

**Author(s):** Joel Howell, M.D., Ph.D., 2009

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# History of the Electrocardiogram

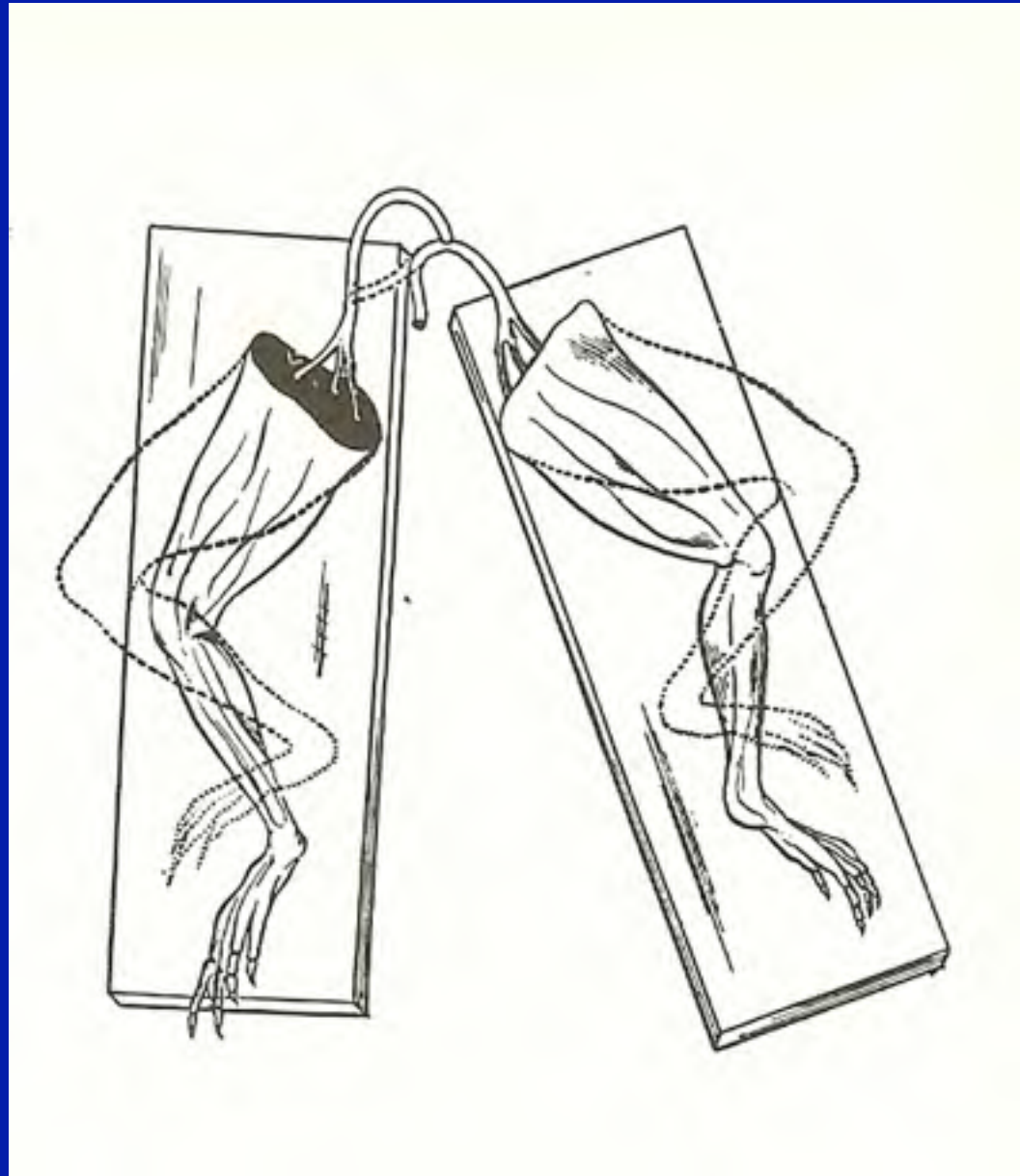
## M1 – Cardiovascular/Respiratory Sequence

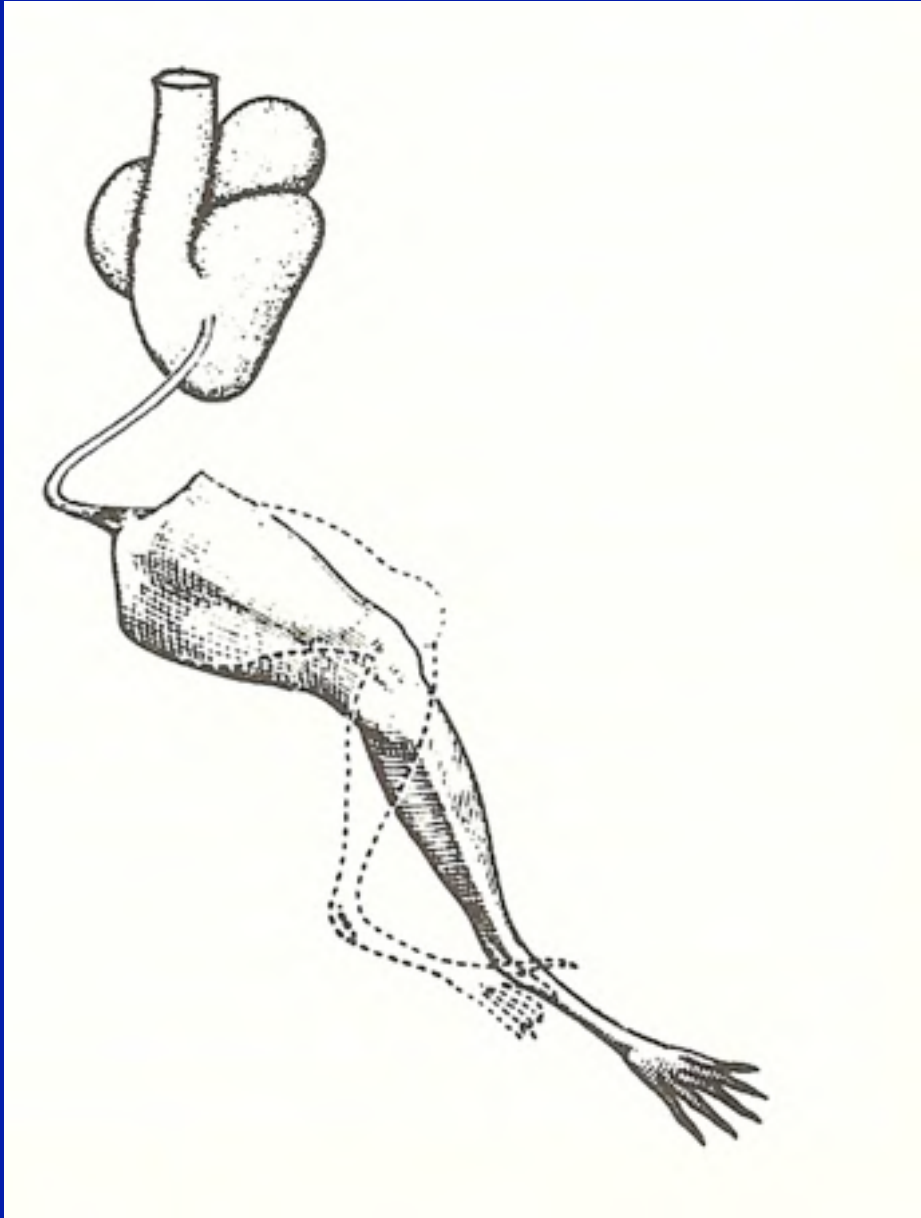
Fall 2009





PD-EXP Luigi Galvani, [ECGpedia](#)



