As to the gods? And why do we possess
Broad, beautiful enclosures, full of vines
And wheat, besides the Xanthus? Then it well
Becomes us, foremost in the Lycian ranks,
To stand against the foe, where'er the fight
Is hottest; so our well armed Lycian men
Shall say, and truly: "Not ingloriously
Our kings bear rule in Lycia, where they feast
On fatlings of the flock, and drink choice wine;
For they excell in valor, and they fight
Among our foremost." O my friend, if we,
Leaving this war, could flee from age and death,
I should not be here fighting in the van,
Nor would I send thee to the glorious war;
But now, since many are the modes of death
Impending o'er us, which no man can hope
To shun, let us press on and give renown
To other men, or win it for ourselves!

This responsibility and obligation is perhaps best realized by one group of students with a vision clearly defined when they enter the medical school. I refer to the men and women who are preparing themselves to become medical missionaries. In this group one feels that the work has been lifted out of the rut by the buoyancy of the high spirit in which it is undertaken. It is difficult to imagine a loftier cause to which a man may offer the devotion of his life. Here in this country we help our hundreds of patients who could find another doctor around the corner. In Asia and Africa the medical missionaries help the thousands, the millions, who have no other touch with Christ's teachings and no other means of receiving the benefits of the civilization that has developed only in Christian communities.

Those of us who intend to remain in this country must aim high to approach the vision of these medical missionaries. If we intend to work as practitioners of our science and art, we must not only perfect ourselves in our knowledge of the science, but we must also develop to the utmost all those higher senses which will aid us to do good for the sake of doing good. We must defend ourselves against the sins of laziness, carelessness and avarice, and in defending ourselves, we can not do better than to remember the old adage of the U. S. Navy, "The best defense is the rapid and well-directed fire of your own guns." The best defense against the sins that I have mentioned is the rapid and well-directed effort to do good in your own community.

There is another vision which I would like to call to your attention, since it is particularly well adapted to all of you who are receiving the benefits of a training at Cornell. I refer to a career in academic medicine and research. Throughout the land far-seeing philanthropists are endowing medical schools and institutions of learning. These are helpless without well-equipped teachers, and the supply of such teachers is becoming inadequate. A life devoted to medical teaching, and particularly to the teaching of the fundamental sciences, entails a sacrifice of many of the pleasures that accompany worldly goods, but the harvest is reaped by the community and by all that is best in the man himself.

Far be it from me to attempt to dictate your visions. You must find them yourselves. I can only suggest one method of procedure. Set your goal as high as possible according to your own lights. Then study the best, the finest man you know and try to understand the goal that he would have you attain. Even this is incomplete unless you seriously consider what our Master, Jesus Christ, would expect of a man of your opportunities. The writer of the Psalms has said, "Good luck have thou with thine honour; ride on, because of the word of truth, of meekness and of righteousness; and thy right hand shall teach thee terrible things."

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SCIENTIFIC EVENTS

BAYER 205

THE Berlin correspondent of the London *Times* writes that a new stage has been reached in the struggle against sleeping sickness, for Bayer 205 has been tested in Central Africa and has been proved beyond dispute to surpass in its effectiveness any remedy that had previously been tried. The new compound discovered by the Bayer Chemical Works in Leverkusen, near Cologne, is extremely complicated and contains neither arsenic nor antimony; only carbon, nitrogen and hydrogen enter into its composition. Like salvarsan, it is ultimately derived from atoxyl, and as salvarsan bore the number 606 so Bayer was christened 205 because 205 successive transformations of the original substance, atoxyl, were made by the Bayer chemists before the Bayer medical staff pronounced the result satisfactory enough to merit practical experiments. From first to last ten years were occupied in its production.

In 1919 the remedy was passed on to Professor F. K. Kleine, director of a department in the Robert Koch Institute in the study of infectious diseases in Berlin, with a view to his carrying out experiments in Central Africa. Dr. Kleine had studied the trypanosome diseases for many years in German East Africa, now Tanganyike Territory. In earlier cases he had acted as Koch's assistant. Together the two experimented with atoxyl in the Sesse Island of Victoria Nyanza.

