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- of measureable traits the personalities of the successful salespeople at Killians'.
2. Three objective tests were found which differentiate to an small extent between the good and the poor sales-people.
  3. Previous experimental evidence with objective tests of ability and with interest-preference tests was corroborated in every case in which the present study touched upon previous work.
  4. A test to determine whether good salespeople are introverts or extroverts succeeded in the proportion of 80 to 36 in distinguishing between the good and poor salesmen.
  5. Training, experience, and education above a certain minimum were found to be of negligible importance. This is further evidence of the truth of the most important finding of the study, namely, that traits and not abilities or interests are the determining factor in department store selling.

STATE UNIVERSITY OF IOWA.

A PHENOMENON IN VISION SIMILAR TO REFRACTORY PHASE

ROLAND C. TRAVIS

(*ABSTRACT*)

It has been found that under conditions of dark adaptation, there exists a rather definite relationship between the three variables, the intensity of the stimulus, dark adaptation, and a visual phenomenon similar to refractory phase of spinal reflexes. Three experiments were made in ascertaining this relationship.

The results of the first experiment show that the more intense the stimulus when dark adaptation is relatively constant, the shorter the refractory period; and, vice versa, the less intense the stimulus the longer the refractory period. The one variable varies inversely as the other.

The results of the second experiment show that the longer the dark adaptation up to a certain point the more sensitive the eye becomes. Again the intensity threshold varies inversely as the amount of dark adaptation up to where the dark adaptation has reached its maximum. This fact has been brought out by previous investigators. Dark adaptation is carried on by the changes in at least three structures of the eye, pupil, fovea, and peripheral retina. Other neurological factors less under experimental con-

trol probably have more to do with the changes of dark adaptation.

The third experiment attempted to show that as dark adaptation goes on the shorter and shorter the refractory period becomes when the intensity remains constant. This has a definite bearing on the increase in sensitivity of the visual process. It seems safe to infer from the experiments that at each level or at successive periods of dark adaptation that the relation between the intensity of the stimulus and the refractory period vary inversely to each other.

STATE UNIVERSITY OF IOWA.

AN OBJECTIVE STUDY OF THE VOCAL ART

MILTON METFESSEL

(*ABSTRACT*)

By means of specially adapted sound photographic instruments, the voices of twelve vocal artists have been photographed. Interpretations of "Annie Laurie" by the following artists were used: MacCormack, Bispham, Welles, Lashanska, Case, Miller, Homer, Nordica, Nielson, Melba, Farrar, and Baker. A new musical staff has been introduced to adequately represent the facts analyzed from the data on the motion picture film. Among the factors of the vocal art isolated so far are: Attack of a tone, Vibrato,, Release, Rhythm, Tempo, Sharping and Flatting, Crescendo, Diminuendo, Swell, Glide, Portamento, Effect of Phonetic Elements, Appoggiaturas, Effect of Muscular Strain on the Vibrato, and Varying Esthetic Effects of Tones.

STATE UNIVERSITY OF IOWA.

TEMPORAL PRECISION IN MOTOR RHYTHM

ROBERT HOLMES SEASHORE

(*ABSTRACT*)

The object of this research in motor rhythm is two-fold; (1) the analysis and comparison of factors involved in rhythmic perception and action, by means of a battery of 12 psychophysical tests, whose results are treated statistically and individually, and (2) the development and standardization of a new test for temporal accuracy in motor rhythm, which may be used in conjunction with present measures of musical talent. A graphic record of an observer's tapping in time with a recurrent rhythm pattern is obtained by means of a phonograph chronograph, and is then