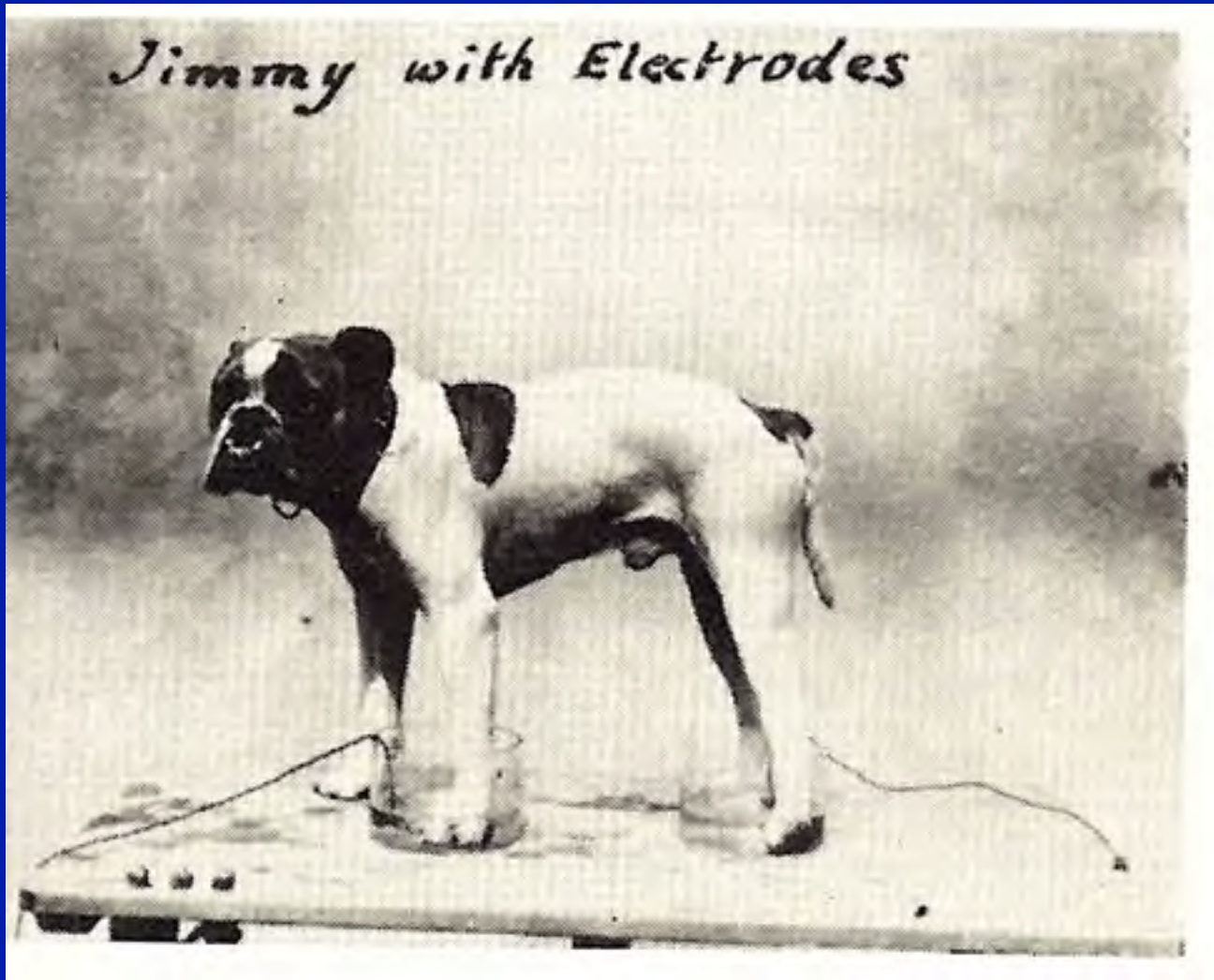


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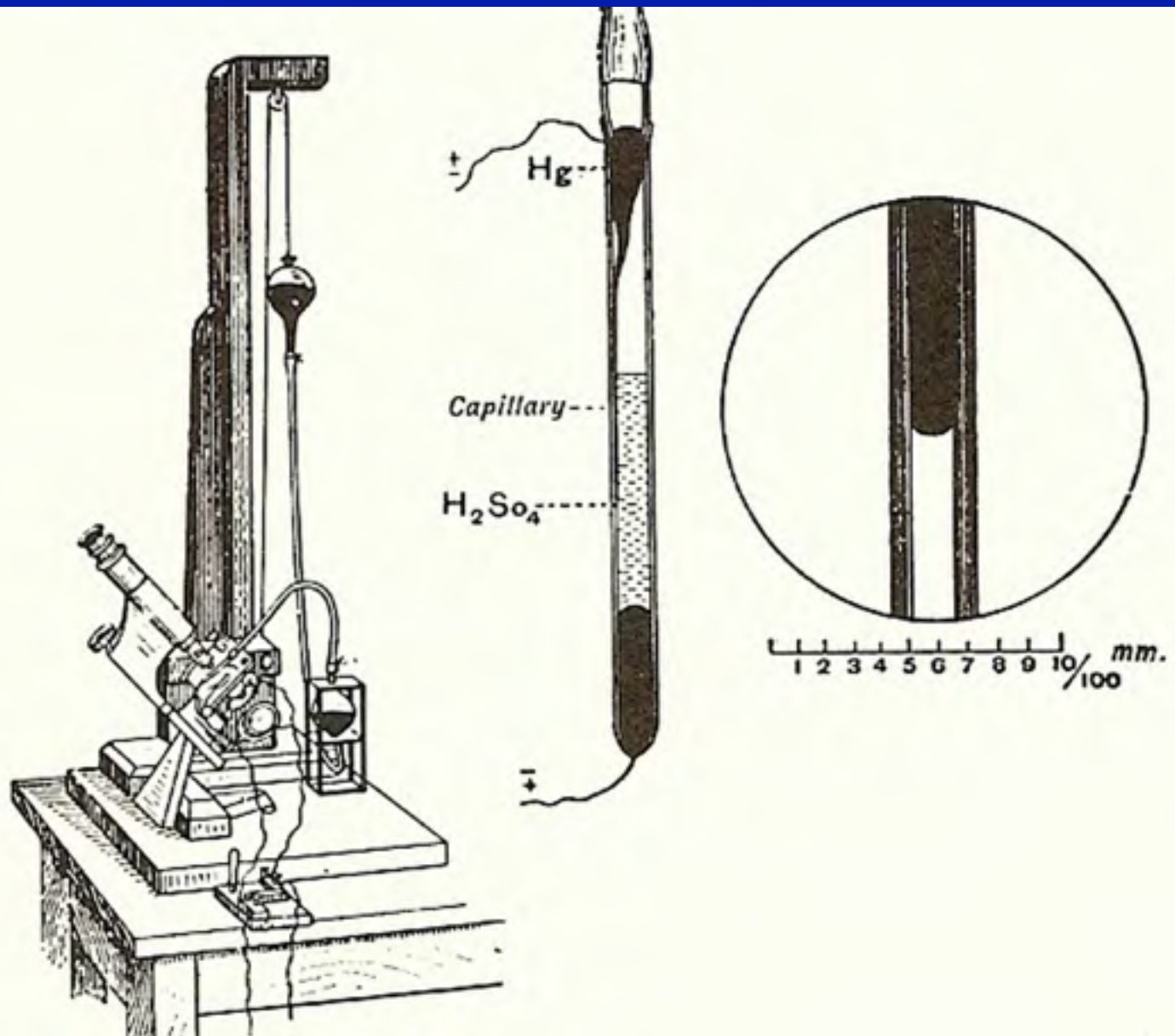
 PD-EXP A.D. Waller, [ECGpedia](#)

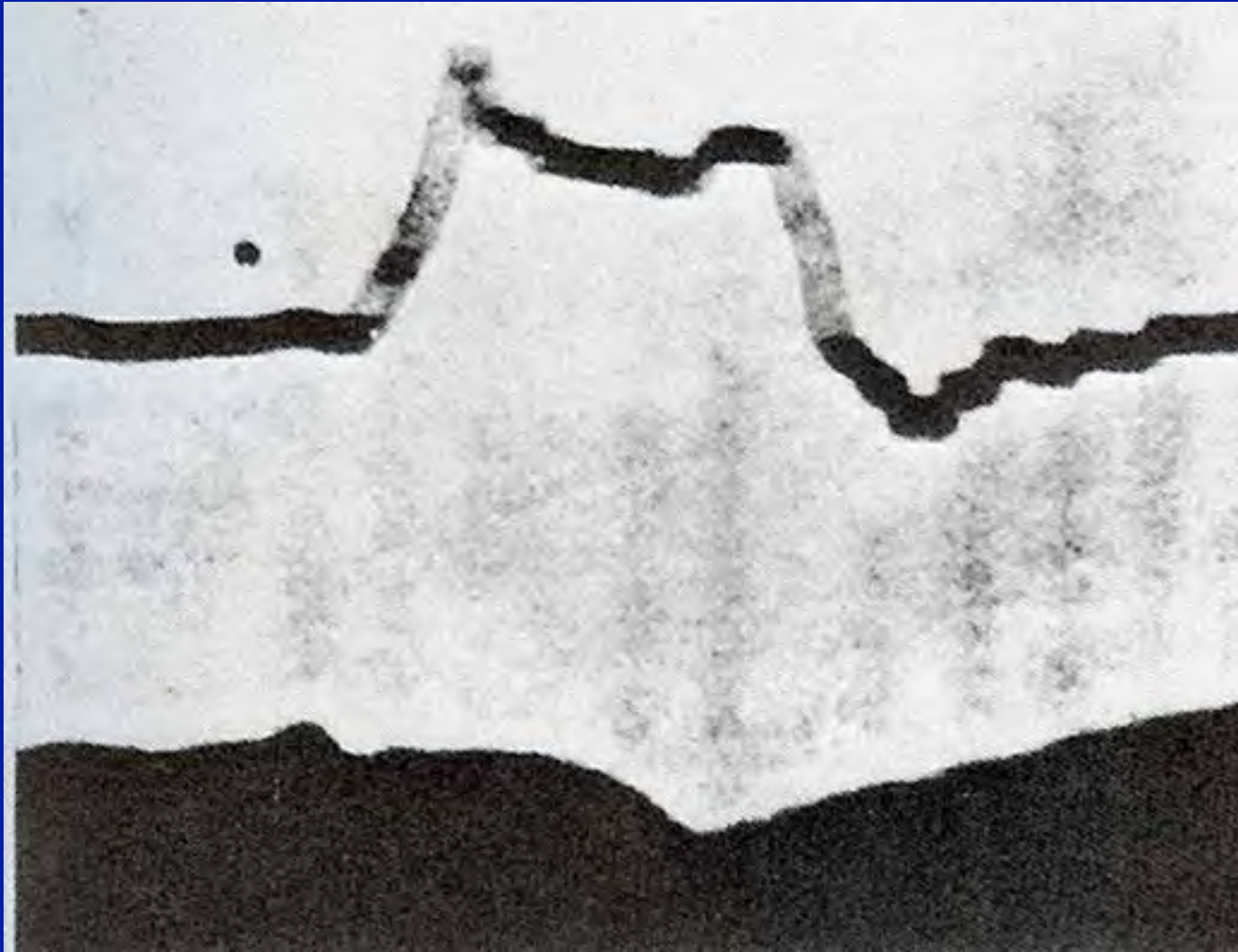
*Jimmy with Electrodes*



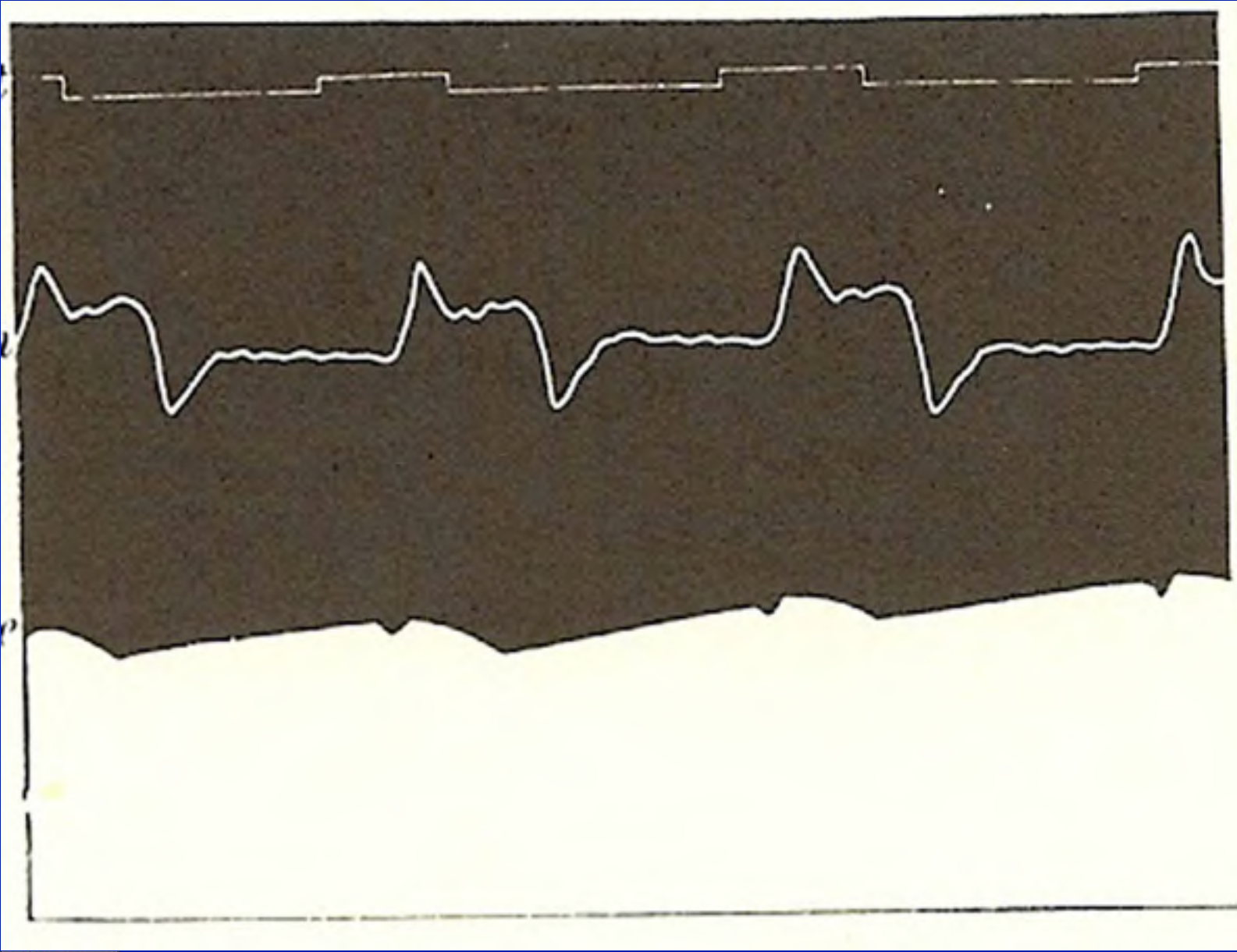


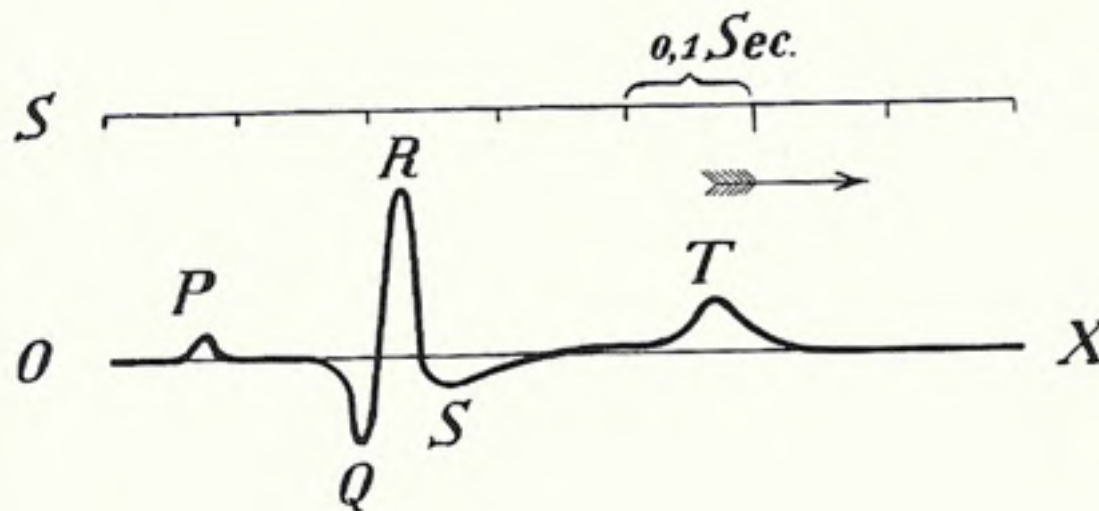
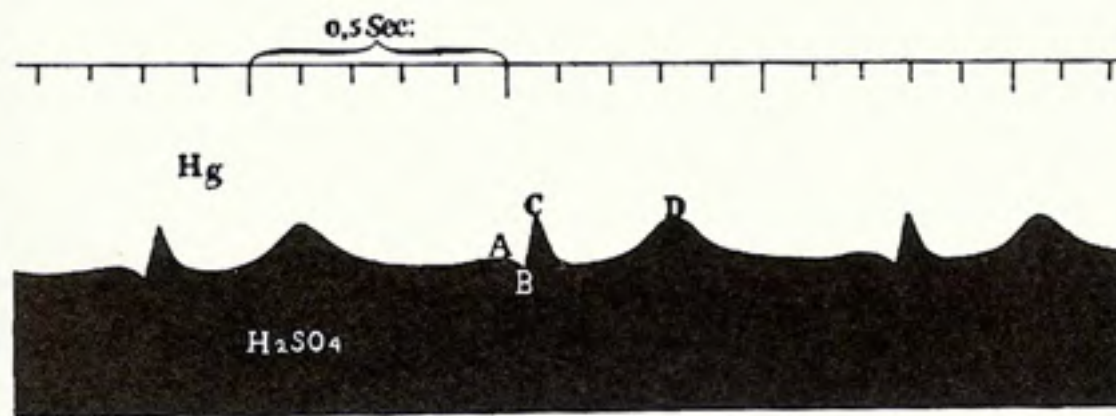


