chemical composition of the principal substances of living matter is now established, and the following step of the chemistry of cells will be the artificial production of these substances.

The chemical and physical investigations of cells have explained to us the phenomena of diseases and death. The principal substances of living matter have proved to be so very inconstant as to be compared with explosive substances, which explode very easily, that is: they disintegrate into their component parts. They explode by a blow, by heat, by strong light, by the action of various chemical reagents, which react on their component parts. And accordingly the principal substances of living matter could be very easily destroyed by analogical agents: by a blow, by heat, by strong light, by the action of various chemical reagents, which react on their component parts. Therefore the study of explosive substances could help us to learn the properties of living matter. In order to combat against illnesses and diseases we must make the principal substances of living matter constant, so that they would not be so easily destroyed and would not lead living matter and organisms to death. But how can we make them constant? The study of explosive substances shows that the introduction of some chemically indifferent substances, for instance, narcotics, into liquid explosive substances, as for example into nitroglycerin, abolishes their explosive properties. It is sufficient to add only five per cent. of aceton to nitroglycerin to make it quite inexplosive. Accordingly, the introduction of like substances into living matter diminishes its sensibility to injurious influences. But whilst narcotic substances are really indifferent to explosive substances, they are not so in reference to the principal substances of living matter, because these substances contain proteins, which are destroyed by narcotics, and after a short excitement an injurious and dangerous effect is produced and makes living matter more sensible than before. But if we could find such a harmless narcotic substance which would not destroy proteins we could make our living matter constant and in this manner abolish illnesses and diseases. On the other hand, the study of the chemical composition of living matter in bacteria shows that this living matter differs from the living matter of animals and men. We can therefore expect that there are chemical substances which would destroy the principal substances of living matter in bacteria but would not destroy them in man. Therefore the time will certainly come when all harmful bacteria and the diseases produced by them will be expelled from earth forever, and it depends upon us to accelerate the coming of such a time. I am delighted to be able to predict it, and I hope that biology will be able to widen its ways, and to bring near this happy time. The foundation of this new institution proves to me that my hope is not in vain, and that this great country will help biology to display all its manifold powers. Therefore permit me to finish this speech by exclaiming: Long live biology!

W. W. LEPESCHKIN

SCIENTIFIC EVENTS

THE SOUTH AFRICAN STATION OF THE HARVARD OBSERVATORY

WITH the recent purchase of a permanent site on which the South African station of the Harvard Observatory will be erected, the work of erecting the plant has just begun, it is announced by Dr. Harlow Shapley, director of the Harvard Observatory. The site is on top of one of the "kopjes" located outside of the city of Mazelsport, which is fourteen miles from Bloemfontein, Orange Free State, South Africa. Building material, equipment and the instruments which will be used have been arriving in the city since July 1, 1927, when the astronomers first began activities there.

Until the new buildings are completed, the temporary station, which has been operated for some time, will continue to be used. Dr. J. S. Paraskevopoulos, who has been recently appointed assistant professor, and his wife are now in charge of the work of the temporary plant, and two of the four telescopes that are now in Mazelsport, with lenses of ten and eight inches, respectively, are in operation every night.

Cooperating with the Harvard authorities in the erection of the new station, the city of Mazelsport has constructed recently a new highway leading to the top of the hill on which the observatory will be located. When completed, the plant will include a group of buildings consisting of residences, office buildings, laboratories, work shops and garages.

When fully in operation the observatory will house more operating telescopes than any astronomical plant in the world. With three 60-inch telescopes, the observatory will be outclassed in the power of its equipment by only three institutions.

To secure a constant series of photographic plates of the various stars in the Milky Way will be the principal function of the observatory. Studies of these plates, Dr. Shapley states, will have considerable bearing on the knowledge of the size of the universe. The plates will be mailed to the observatory in Cambridge to be studied and filed away in their proper classification.

W. F. Waterfield, of the Cambridge Observatory staff, will leave within a few months to take charge of the final placing of the instruments. Dr. Shapley intends to visit Mazelsport in the future.