Without explanation this (of course incidentally) would be misleading, it being a matter of common notoriety that in the same outbreak in the town of Barnwell and its vicinity there were quite a number of instances fatal, notably in one of seventy days’ duration.

Further comment on these alleged disproofs, but in point of fact in great measure self-evident proofs of a typhoid character is plainly superfluous. Indeed, irrespective of refutation, it will, I think, be conceded that the most conclusive evidence of such character is given in my correspondent’s own clinical history. Commenting on this history in common with that given by other correspondents alleging a non-typhoid theory, my friend Dr. F. L. Parker, of Charleston, S. C., writes me: “This is the history of a continued fever whether mild or severe; it is typhoid fever all the same, and preventive measures against future outbreak cannot be too soon undertaken.

And corroborative of such evidence of infection existing at this time in the town of Barnwell may be cited the fact of cases exported to other localities, diagnosed as typhoid fever by physicians too eminent, and distantly separated as well, to admit the assumption of collusion or bias of opinion. Among these instances of export were three cases treated by my friend Dr. George W. Morrall, of Milletville, S. C., a gentleman of wide clinical experience both in civil and military practice. In these three instances all were ailing when they left the town; one, a prominent young lawyer, after having been prescribed for by a local physician, and arriving at Milletville with developed fever; the second, a visiting young lady, and the other a school girl; these two last taking to bed within forty-eight hours after arrival. With, in all three instances, favorably ending; the duration of attack was respectively twenty-two, thirty-one and thirty-three days. In all there was a history of fever of continued form, with marked physical and mental depression, without chill, and gradually developing, with a further history of tympanites, right iliac gurgling and tenderness, diarrhoea and dry red tongue. In two there was
early epistaxis; in one, intestinal hemorrhage; in two, falling of
the hair.

A second instance of export to be cited was that of a drug
clerk, diagnosed as typho-malarial fever (typhoid fever with
malarial complication) by an eminent physician of Aiken, S. C.,
Dr. H. H. Wyman. This young gentleman ailing for ten days
before leaving Barnwell C. H., and first seen by Dr. Wyman
three days after, was found with a temperature of 102½ degrees.
With a typical attack of twenty-two days following, this together
with the thirteen days of prior ailment probably aggregating one
of thirty-five days' duration.

A third instance of infection exported was that of a young lady
"moping about" the town of Barnwell for ten days and after
leaving this town diagnosed as a case of typhoid fever by Dr. N.
F. Kirkland, Jr., of Fiddle Pond, S. C., a gentleman too well
known for his opinion to be questioned.

Dr. P., my correspondent, joining the writer in the hope expressed
of the Medical Society inducing sanitary reform in the County,
stated that recognizing in the existing filth a local cause for the
fever outbreak in his town, to remove this he had repeatedly tried
as a member of the Board of Health to secure the cooperation of
the municipal authorities. Commenting on this intimated failure,
it can safely be asserted that in this gentleman's town, in com-
mon with the others in the County, the percentage of public
spirit and general intelligence will compare favorably with that
in any of our neighboring cities, in conceded good sanitary con-
dition. Perhaps the intimated failure above noted may be ex-
plained by the equally well conceded fact, that in these cities no
peculiar pathological theories exist to lull the community into a
false sense of security. And that untrammeled by misleading
views, with an enlightened public sentiment recognizing in the
ever-threatening typhoid fever outbreak the common danger in
all and especially dense communities, those measures are enforced
which universal sanitary experience has found to be effectual.

In this connection, and reviewing collectively the five reports
disclaiming the typhoid theory of the County endemic, may be
noted the fallacy, common with these correspondents, of excluding
from the diagnosis, to put it mildly, all but the typical cases: to
reject in every instance all not coming up in each little particular—
so to speak, with the regulation mark. Plainly, such would be
as irrational as to group the natural deformities, the harelip, the
acephalous monster, or the doubtful sex into distinct human races. And in like manner applied to clinical studies would inevitably bring about pathological views misleading in the extreme. Eminently is this true in the study of typhoid fever in all its history, anatomical and clinical, with its self-limited attack of continued form and long duration, its characteristic intestinal lesion the only constant conditions. Excluding these it is universally conceded that there is not a symptom usually to be observed but may be absent in any given case. And if in the study of this fever we classed under new heads but a moiety of its instances of clinical variation, soon, with each one a little pathology of his own: in the doctors' councils and reacting disastrously at the bedside, there would be "confusion worse confounded."

And with the endemic in question thus clinically reported, occurring in a region like ours exempt from exotic fevers, viewing the subject as we may from every standpoint of authority, under what head other than that of typhoid fever could we rationally place it? Obviously not under that of "simple continued fever;" among us, the only other form of the continued fever class sanctioned in nomenclature: with its few hours' or days' duration, always sporadic and with us never fatal. Simply but a play of words to call it "continued," or "common continued," or even "enteric fever," terms long since obsolete, and even when in use only as synonyms, but as other names for the universally conceded typhoid condition isolated by Louis.

In general review and recapitulating: It is noted that in the towns and vicinity of Allendale, Fairfax and Midway, together with the townships of Four Mile, Richland, Bennett's Springs, Buford Bridge, George's Creek, Three Mile, Great Cypress and Sycamore, with the fact of typhoid fever outbreak conceded by correspondents, those in the towns of Blackville, Williston and Barnwell Court House allege this to be of a non-typhoid character.

In refutation of this non-typhoid theory, and condensing all views of material nature advanced in this paper, the following propositions, it is believed, can be reasonably conceded:

1. That in the towns of Blackville, Williston and Barnwell Court House, abounding in foul privies, the question of typhoid fever outbreak rests simply on the fact of the dormant germ from fever case or ice imported, or that from prior outbreak, be-
ing brought in contact with fecal putridity and this in turn with the drinking water.

2. That in these three towns, with existing fever outbreak conceded, the evidence of its typhoid character may be held conclusive, when, with a common history of attack of continued form and long duration, resisting the abortive action of quinine, there is a history specific:

(a.) In the outbreak in Blackville: of epistaxis, dry, thickly furred tongue, occasionally red; deafness (assigned to quininism), tympanites, right iliac gurgling and tenderness, with delirium.

(b.) In the outbreak in Williston: of attack gradually developing and without chill; with epistaxis, low delirium, intestinal hemorrhage and falling of the hair.

(c.) In the outbreak in Barnwell Court House: of attack gradually developing and without chill; with accompanying mental depression, epistaxis, bronchial cough, tympanites, right iliac gurgling and tenderness; diarrhoea, or else tendency to hypercatharsis; intestinal hemorrhage, muscular tremors and falling of the hair.

3. That in such communities, while timely fecal disinfection often wards off the threatened typhoid fever outbreak, should this come, such disinfection, with use of prior infected drinking water discontinued, will always stamp it out.

In conclusion: with the fact mentioned that these propositions submitted to my friends, the eminent Drs. Middleton Michel and F. L. Parker of the South Carolina Medical College, and Edward F. Parker, also of Charleston, S. C., have been fully endorsed, with thanks to these gentlemen for their courtesy and valued data, I may express my gratification without approach to egotism. For with no theories of my own to advocate, and recognizing in the question at issue a subject involving only established principles, my remarks are based exclusively on the views of standard authorities, our only court of appeal on occasions like this when doctors fail to agree. Without such a tribunal in our vexed questions, and with personal experience the only criterion, discussion could be but a wrangle of peculiar views.