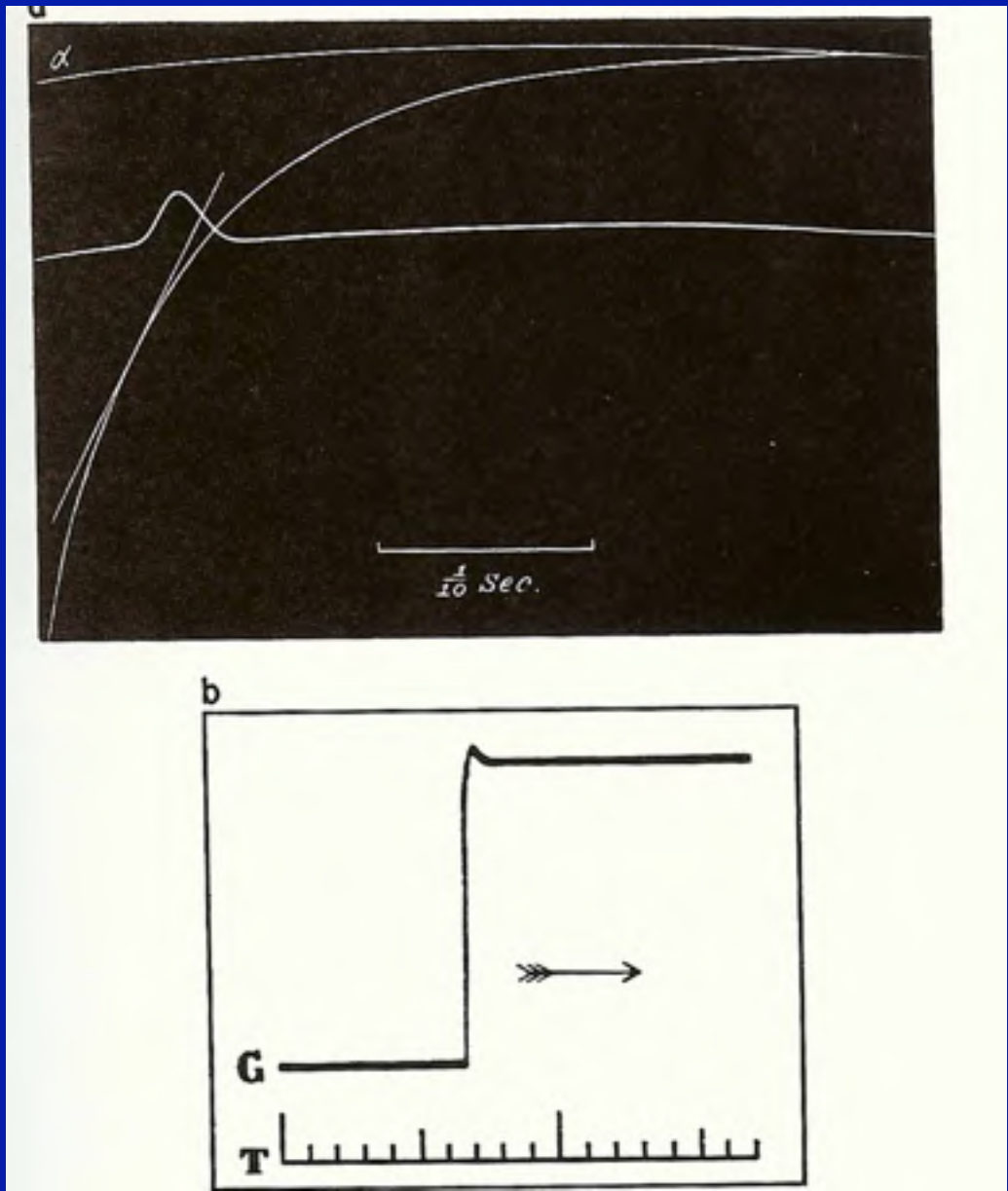




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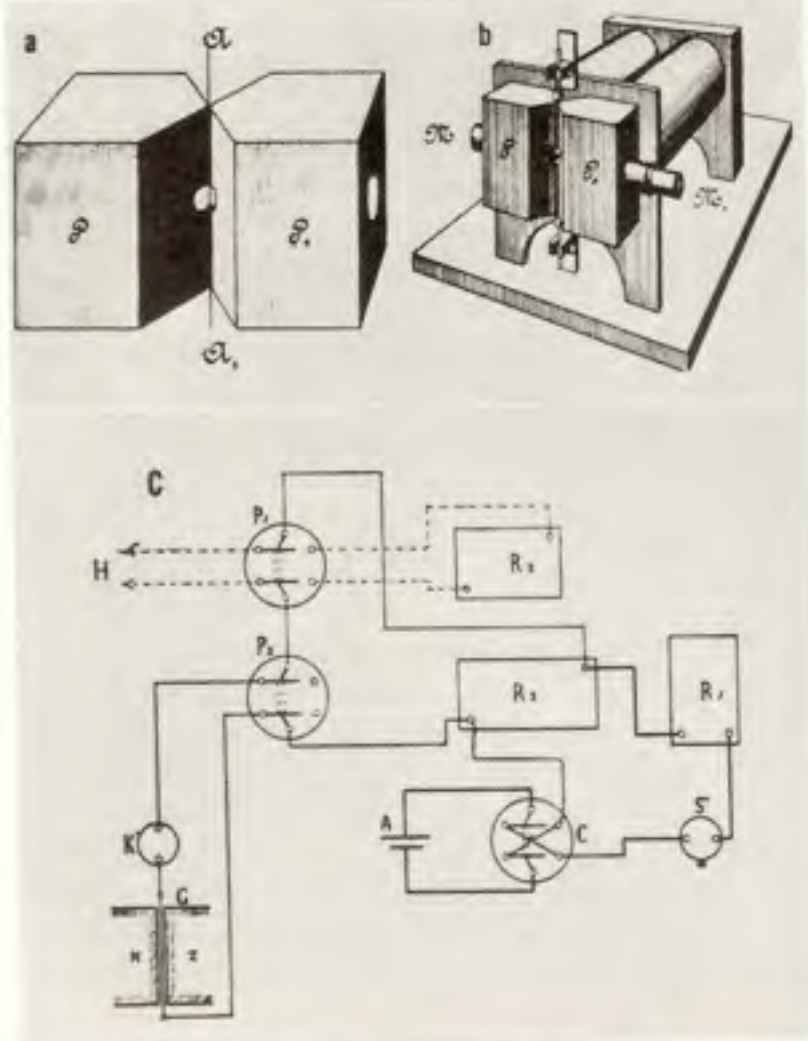


FIG. 64.—Eindhoven's diagram of his string galvanometer. *a*, pole pieces of the electromagnet between which is suspended a silver-coated quartz string. *b*, sketch of the electromagnet. *c*, diagram of the electric circuit of the galvanometer. (Eindhoven, W.: Arch. internat. physiol. 4:132, 1906.)



 PD-EXP Willem Einthoven

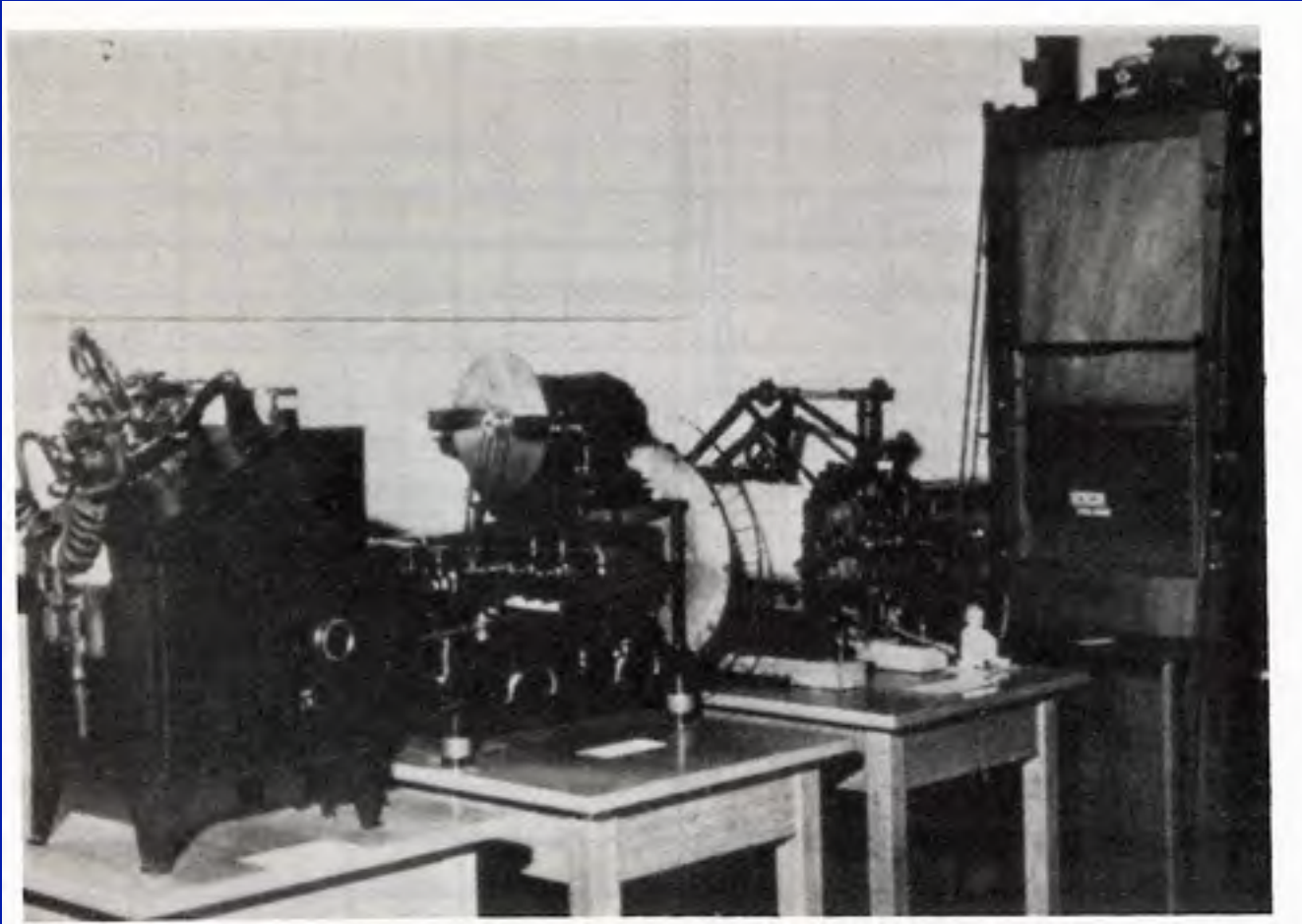




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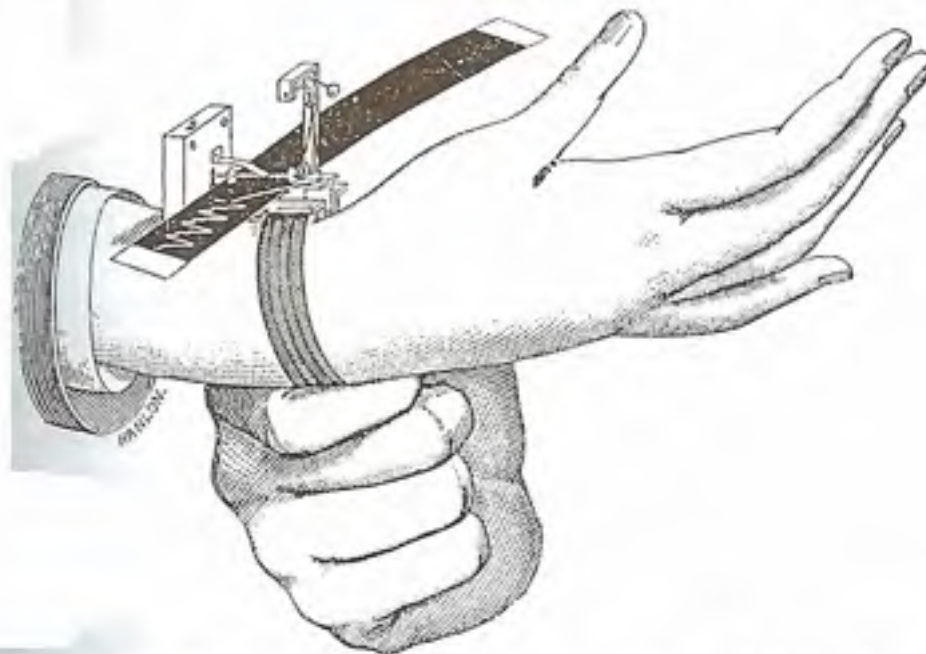


