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AN  
INAUGURAL DISSERTATION

ON

*Pneumonia*

#492

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BY

*Geo. W. Wilkinson*

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## Pneumonia

It is not my purpose in presenting a thesis upon this important disease of the lungs, to enter into a minute description of it, in all the different stages, it may pass through, nor attempt giving with exactness the different Pathological Changes, its Parenchyma undergoes in its different stages of inflammation. But simply to describe it, as it is most frequently seen, complicated with Bronchitis and Pleurisy. This disease though of frequent occurrence in the winter & spring seasons of the year is not very fatal, as perhaps nineteen twentieths of the Cases terminates favorably, with timely and proper treatment, Pneumonia

like many other diseases spare neither  
age nor sex. From the infant to the  
grey haired sire, all may be attacked by  
it. There are peculiarities characterising  
this disease, but I shall not in this pla-  
ce stop to consider them, as they should  
always be made the subject of a separate  
article. Their symptoms & treatment  
being in several respects different from  
that which is now under consideration,  
We most frequently see those who have  
been exposed to the greatest vicissitude  
of weather poorly clad, & sometimes  
poorly fed, the victims of Pneumonia  
while those in comfortable circumst-  
ances escape entirely. We have had frequ-  
ent opportunities of seeing this in  
Southern Country, on large farms  
where the negroes have been exposed

to inclement weather by day & at night, sleeping in low damp open Cabins, while the white family in comfortable rooms. were exempt.

From those observations we conclude that exposure to Cold damp weather is a fruitful source of the disease under Consideration. The right lung is more frequently involved, in Pneumonia than the left, but sometimes the left & even both may be affected, or the inflammation may occupy a part of one lung, while the other is free, or again it may extend from a single point over the entire lung, & the function of respiration be carried on by the opposite sound lung. I do not know that those things have ever been satisfactorily

explained, nor is it my purpose to attempt an explanation when the most learned in the medical profession cannot give a satisfactory explanation. The three stages of Pneumonia are denominated, Splenization, Hepatization, & Supuration. I will now consider some of the pathological changes of the Parenchyma in those different stages beginning with the first.

### Splenization

In this stage of the disease there is engorgement of the lungs, or part affected, with blood, or bloody serum, the lung is of a darker hue than natural & Crepitates less under pressure than the sound lung does, because of their being more liquid than air in its Cells. The lung from this Cause is

also heavier & less elastic than it is in a normal condition. A portion of this engorged lung being cut exhibits a dark red appearance & we may see exuding from it a reddish frothy serum. Its structure now resembles (as its name implies) the substance of the spleen.

### Signs of the first stage.

In the first stage we see the ordinary Catarrhal symptoms. The patient will tell you he has taken a Cold has a sensation of fullness in the head with a dull heavy pain, his eyes redened & suffused with tears, there is also some obstruction of the respiratory functions, he takes frequently (if there is no pain in the side) deep inspirations, as if to remove the obstruction. This condition may last

from twelve to thirty six hours, with frequent Chilly sensations, which usually terminate in a distinct Chill, which may last from a half an hour to an hour, followed by febrile reaction, if there has been no pain it will be greatly agitated. The patient often is not able to take a full inspiration, because of the pain it gives him when he attempts to do so, often describing it as a ketch or stitch in the side, or Chest, over the part affected, Cough does not always accompany the disease at this particular period, but when it does it is dry (that is without expectoration) short hacking, as it is called frequently by the sufferer. We have now on percussion a flat sound when compared with the sound of a healthy lung, This dull flat

Sound, is not so distinctly marked at this period as it generally is, after the disease has progressed twenty four hours, from the commencement of the febrile stage. By the application of the stethoscope, or the ear over the point of inflammation we hear Crepitation, which has been compared to the crackling of salt on hot embers, the rubbing between the thumb & finger near the ear a lock of hair, the rattling of very fine paper &c. I have thought however that the Crepitation resembled more the breaking up of numerous little soap bubbles, in an ordinary wash bowl, than anything else, I could compare it to. This Crepitation is vascular bubbling produced by the air being forced through the minute air tubes of the lungs



