tion of living bodies from the action of chemical forces on inanimate or non-vitalized matter. And if it is true that every living atom or cell has been derived from or developed by a preceding living body, we would expect to find in the offspring the same properties and tendencies as in the parent from which it sprang. Therefore the old and familiar maxim that "like begets like" is only the popular expression of a law of universal application throughout the domain of animal life.

When the chemists and microscopists of the last half century had traced the origin of living bodies to a primary germinal cell or aggregation of matter, and named it bioplasm or protoplasm, and described it as the physical basis of life, requiring only the presence of a certain degree of heat and nutritive material to develop all the phenomena of active life, many appeared to think the very nature of life or vitality had been explained. Thus, a recent writer gravely assures us that "protoplasm is the physical basis of life. Chemical force is the *cause* of life. Organization, function, and decomposition are the effects of life." And he calls this a definition of life, health, disease, and death.

Such a definition of life is only a play with words to cover the confusion of ideas in the mind of the writer. If he had said that protoplasm is an aggregation of matter endowed with vital properties derived from a previous living body; that chemical forces acting on such protoplasm in the presence of food caused the phenomena of active life; and that organization, function, and decomposition are the results of such action, he would have maintained clearness of thought and correctness of expression. Protoplasm constituting the germinal cell is not only a physical basis of life, but it is an aggregation of matter endowed with the properties of life or vitality. Without such endowment, the action upon it of all the chemical forces known to man would neither cause life or any of its phenomena. Indeed, without such endowment, it would not be protoplasm, but only an aggregation of dead matter.

I have made the foregoing comments on the origin of the germinal cell and its properties for the purpose of making more plain the fact that all hereditary transmissions are determined by the condition of the cells or living protoplasm of the parent. Parents constituted of protoplasm, the vital properties of which are vigorous and tenacious, are generally long-lived, and they impart the same tendency to their offspring.

We are constantly meeting with families in all grades of society, nearly all the members of which live beyond the age of 60 years, and many of them beyond 70 or 80 years, and have been doing so through many generations. On the other hand, we are meeting with a large number of families, many of whose children are lost during the first five years after birth; and of those who survive that period but few live beyond 50 years. The common expression in relation to the first class is that they have great tenacity of life; which simply means that the vital properties of their protoplasm or cell organizations are more perfect. While it is equally common to say of the second class that they have no vital resistance, but yield readily to adverse influences, or become old before they reach the end of the first half century of their existence. It is very obvious, therefore, that *heredity* bears an important relation to longevity, and consequently becomes very important in its relation to life insurance. So true is this that you required to note as accurately as possible the ages of both parents and grandparents of those you examine as applicants for life insurance. It is not sufficient to simply ascertain the age and condition of the health of the parents, for the duration of lives of grandparents often affords a better index of probable longevity, as many parents who present the aspect of fair health until they reach the age of 40 or 45 yet succumb to hereditary fatal developments before they reach 60 years."

Life insurance officials who desire to have a copy of the address delivered by Dr. Davis can doubtless obtain one from the Chicago Examiners' Association. The paper closes with the following advice to life companies and their examiners:—

"If the facts and physiological views very briefly presented in this paper are correct, they show that, while there is a law of heredity, as defined by M. Ribot, in all living bodies, the vital properties on which said law is based are capable of being altered by all such agents and influences as persistently interfere with the regular metabolic processes taking place in living bodies.

Consequently, if life insurance companies are to be guided largely and safely in the issuing of their policies by the opinions and recommendations of their medical examiners, the investigations of those examiners must not be limited simply to the present physical condition of the applicant and the longevity and diseases of his ancestors.

They must investigate, with equal thoroughness, his personal habits, both dietetic and social, his occupation, his sanitary surroundings, his mental conditions, and the personal habits of his direct ancestors.

Obituary.

News of the death of Mr. Archibald Welch, Vice-President of the New York Life, was received just in time for insertion in last week's CHRONICLE.

Further particulars of the sad event are given in a letter from the president of the company, Mr. John A. McCall, in which, after announcing the death, he says:

"The summons eternal of the Master reached him when he had nearly completed the three-score years and ten allotted to man. Since the beginning of the year he was absent from his desk contending, sometimes hopefully, but always cheerfully, against the illness that proved to be fatal. In every relationship that one man can bear to another in friendliness, he was a sympathetic adviser in grief, and a loyal adherent in struggle. The greeting of his coming, the sunshine of his presence and the shadow of his departure made friendship lasting and association helpful. Possessed of a high sense of honor, the integrity of his purpose was most manifest in every official action. The pages of our records on which his demise shall be inscribed will attest that he was forceful in character and faithful in duty; that he was beloved in life and lamented in death; and that, while the grave might conceal him from our sight, yet he would live in our memories.