Figure 2.4 *Dudgeon's sphygmograph showing a recording of the radial arterial pulse.*  
From Bramwell B. (1884) *Diseases of the Heart*. Young J. Pentland, Edinburgh

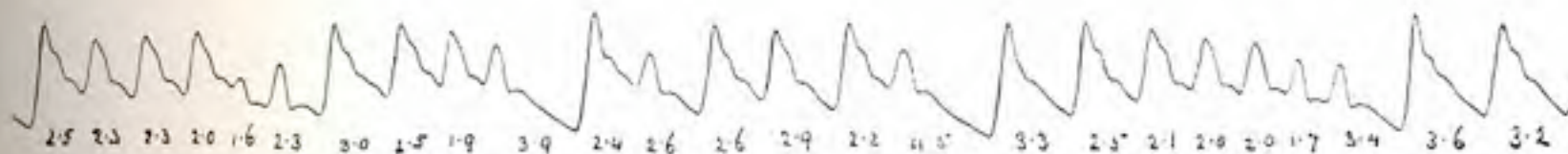
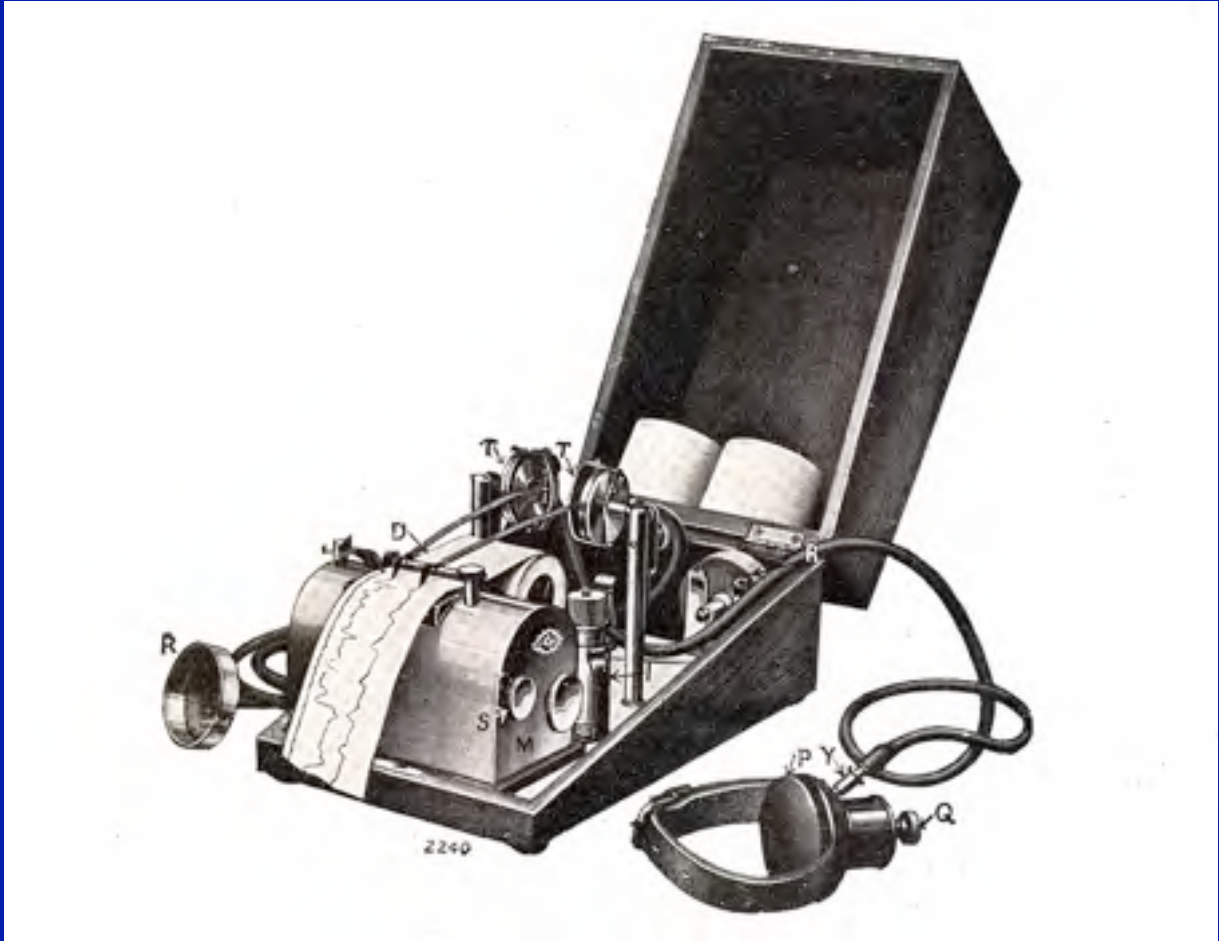
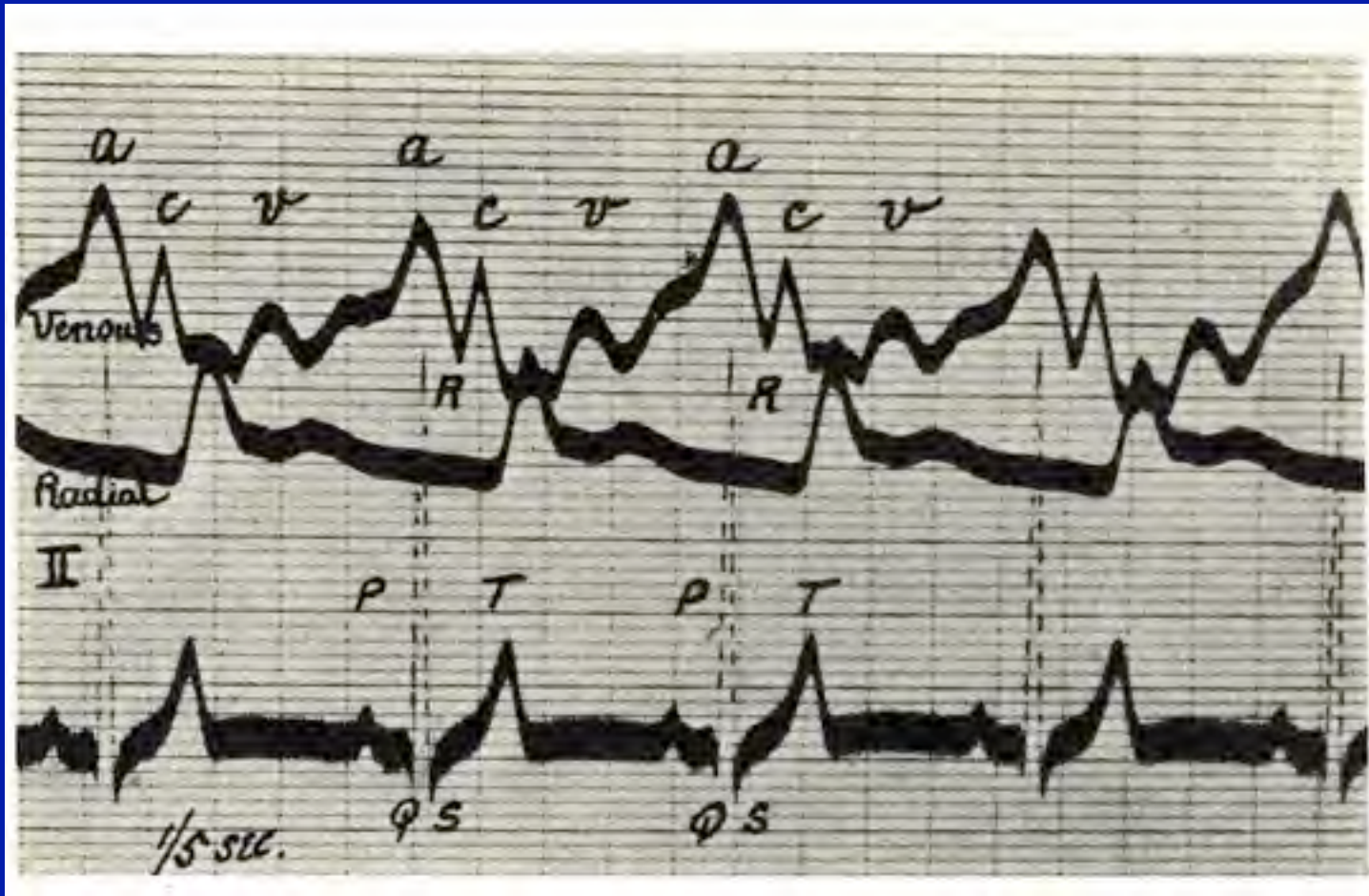
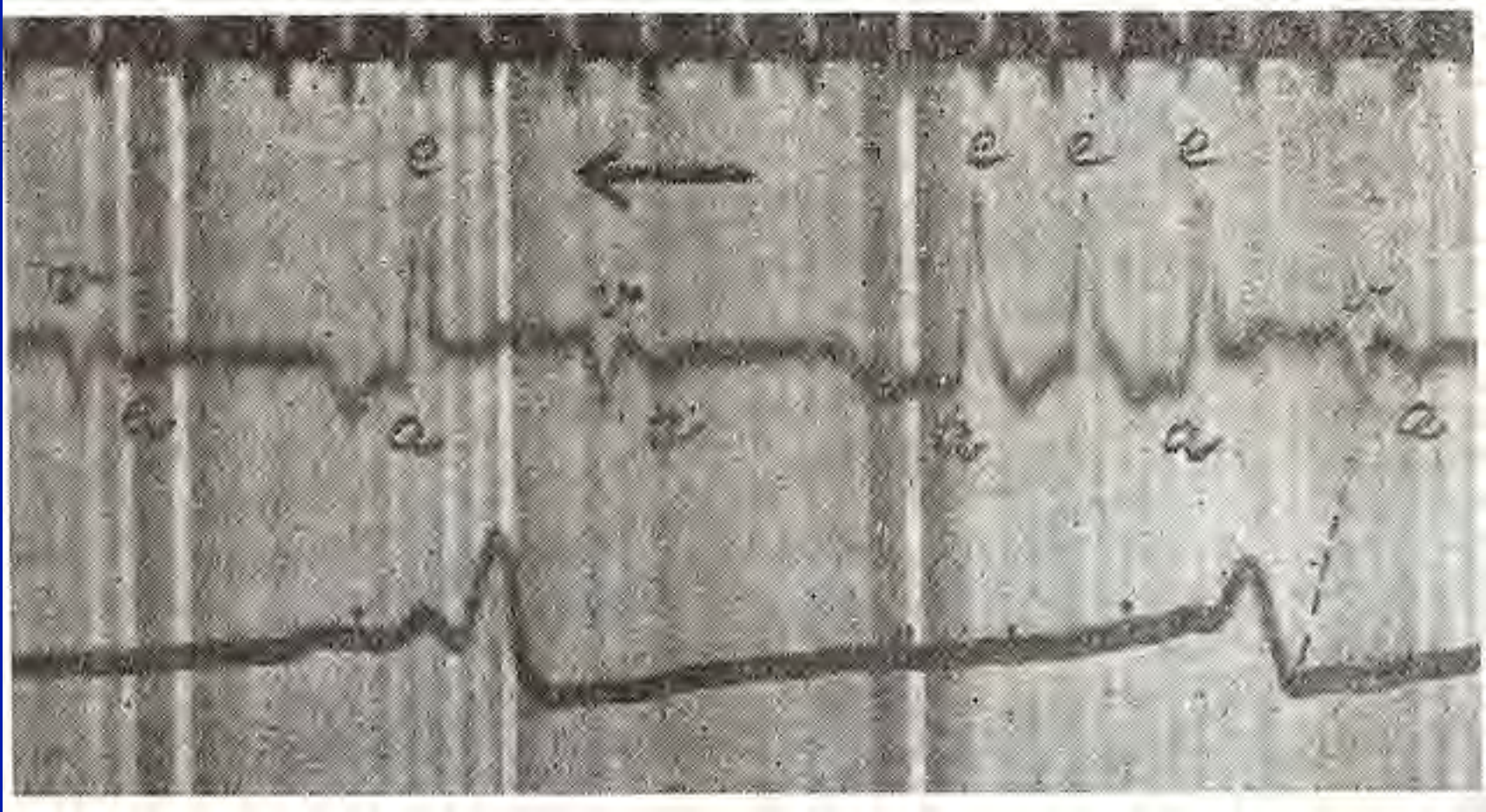


