

But the answer to their mechanism continues to evade.

Neurotransmitters were the first to be tested,  
But this approach has since been bested.  
Metabolism and pH have since been investigated,  
But the newest approach involves a channel that is gated.

The exact mechanisms by which they function still elude,  
But knowing their role in respiratory control we do.  
In response to falling PaO<sub>2</sub> the peripherals do fire,  
As the centrals respond to a PaCO<sub>2</sub> that is higher.

As sensory receptors these little organs act,  
Keeping our breathing adequate so our functions stay on track.  
Without them our lives would be less content,  
Since chemoreception is real sixth sense.

## CHEMORECEPTION IN POETRY

By Brent Weatherhead

Chemoreception is the real sixth sense,  
Often forgotten, but rarely absent.  
Mysterious little organs perform this task,  
But exactly what they are, scientists still ask.

There are two types: peripheral and central,  
With the centrals located on the medulla surface ventral.  
The peripherals reside in two different locations,  
Either in the aorta or the carotid bifurcation.

The full role of the centrals remain a question,  
Their stimuli a mystery because of their location.  
 $H^+$  cannot cross the blood brain barrier,  
But  $CO_2$  alone is a stimulus that's inferior.

The central increase breathing when  $PaCO_2$  rises,  
But how the  $PaCO_2$  is sensed has been the demise.  
The peripheral receptors sense mainly oxygen,  
But acute pH changes can also provoke them.

Because of their complex nature, they were hard to find,  
Their tiny size makes them an organ that's one of a kind.  
The discovery of them was a laborious endeavor,  
Numerous men tried, some not so clever.

First there was Taube in 1743,  
Two little organs he claimed he did see.  
His supervisor von Haller the idea did steal,  
But the discovery was ignored by many in the field.

Numerous times these organs were rediscovered,  
A lot of the work done by Rodriguez under cover.  
Under siege in Spain during the civil war,  
Continued the research to try to learn more.

In 1938 the Nobel prize was awarded,  
To Corneilles Heymans who refused to be thwarted.  
During baroreceptor trials a trend he did see,  
As certain chemicals he used changed breathing frequency.

The structure of the peripheral chemos is spectacular,  
Made of 2 cell types: glomus and sustentacular.  
A number hypotheses about these cells have been made,