They Contain the product of their  
inflamed mucous membrane, which  
is serum, or blood, and serum. Dr Williams  
however (an English writer) explains  
this Crepitation in a different  
manner, he thinks that the distended  
blood vessels, and the interstitial  
serous effusion, press on the minute  
bronchial ramifications, and obstruct  
without wholly preventing the passage  
of air through them, that those small  
tubes are lined by a viscid secretion,  
such as is expectorated, that the sides  
of the tubes stick together in Con-  
sequence of the presence of this viscid  
matter, and that it is the separation  
of these adhering sides by little port-  
ions of air which successively pass  
in & out, that gives rise to the Crack

eristic sound. Be this as it may it  
can in no wise effect it as a diagno-  
stic sign. In this Connection it  
comes in place to speak of another  
oscillatory sign, denoting the second  
stage of Pneumonia.

### Hepatisation

In this stage we see the regular  
movements of the Chest, in ins-  
piration & expiration, yet when  
we apply the ear or <sup>stetho</sup>stethoscope we  
do not hear the Crepitation described  
in the first stage, nor do we hear  
the vesicular rustle, but a hissing  
sound may be detected, this may  
be most distinctly heard, soon  
after the patient has made some  
exertion, or has Coughed. It is to  
this that the term bronchial resp

iration has been given. We may account for this bronchial respiration when we consider that air no longer penetrates the minute Cells of the Lungs. Its porous structure is blocked up, hepatised, and there is nothing now of Crepitation, or respiratory murmur, to prevent our hearing the hissing of air as it passes through the large bronchial tubes. This period is one of great anxiety to the physician, for he cannot tell whether the inflammation has reached its full height or not, he cannot tell whether the lung will pass into the third stage Characterised by a Collection of pusp. in its substance, breaking down its delicate structure, or gradually return to a healthy action

The term hepatization, gives us a very correct idea of the Pathological Condition of the lung in this stage. the lung is now highly inflamed, its natural color is changed to a dark red, like that of the liver, and it is engorged with effused matter, the product of its own inflamed structure, the minute air cells are completely obstructed. Percussion gives us a dull flat sound, Auscultation discovers but little except Broncophony. Now if the inflammation has reached its acme & the suffering organ to resume its natural function, we are apprised of it first by the return of Crepitation, (described in the first stage) at first very slight and indistinct, gradually increasing marching back as it were

over the same space it had advanced upon, then regularly subsiding into a natural respiratory murmur. Where we heard nothing but bronchial respiration, this crepitant begins & as it increases the bronchial hissing diminishes until it is ultimately lost in the crepitant ronchus, and as this crepitant ronchus diminishes the natural respiratory murmur increases, & gradually takes its place, so we hear nothing more of the hissing sound of air passing through the large tubes of the bronchi. Having considered the peculiarities, characterising the first & second stages of Pneumonia. I pass on to the third.

### Preparation

As I have never been into the practice

of medicine & only had the opportunity of seeing the patient of my Preceptor, & unfortunately having never seen one in this Stage. I shall only attempt to describe it as it is done by those who have had opportunities of witnessing it, in all its different phases, If the inflammation advances into the third stage <sup>there</sup> is no mitigation of symptoms, very nearly the same flat sound is heard on percussion, but on applying the ear or Stethoscope, we hear a puffing or bubbling sound accompanying the bronchial respiration. The inflammation has now extended so far as to break down the Parenchyma, producing a Chasm, this Chasm is filled or partly filled with puffs, and the air at each respiration passing

through it, produces this puffing  
or bubbling sound. Now I have in  
as Concise a manner as possible given  
my views upon this important disease  
of the lungs. When I set out I only  
intended describing it, as it is most  
frequently seen, Complicated with  
Bronchitis & Pleurisy. I have given some  
of the signs of each of these as the rea-  
der will doubtless perceive As acute pa-  
in in the side, showing that Pleurisy,  
was involved & the dry hacking, horraping,  
Cough, showing that there was inflama-  
tion of the bronchial Tubes, or the  
lining membrane of them, It may  
be said that these symptoms (Cough  
or acute pain in the side or chest) &  
almost or always accompany Pneumonia  
& I may be asked in connection

with this if Pneumonia, Can exist  
without Bronchitis & Pleurisy, to this  
I could only reply that if it Can,  
I never seen it. If the able Professor, of  
Theory & practice, gave his opinion, as  
to whether it Could or Could not,  
it has escaped my memory, I shall  
now Consider the last point of imp  
ortance to make in this essay which  
is, The Treatment.