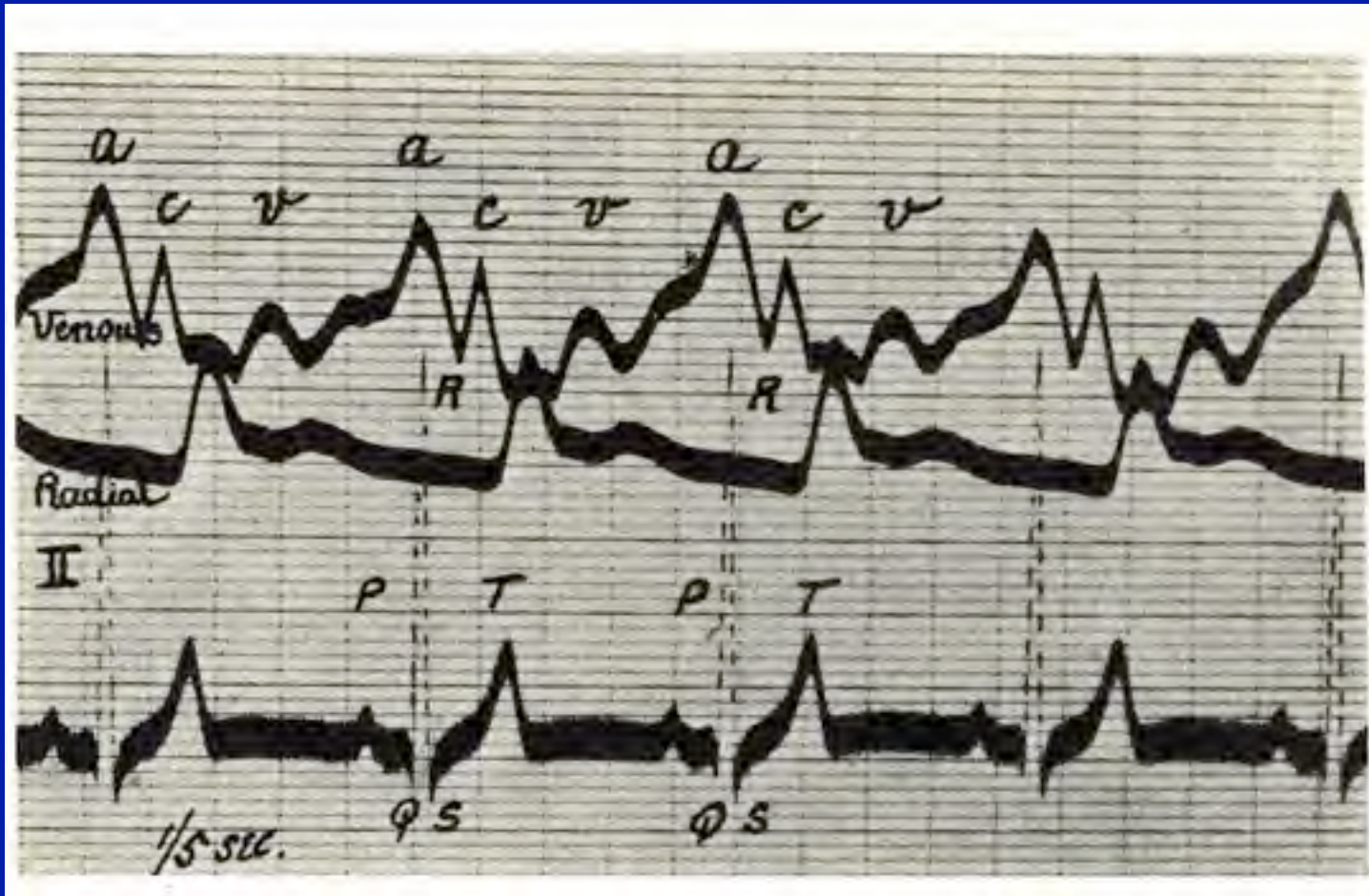
Fig. 102. ( $\times \frac{2}{3}$ ) Complete irregularity of the pulse. From a case of auricular fibrillation. The lengths of the cycles are marked in fifths of a second below the curve and show the wide variation which characterises the condition.











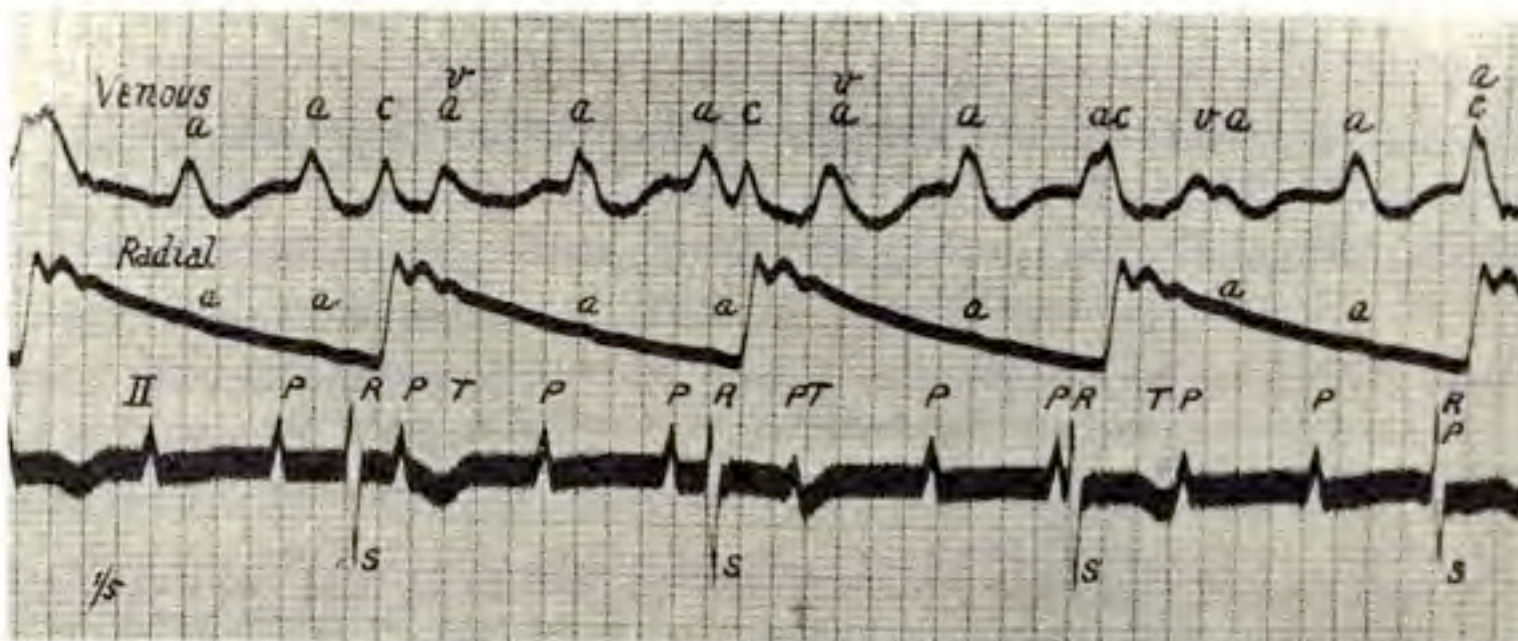


Figure 2. From Lewis, *Mechanism and Graphic Registration*, p. 182.



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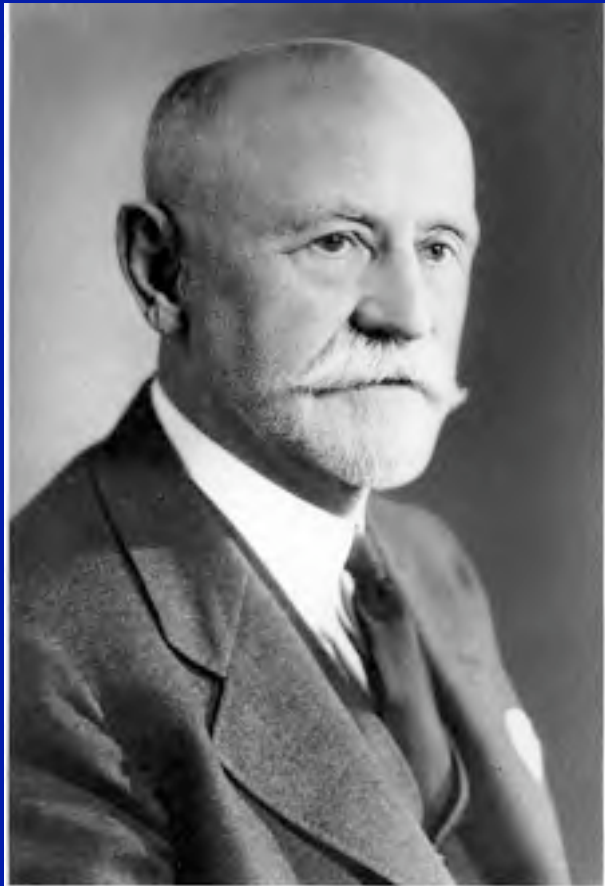
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- “It is extremely questionable if anything material is to be gained by the use of this method.”

- “The chief practical discovery of our time, the almost specific action of digitalis in cases of gross irregularity of the heart was accomplished . . . long before we knew this discovery to be due to fibrillation. And the discovery that it is due to auricular fibrillation has been responsible for little or no change in the treatment of the disease by digitalis or by quinidine.”

- “The information that is obtained from a man handling the patient is entirely lost in taking electrocardiograms. Taking a tracing of a pulse, radial or jugular, calls attention to features which the naked eye can recognize. If medicine is to make any progress at all, the symptoms of disease must be detected by the unaided senses.”

- “The chief weapons of the practitioner are to-day and will remain his own unaided senses . . . Believe me, you will never see the day when the medical practitioner will rightly interpret delicate records of the heart beat, but you will see the day when he will know the chief things which these records have taught us and how he may utilize that knowledge in his daily work.”

