

the Massachusetts Institute of Technology as chairman.

Present plans contemplate a two year program and an expenditure of approximately \$50,000. Test installations will be made in large manufacturing establishments in the principal industries. The field work will be supplemented by laboratory research under controlled conditions in the illumination research laboratories at the Massachusetts Institute of Technology.

TWO TYPES OF TEMPERAMENT

By Dr. Edwin E. Slosson.

Are you an extravert or an introvert?

That is the way the question is put today. The phraseology is new, for it was recently introduced by Jung. But the question is old, about two thousand years old, anyhow, for Galen made a similar effort to classify mankind by temperament. He distinguished between the "sanguine", who are quick, warm, impressionable and changeable, and the "phlegmatic", who are slow, quiet and persistent. When these two characteristic types are strongly marked they are called respectively "choleric" and "melancholic".

Another old classification of a similar sort is between "objective" and "subjective" or between "energetic" and "sentimental".

Professor William James devotes the first chapter of his book on "Pragmatism" to showing how our beliefs and reactions are unconsciously controlled by our temperamental bias and from this point of view he divides people into the "tough-minded" and the "tender-minded". The tough-minded, he says, are "empiricist (going by facts), sensationalistic, materialistic, pessimistic, irreligious, fatalistic, pluralistic and skeptical", while on the other hand the tender-minded are "rationalistic (going by principles), intellectualistic, idealistic, optimistic, religious, free-willist, monistic and dogmatical". And he says you can tell them apart because "they have a low opinion of each other. The tough think of the tender assentimentalists and soft-heads. The tender feel the tough to be unrefined, callous and brutal." The tough-minded of James corresponds roughly with the extravert of Jung, and the tender-minded with the introverts.

Professor Wilhelm Ostwald of Leipzig in his study of great scientists divides them into the "romanticists" and the "classicists". The romanticist man of science is a good teacher; genial, versatile, expansive and popular; fond of conversation and quick to publish. He jumps at conclusions, sometimes making amazing discoveries by a sort of intuition and sometimes making sad mistakes from his impatience of detail. The romanticist gets paid in current coin; in the devotion of his disciples and in honors from his colleagues, sometimes in applause and wealth from the public.

The classicist on the contrary has to put up with deferred payment. His services to science often receive no adequate recognition till his death, and not always then. He pursues a single line of thought persistently and systematically for years, often without outside aid or encouragement. His mind works

mathematically and logically, but he may be deficient in experimental and practical ability. He is reluctant to publish and apt to be a poor teacher. Among American scientists Benjamin Thompson, alias Count Rumford, was a typical romanticist and Willard Gibbs was a typical classicist.

Professor C. G. Seligman, president of the Royal Anthropological Institute, of London, in a recent address extended Jung's categories into wider fields. We can distinguish, he says, between extravert and introvert poetry and art. In painting, Rubens and Delacroix are extraverts and Poussin and Ingres are introverts. Japan as a whole is extravert, while China and especially India are introvert. Savage races as a rule appear extravert as compared with civilized Europeans. Professor Seligman thinks that in any one people the two types appear in about equal numbers, though extraverts, being more responsive and better adapted to the world, give the impression of being in the majority.

These various attempts at splitting the human race into contrasting temperament do not agree closely as to dividing lines and distinguishing characteristics, yet there is obviously a certain similarity in the types recognized. Probably the physiologist will come in with a chemical classification based upon the hormones, which seem to be much like the long laughed at "humors" of past centuries. He may, for instance, use the activity of the thyroid gland as the criterion and call the extravert a "hyperthyroid" and the introvert a "hypothyroid". He may even attempt to alter temperaments to order by injection of some coal-tar compounds, as indeed he can do now to a considerable extent.

If you cannot answer the question with which we began, so much the better for you, since it shows that you have a well balanced character. Though we may safely lean one way or the other, as doubtless we all do, yet we should not run to either extreme, for that way madness lies. The extreme of the extravert is hysteria and the extreme of the introvert is dementia praecox.

IMPORTANT FINDS AT UR OF CHALDEES

Word has been received by officials of the University of Pennsylvania Museum that the archaeological expedition at Ur of the Chaldees has now a force of 170 men excavating the famous Ziggurat or staged tower, and that important discoveries may be made at any time. The expedition is a joint one with the British Museum and is directed by Dr. C. Leonard Woolley.

The Ziggurat or great staged tower of Ur has been considered as perhaps the key puzzle of these ancient ruins, the solution of which has been the especial task of the University of Pennsylvania Museum expedition during the past winter. More than 170 men have been engaged in the excavation. While the date of its construction is at least as early as the sixth century B.C., the exact date has not been known. It is built over the ruins of a large building, part of which was excavated early in the winter and which yielded relics of peculiar value, among them the remnants of a columned portico of the 16th century B.C. This discovery revolutionized former ideas of Babylonian architecture, since no relics of the use of columns had been found earlier than the Persian period about 1,000 years later.

The Ziggurat was covered with many feet of desert sand and debris when the excavation began. Early clearing away of some of this rubbish disclosed the