In the forming stage of Pneumonia,  
or that stage in which there no more  
than the ordinary Catarrhal sympto  
ms, but little is necessary to be done,  
as it will frequently yield readily to  
a few mild remedies, if the bowels are  
Constipated, I would give a mild  
Cathartic, but if not I should not  
give anything to move them, I would



however prescribe a warm foot bath,  
& Dover's powder, before going to bed,  
This so far as my observation goes will  
most frequently answer every purpose.  
However if this should fail to arrest  
its progress it passes directly into the  
stage denominated splenization, then  
we have to resort to more active remedies,  
The treatment in this stage will depend  
very much upon Circumstances, such as  
the Condition of the patient, if he  
was plethoric, I should be tempted to  
bleed him, though it may not be the  
true treatment of the disease in the  
South, but in addition to this, I  
should give opium gummi & a  
small portion of Tartar Emetic, If  
I bleed him, I should observe strictly  
the rules as laid down by Professor Wood.

which is if the patient is nervous  
& tried to open the vein then inst  
antly place my finger on the orifice,  
& stop the blood until the shock pro  
duced by the venesection, had passed  
off, after which let the blood flow,  
keeping my finger on the pulse all  
the while, so as to be ready to check the  
blood instantly, if the remedy has been  
improperly applied, denoted by a gra  
ing away of the pulse when there has  
been but two or three ounces of blood  
taken. Such Cases when met with  
are very apt to be tedious & troublesome.  
Veratrum Veride, has been highly recom  
mended by many, as the best sedative  
known in this stage of Pneumonia,  
but as I have never tried Veratrum  
Veride nor seen it tried, I cannot

hear testify to its good or bad effects,  
But in this stage the Cough is generally  
harrasing, to the patient, the pain in  
the side severe, for which something  
is necessary to be done, I should pref-  
er small & frequent doses of Morpha,  
Dover's Powder, Opium, or Laudium,  
with Quinine. Always taking care  
not to lock up the bowels by them,  
giving something to move them as  
often as the nature of the Case require.  
To promote expectoration I would  
use Syrup of squills, so as to keep  
the Stomach slightly nauseated,  
with it. The above plan of treatment  
with such invariations, and amendme-  
nts, as would naturally suggest them-  
selves during its progress is all that  
is necessary I will now briefly notice

The treatment requisite for the second stage that of.

Hepatisation.

Upon Carefull precaution for Auscultation reveals little else but Bronchophony, at this stage, you discover that the inflammation has gone one step higher, It is now hepatised & you must adapt your remedies to this Condition Now if you discover a periodicity in the Case you may reasonably expect the disease to have sprung from a malarial origin Nothing now can supply the place of Quinine A blister is of great importance at this stage of the disease It is thought by some to promote secretion & act upon the skin as well as relieving the lung by Counter irritation

What to say of the separative  
stage I know not or at least know  
but little that can be done further  
than to brace up the system by  
tonic stimulents &c And endeavor  
as much as possible to husband the  
strength of the patient. The blisters  
I should think might still be of  
some service together with stimu-  
lating expectorants Carbonate of  
Ammonia wine or even Brandy is  
now about the best remedies we  
could resort to. The prognosis in  
this stage I should think could  
not be favorable. Although one writ-  
er on diseases of the Chest has said  
if the patient can get through  
the second stage he is very apt to  
recover from the third. But I cannot

See what he grounds his hopes upon  
Thus I have finished giving my views  
upon a disease of great frequency in  
our Country and one that is often per-  
plexing to the practitioner of medicine  
but fortunately one that will genera-  
lly yield to appropriate remedies  
I feel satisfied that I have not done  
the subject justice nor did I expect  
to do so when I began

However having complied with one  
of the requirements of the learned  
Faculty of medicine & medical science  
of the College at Nashville I submit  
it to them feeling assured that they  
will make due allowances for its many  
defects

Nashville Jan the 2<sup>d</sup> 1838  
Geo. H. Wilkinson