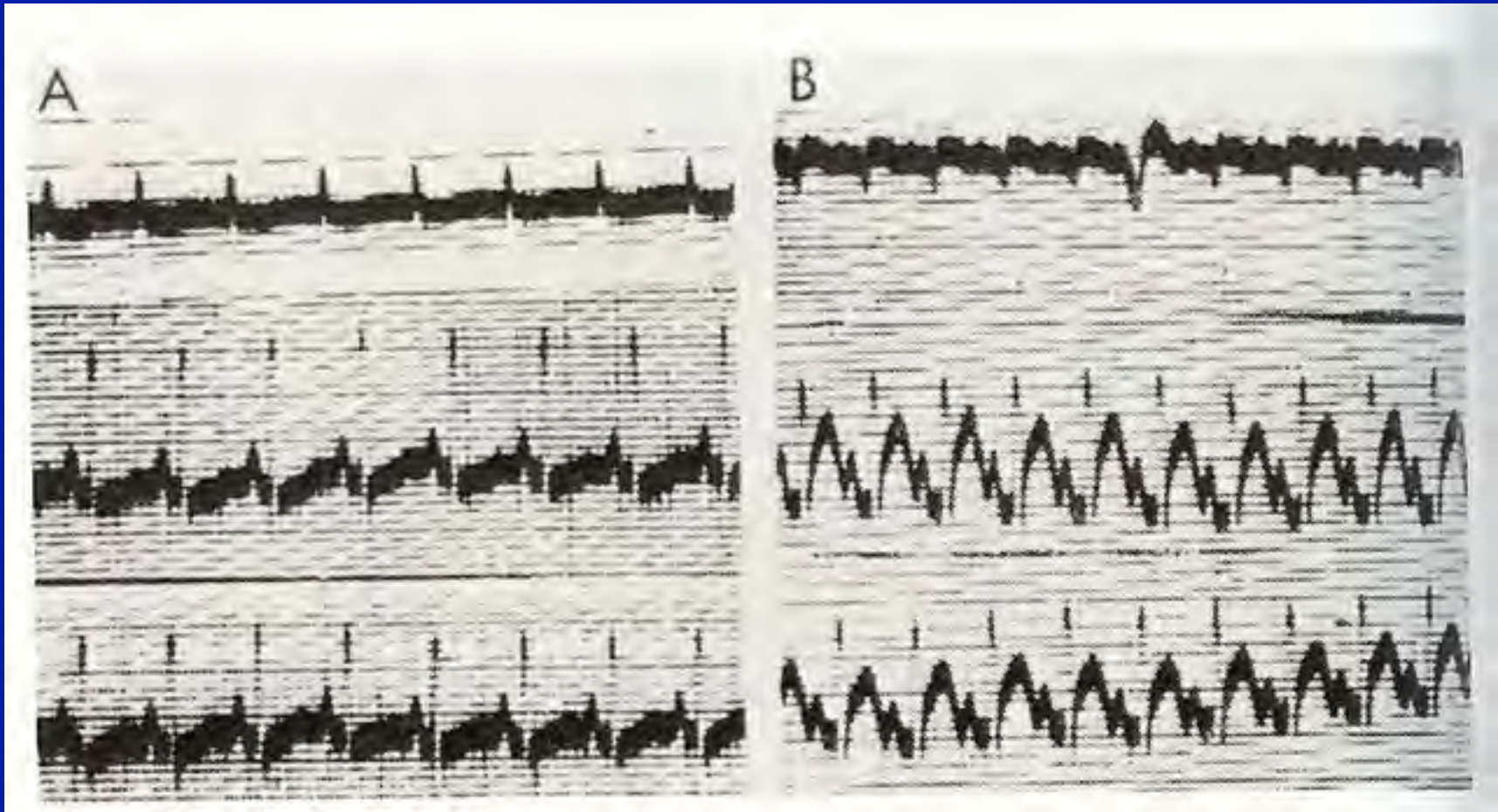


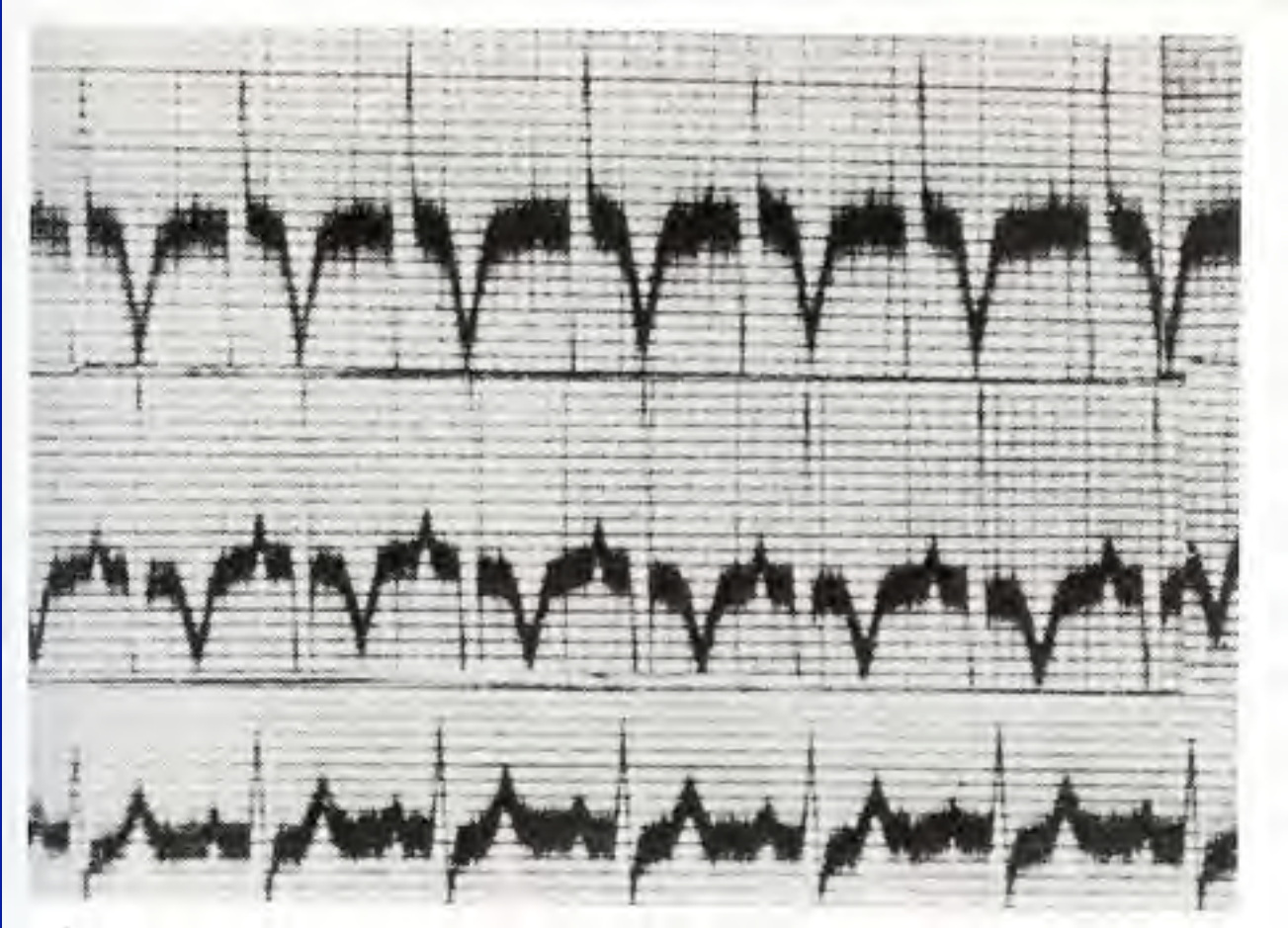
JAMES BRYAN HERRICK



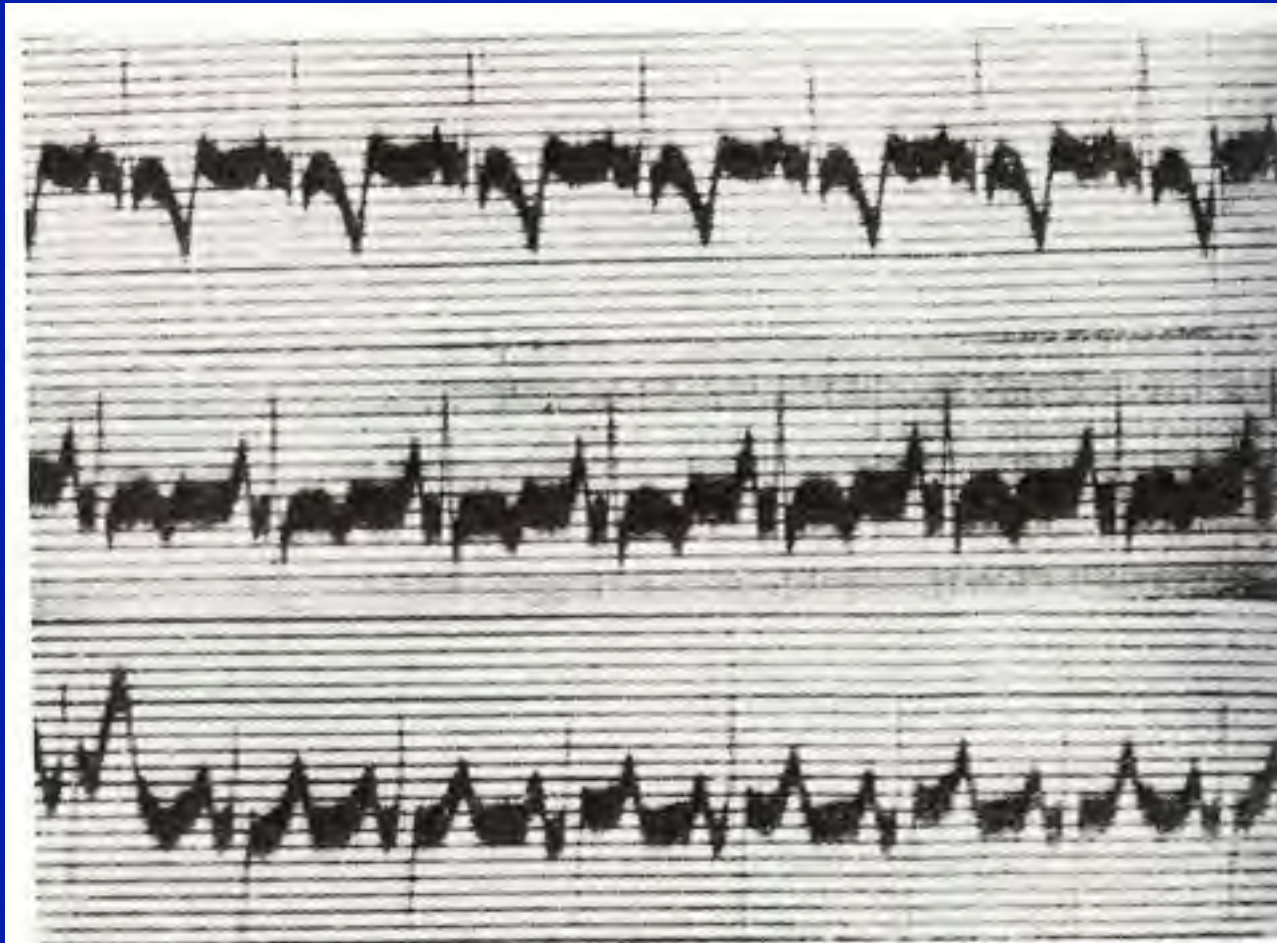
[Histories of The Chicago Literary Club](#)



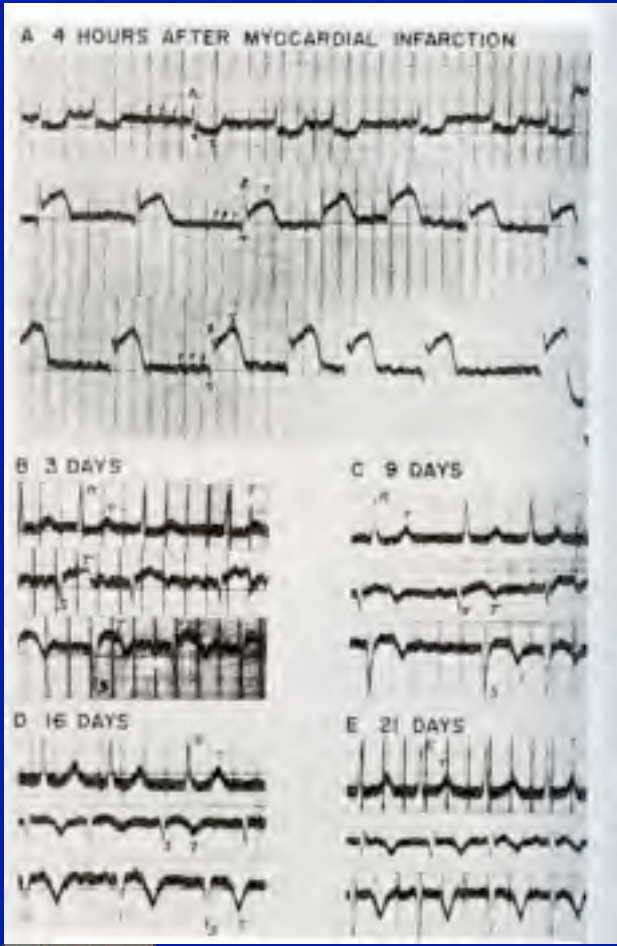




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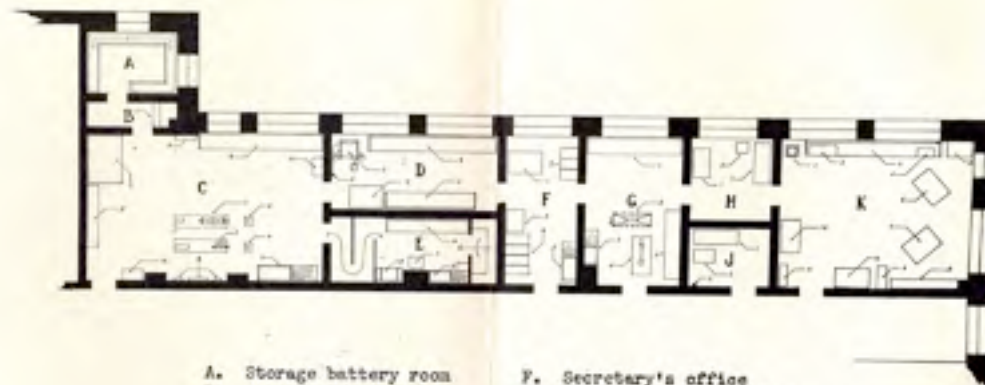
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- |  |                            |
|--|----------------------------|
| A. Storage battery room                          | F. Secretary's office      |
| B. Main switchboard                              | G. Experimental laboratory |
| C. Galvanometer room                             | H. Examining room          |
| D. Technician's workroom                         | J. Sound-proof room        |
| E. Dark room with film<br>storage room adjoining | K. Director's office       |

