

#28

*Stephens to Miller re analysis of EKG traces*

61 Walter Road  
Swansea  
Wales  
Sep. 6 1916

Dr. Dayton Clarence Miller

Dear Sir

I have just finished reading your "The Science of Musical Sounds", which was very interesting, especially so as it was the means by which three of us arrived at something like an idea of what the appreciation of music consists.

My two friends who have been for some time discussing this interesting subject are Vaughn Thomas (the chef museum of Wales) and Mr. Kukman the lecturer on physics at the College.

We conclude that there is both a science and an art of music, of which a true musician should have a full knowledge associated with a keen appreciation of the higher harmonies.

An analogy put forward was the science of brewing, on the part of the brewer and the art of drinking the beer by the "emotional" public.

I dare not push the analogy further by suggesting that the diminishing of judgment by means of alcohol increases the appreciation of "music" in a wholesale manner.

My chief object in writing is to ask your help in a matter which I am trying to work up in connection with "Heart Sounds".

I have already drawn attention to the fact that whilst medical authorities consider the first sound of the heart to be due to the contraction of the heart muscle, physiologists agree that a muscle when contracting produces no sound!

I have recently sent for publication an article on the subject to the American Medical Association at 535 North Dearborn St. Chicago.

The enclosed memo may give you some idea of what I am getting at.

I suggest that the fluid in the pericardium is responsible for the sounds heard by the stethoscope, and also for the curves produced by the cardiograph.

The cardiograph is a pseudo-scientific instrument which has recently appealed to medical men.

The curves are formed by the same impulses as are conducted up the binaural stethoscope.

The size of the receiver over the heart is however fixed in a very arbitrary fashion, and I have shown that if one has a 1, 2, & 3 inch diameter receiver the form of the curves varies, both as regards shape and relation to the pulse.

A slight variation of the pressure whereby the receiver is held to the chest makes a difference in the curve.

I enclose some curves which you may be induced to analyse in the result of which analysis I should be very interested..

They were taken from a lad aged 18 who had heart trouble – enlargement of cardiac ??ness, & modified sounds.

I hope you will pardon the writing of such a long letter, from

Yours very truly

G. Antoin Stephens