BIBLIOGRAPHY

A formal thesis was not required by the University of North Carolina Medical School. A "paper" on some research project was done in the senior year. Mine was entitled, "A Brief Summary of Developments for the More Extensive Application of Electrocardiography" and was a summary of my work with electrocardiographic technology while in medical school. Improved techniques including electrodes, personal telemetry systems, long term recording and automatic analysis designed by me with examples of successful application to clinical medicine were described.

a. Published Papers

Thornton, William E., Interim Report on Development and Evaluation of Firing Error Indicator Project # APG/ADA/49-A-4, published by Air Proving Ground Command, 1954.

Thornton, William E. and Benton Bejack, "Performance and Application of a Commercial Blood Flow Meter," Transactions of the IRE Professional Group on Medical Electronics, Vol. ME-6, pp. 237-240, December 1959.

Davis, David A., William E. Thornton, Doris C. Grosskreutz, Kenneth Sugioka, and Rodney McKnight, "Radio Telemetry in Patient Monitoring," Anesthesiology, Vol. 22, pp. 1010-13, November-December 1961.

Gibson, Thomas C., William E. Thornton, William P. Algary, and Ernest Craige, "Telecardiography and the Use of Simple Computers," The New England Journal of Medicine, Vol. 267, pp. 1218-24, December 1962.

Moore, Margaret, William E. Thornton, et al., "Use of Radio Telemetry for Electromyography," Journal of the American Physical Therapy Association, Vol. 43, pp. 787-791, November 1963.

Thornton, William E. and David A. Davis, "Comments," I.E.E. Transactions on Biomedical Engineering (BME), Vol. 11, pp. 54-55, January/April 1964.

Davis, David A. and William E. Thornton, "Radiotelemetry in Anesthesia and Surgery," International Anesthesia Clinics, Vol. 3, pp. 533-545, May 1965.

b. In Press

Thornton, William E., Grady Thomas, and Newton Fischer, "Telemetered G.S.R. in Clinical Audiometry"

Thornton, William E., E~~verett~~ D. Palmatier, and William Oakey, "A Device for Non-Gravimetric Mass Determination."

c. Published Abstracts

Thornton, William E., David A. Davis, Kenneth Sugioka, and Charles Fowler, "An Application of Analog Computational Methods to Physiological Measurements," Anesthesiology, Vol. 20, No. 1, pp. 137, January-February 1959.

Davis, David A., Thomas C. Gibson, and William E. Thornton, "The Clinical Applications of Telecardiography," presented and abstracted in Digest of the 1962 Fifteenth Annual Conference on Engineering in Medicine and Biology, November 1962.

Thornton, William E., Thomas C. Gibson, and David A. Davis, "Computer Analysis of the Electrocardiogram," presented and abstracted in Digest of the 1962 Fifteenth Annual Conference on Engineering in Medicine and Biology, November 1962.

d. Unpublished Reports

"Some Practical Aspects - Telemetry in Clinical Medicine," presented, National Telemetry Conference, June 2, 1964.

"An Example of Analog Computation in Clinical Diagnosis," presented at Annual North Carolina IRE Convention, October 1962.

I have some unpublished memos on various phases of my work, as well as military and commercial technical manuals and reports on production equipment designed by me including:

Evaluation of (Del Mar) D-100B Scorer Capabilities---AFSC-TR-57-71

Technical Manual NAVWEPS 28-10A-4 on USN Aero 39 Radar-Optical Scorer (Del Mar) D-100A

USAF Manual TO-43E7-4-1 on USAF SXU-1/A Scorer (Del Mar) D-100B

USAF Manual TO-43E11-12-1 on Infrared Target

Navy Manual NAVWEPS 28-10A-A on Advanced Infrared Target

Avionics Research Products Manuals on Mark I Electromagnetic Flowmeter and Mark 1A Integrator

"Direct Measurement and Computation of Effective Cardiac Power and Work" - Avionics Research Products Memo, 1959

"Proposal for Experiment with Non-Gravimetric Mass Determination Devices," AMD Memo, September 1965

"A Preliminary Report on Some Aspects of a Non-Gravimetric Method for Mass Determination," AMD Memo, December 1965

1959-1962 Univ. of N.C.

A study of improved methods of diagnosis of suspected heart disease was made using some of the above techniques. A radio telemetry system with magnetic tape recording and on-line analyzer of selected EKG parameters was designed and constructed. This equipment allowed unrestricted study time and activity and demonstrated a marked increase in positive diagnoses of chronic, intermittent arrhythmias and transient myocardial ischemia. Effects of drugs and various activities were also documented with these techniques.

Collaborators - Dr. T. C. Gibson, University of Vermont Medical School, Burlington, Vermont

Dr. Isadore Rosenfeld, Cornell University, New York, NY

1961 - 1963 -- University of North Carolina, Chapel Hill, North Carolina

Effects of activity, especially normal activity, athletics, and abnormal metabolic states such as thyrotoxicosis and psychic stress on heart rates were investigated by means of unrestrained recording of heart rate with telemetry and cardiotachometers.

Collaborator - Dr. Gordon Ira, Duke University, Durham, North Carolina