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RESEARCH: A RETROSPECT[1]

INASMUCH as the prime object of Sigma Xi is to encourage research by honoring those who possess that rare and priceless gift which we designate as research ability, it seems fitting on this occasion that an attempt be made to illustrate the more important of the varied qualifications essential to success in this high calling.

Among the rare gifts which must be possessed in greater or less degree, intellectual curiosity to know and understand the universe may be singled out as an absolute essential, because perhaps it is the real motive which urges us to investigate. Indeed, may we not say that curiosity is that elusive something which causes organisms to evolve, that upward urge which makes us forever unsatisfied with present attainments. Given that inner urge which intellectual curiosity supplies and even mediocre ability as an observer or some intuition and imagination (attributes which are prime essentials in inductive reasoning) or ability to reason deductively, or all of these, and an investigator is sure to result. Some have all these gifts in a high degree and, if developed, the result is an Aristotle, an Hipparchus, a Roger Bacon, a Darwin, a Faraday or a Newton.

I shall take the liberty of first illustrating these essential qualifications by a brief reference to a history of one of the most fascinating quests which has ever led man to explore the unknown, namely the problem of understanding the universe. In its larger implication we mean by this the problem of finding the position, motion and relationship of each part to every other and the actions and interactions of every conceivable and inconceivable kind between each and every part, including man himself, his inner consciousness and his spiritual nature,—a problem infinite in its scope and in the sweep it allows to the imagination. Only a being divinely endowed, as is man, with the possibility of infinite perfectability would ever contemplate attempting such a task. The most highly gifted race which the world has known attempted to solve this problem by direct assault. Perhaps the most valuable lesson which the ancient Greeks have given to mankind is that the fortifications must be gradually reduced before there is any hope of taking the citadel. I shall, therefore, confine my remarks to a brief outline of the history of the progress which the human race has made in un-

[1] Address to Sigma Xi Initiates at Cornell University, May 15, 1925.