In the autumn of 1921 the British Government granted permission for Dr. Kleine and his colleague Dr. Fischer to proceed to Northern Rhodesia. A

camp of wooden huts with straw thatches, including a laboratory and clinic, was built at a native village in the neighborhood. This formed the base of operations for the first year while Dr. Fischer toured the native districts, accompanied by a government courier, in search of patients.

In the autumn of 1922 the party crossed into the Belgian Congo, on the invitation of the Governor-General. The disease is more widespread in the Congo, and a profitable year was spent at and around Elisabethville.

It may be recalled that the chief epidemics caused by trypanosome in Tropical Africa are sleeping sickness in men and nagana in cattle. Trypanosome are small flagellates, in the language of biology, which live in the blood of infested organisms. They are conveyed by the sting of the glossines, a family of stinging flies which is only found in Africa. The trypanosome undergo a series of transformations inside the insect. They stand in the same relation to the glossines or tsetse flies as the malaria parasites to the anopheles.

An all-important matter to the African stock-farmer is that he should be able to move his cattle across the so-called "fly belts" to and from tsetse-free areas with the knowledge that they will not fall sick on the road if bitten by the fly. Dr. Kleine found that injections of 205 did not act as a certain preventive.

On the other hand, there was a remarkable difference between cattle which had received treatment and cattle which had not. While the latter wasted away and died, the former remained in good condition and could be used for slaughter, even if the tsetse fly had introduced parasites into their blood. A far greater degree of success was obtained in the direction of sleeping sickness. In Rhodesia and the Congo 180 native patients suffering from various stages of the disorder received injections of Bayer 205. In the early stages of the disease a striking improvement was shown after a few injections had been made. The swelling of the glands quickly subsided and the old feeling of health and strength began to return. Most important of all, the trypanosome disappeared from the blood and were proved in the majority of cases, under careful examination of several months' duration, never to have returned.

THE FRENCH PHYSICAL SOCIETY

THE Société Française de Physique celebrated the fiftieth anniversary of its foundation in December. From an article in *Nature* the following notes are taken.

The exhibition, which has hitherto been held by the society at Easter, was this year combined with a wireless exhibition. It was on an unusually large scale, the Grand Palais in the Champs Élysées, in which the annual Automobile Show is held, being used for the purpose. The exhibition was characterized by many demonstrations, more or less popular, which were very attractive.

The anniversary lectures were given at the Sorbonne, the first on December 8, by Colonel Robert, on the relations of physical and technical aeronautics.

On December 10, an attraction of another kind presented itself in the general meeting of the International Union of Physics. The chair was taken by M. Brillouin with Professor H. Abraham as general secretary. The business was largely formal, the main item being the adoption of the statutes. After some discussion as to whether the value of the franc for the contributing countries should be taken in the French or Swiss currency, the former was adopted, notwithstanding the reduction in the contributions by so doing. The date of the next meeting of the union was fixed for the year 1925, the normal three years' interval being reduced, and the question of an international congress will then be decided.

On Monday evening a lecture was given by Professor H. A. Lorentz on the old and new mechanics. The motion resulting from the impact of two balls was considered, and generalized equations were obtained which were applicable to two observers in relative motion. This was followed by the gravitational deflection of light, and a discussion of the quantum theory and kindred subjects.

On December 11, Lord Rayleigh gave an account of his investigations on iridescent colors in nature. He dealt successively with the colors observed in light reflected from potassium chlorate crystals, mother-of-pearl, Labrador felspar and scarabee.

At the conclusion of the lecture Professor Volterra presented, on behalf of the Accademia dei Lincei, two volumes of the collected works of Volta. Other volumes are in preparation.

December 12 was marked by a banquet at which the delegates were royally entertained. The chair was occupied by the under secretary of state for public instruction. M. Picard (president of the Société Française de Physique) welcomed the foreign delegates, and responses were made by Professor Volterra, Professor Lorentz, Lord Rayleigh, Professor Störmer and Professor Knudsen.

The culminating point in the celebrations came on Thursday afternoon, when the chair was taken by the president of the republic in the large amphitheater of the Sorbonne. There were also present the ministers of commerce, of public instruction and of public works. After speeches by M. Picard and M. Brylinski (president of the French electrotechnical committee), Professor Lorentz presented the addresses which had been brought by the delegates. After this