FIG. 1



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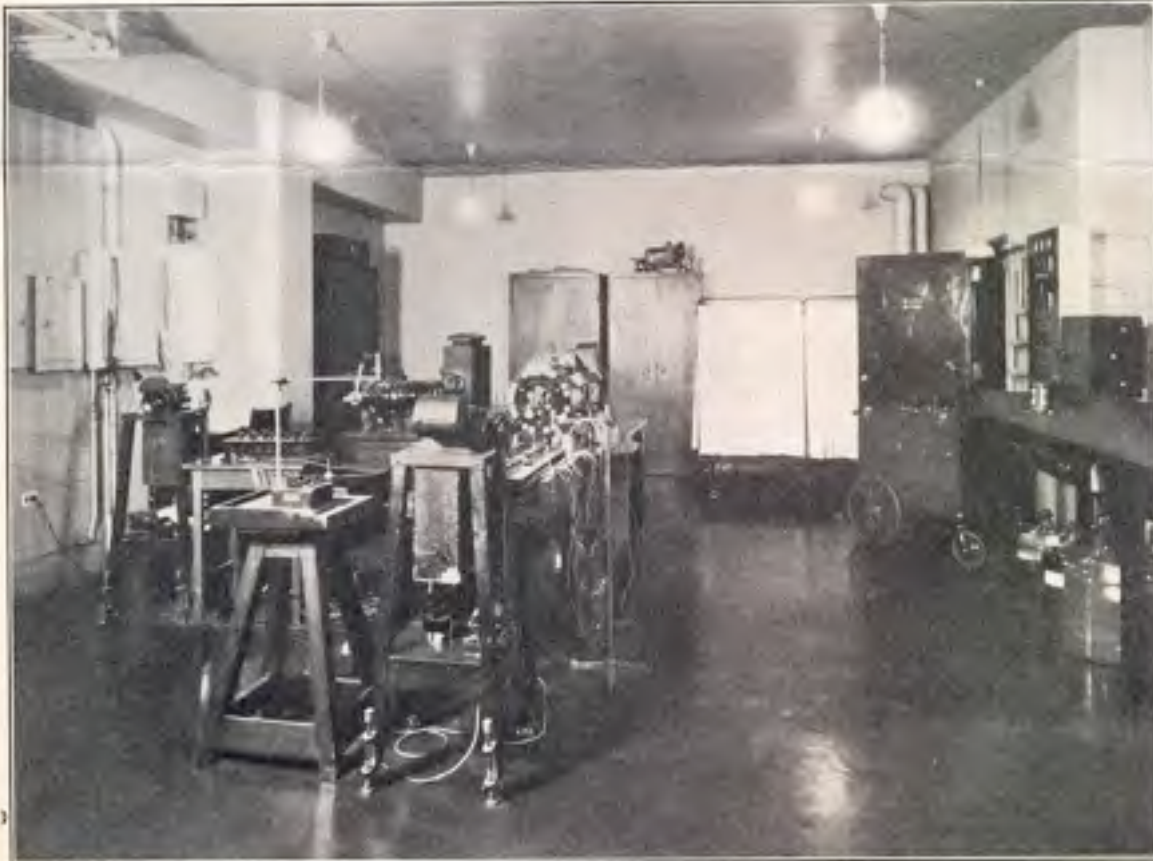
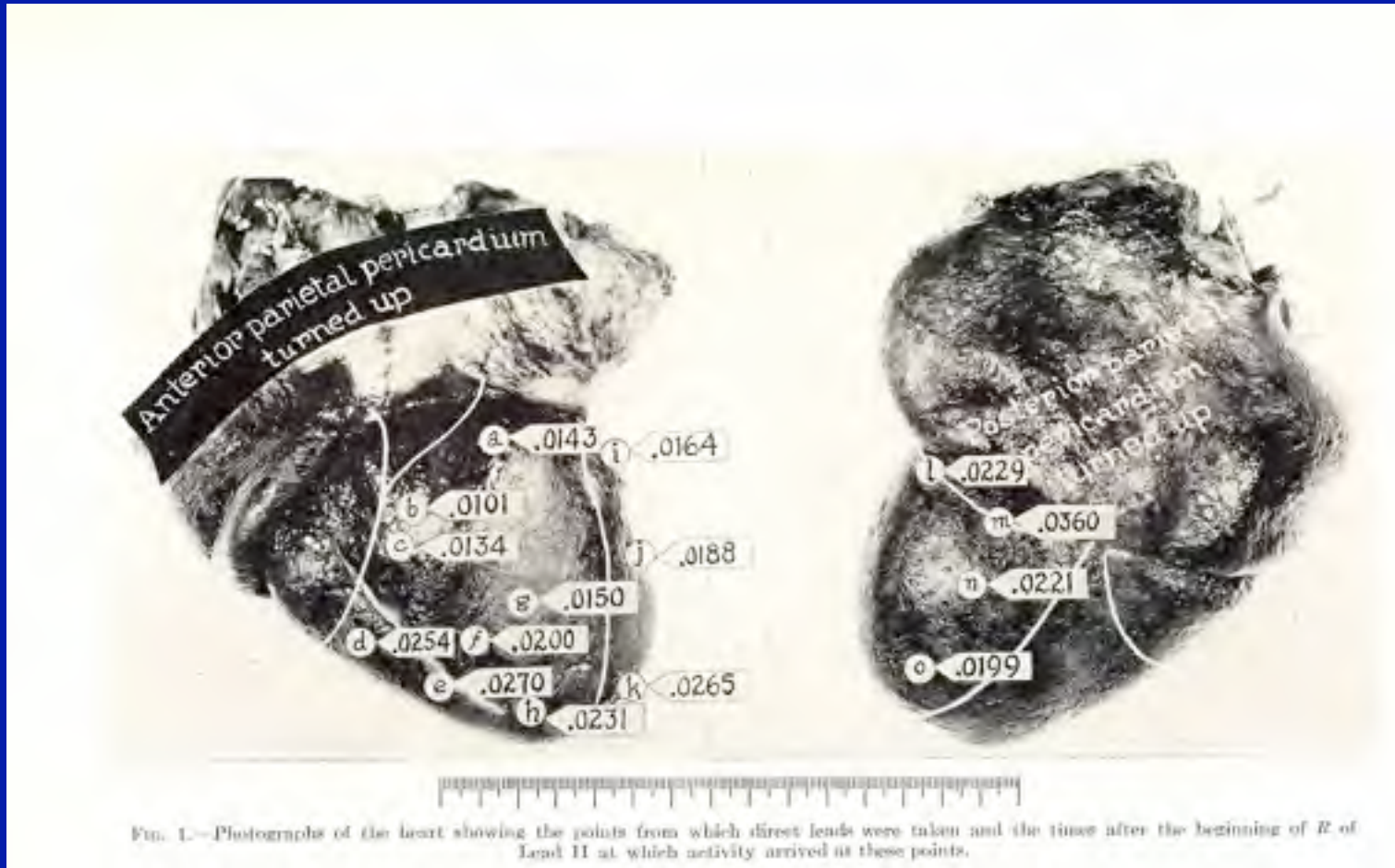


FIG. 2.—GALVANOMETER ROOM





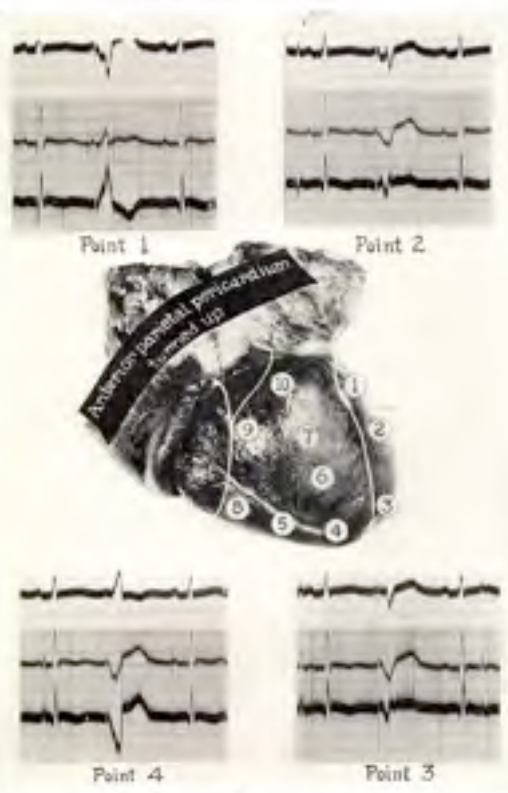
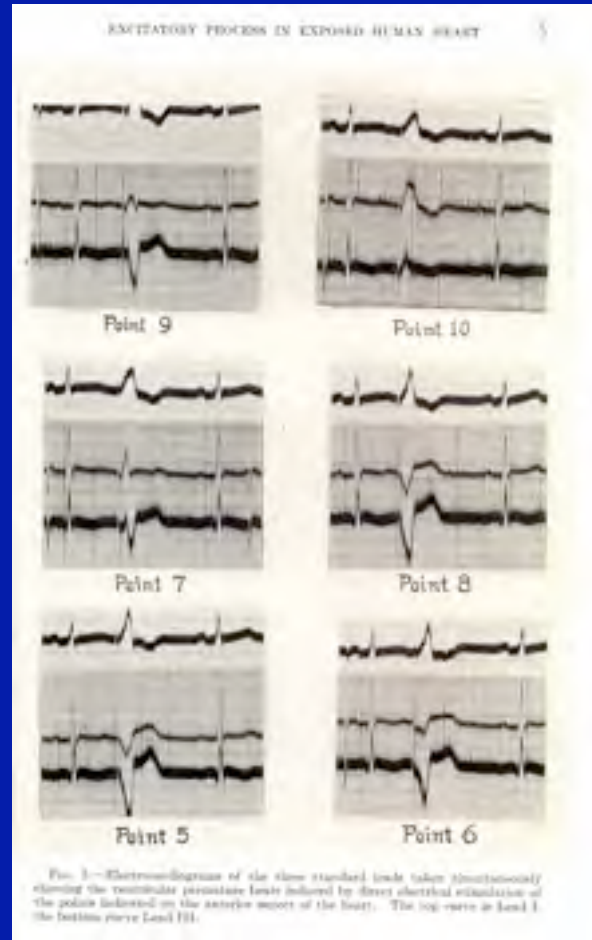
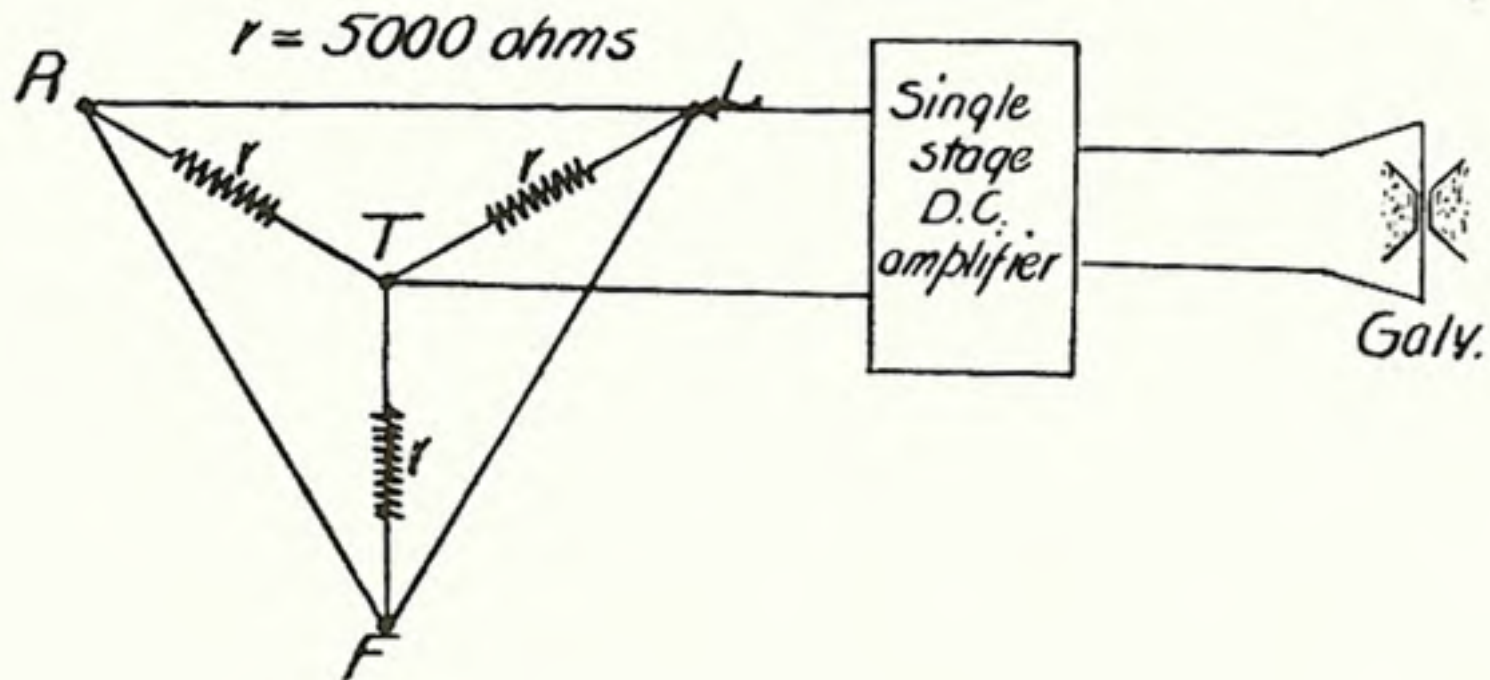


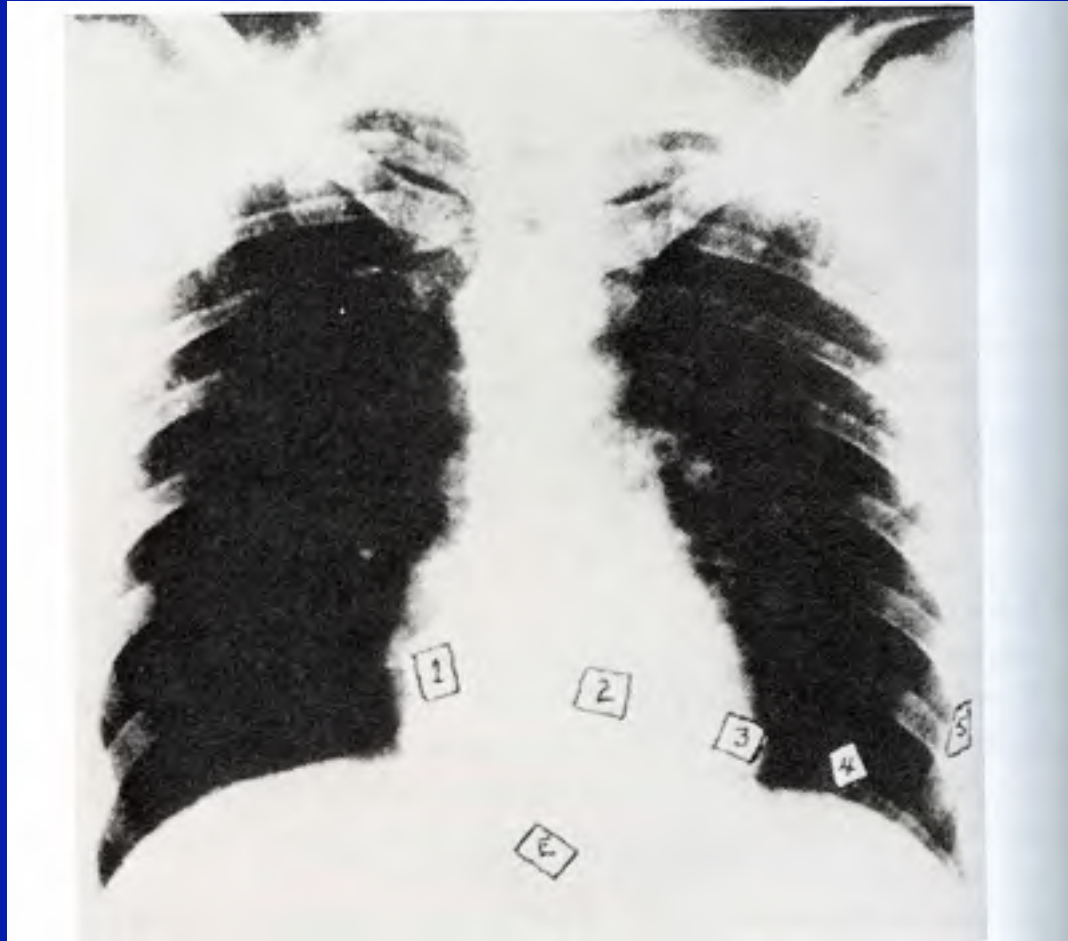
FIG. 2

# More tracings



*Scheme for direct measurement of potentials.*





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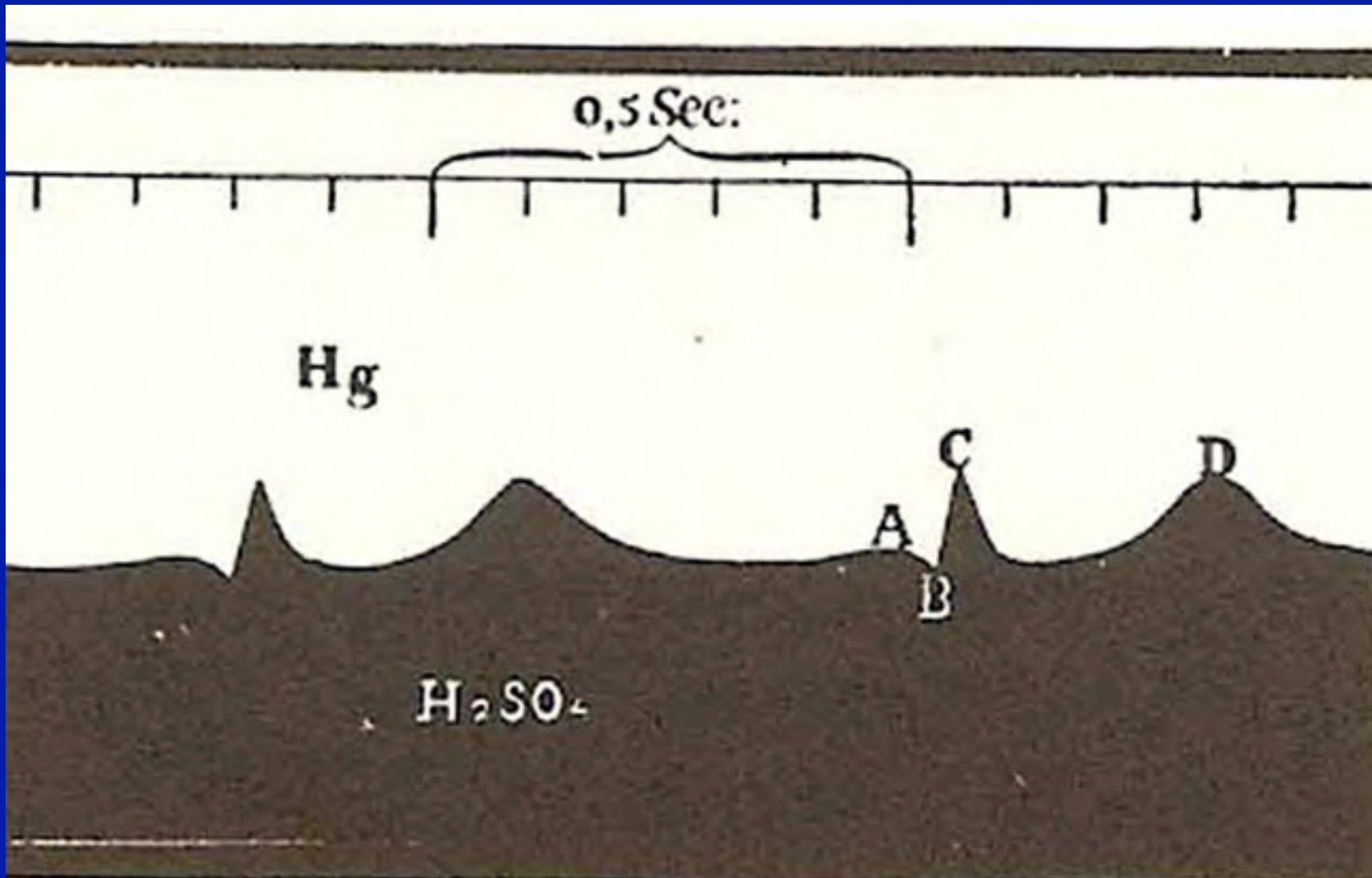
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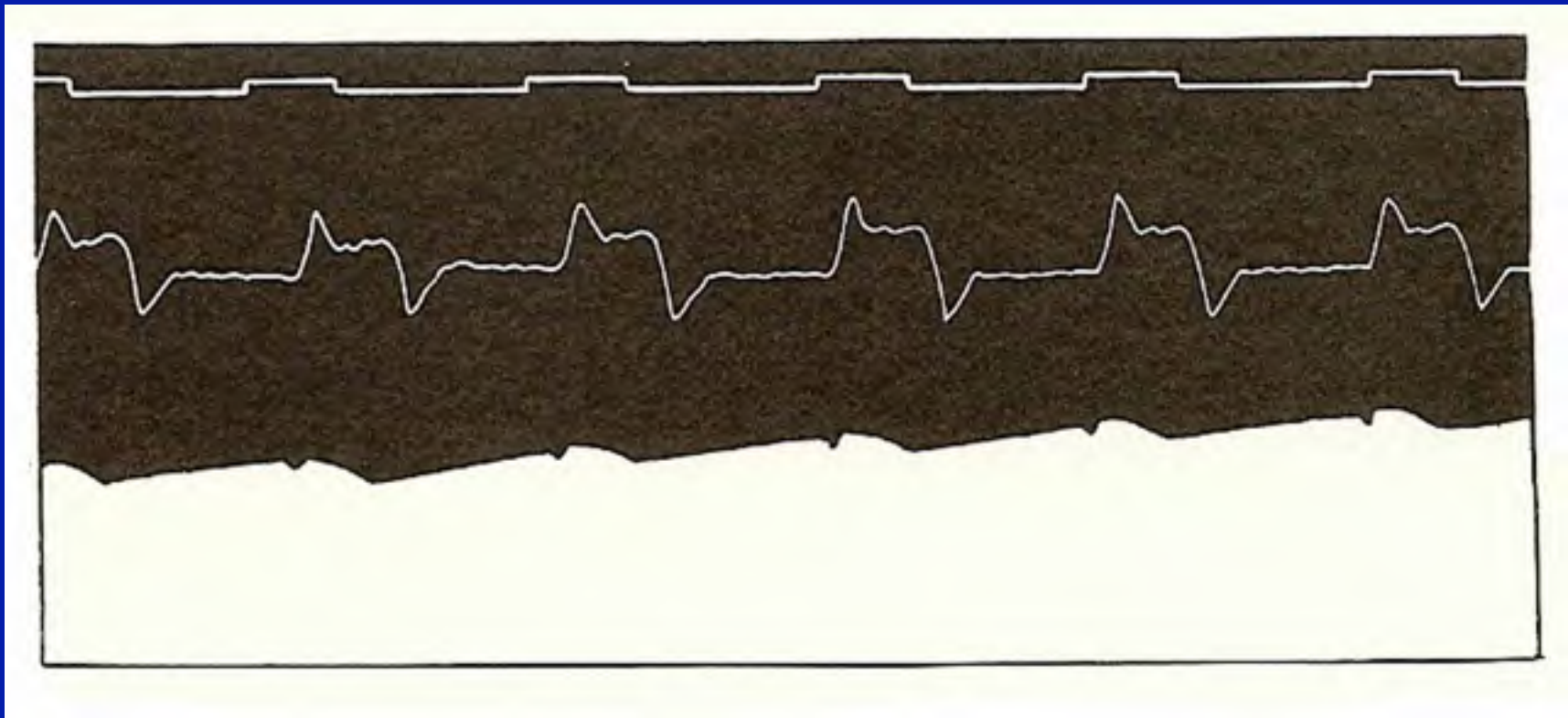


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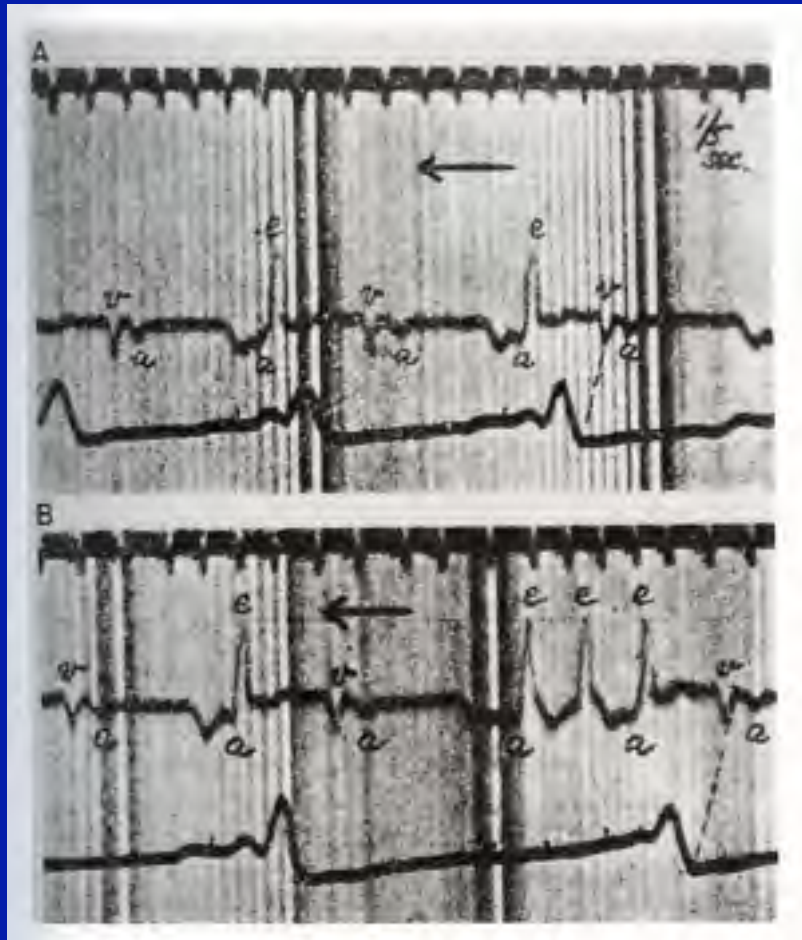
Images of Diego Rivera mural  
"The History of Cardiology,  
Panel 1 1943-1944 Fresco 6 x  
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