with the Australian material will endorse. He went on to state that the Arnhem Land Reservation is no reservation at all. It is being encroached upon in many ways, the natives are diminishing rapidly, while two watering places for pearlers, which have been established on the coast, are destined to be 'plague spots' which will extend throughout the reserve. That criticism is not entirely ill-directed has been admitted by Mr. Lyons, the Prime Minister, who, while deprecating exaggeration, concedes that there is room for improvement—indeed that improvement is "imperative and urgent". He announces his intention of calling an early conference of Federal and State representatives to consider the future of the aborigines.

Mr. G. O. Harrison

MANY graduates of the University of Birmingham will be interested to learn that Mr. G. O. Harrison, chief workshop assistant in the Physics Department, is retiring after nearly fifty years service. Mr. Harrison began as laboratory boy to Prof. J. H. Poynting when the latter was engaged on his gravitational experiments at Mason College. When Röntgen discovered X-rays, Mr. Harrison, on the instructions of Prof. Poynting, made the first X-ray tube constructed in the Birmingham district and successfully used it to make a radiogram of Poynting's hand. For the next two years, the Physics Department, with Mr. Harrison as radiographer, became a centre to which the hospitals of the city sent patients to be 'X-rayed', the well-known surgeon Jordan Lloyd being one of the first to avail himself of the new facility for seeing the 'insides' of his patients. The rays were also applied to dentistry, the method employed being very like that in general use to-day. In the course of this work, Mr. Harrison discovered that X-rays could be seen, that is, that they produced on the retina (suitably prepared by darkness) the effect of light, shadows of interposed metal objects being clearly distinguishable. This formed the subject of a letter to NATURE (July 15, 1897, p. 248). Mr. Harrison's skill as a glass-blower and his versatility as an instrument maker have been of great value to a long series of research workers in the Physics Department, whose good wishes will go with him in his retirement.

New Surgical Research Laboratories

THE Bernhard Baron Laboratories of the Royal College of Surgeons of England were opened by the Earl of Athlone on December 8. These laboratories, which occupy the fourth, fifth and sixth floors of the main College building, were made possible by a gift of £30,000 from the Bernhard Baron Trust. The object of the laboratories is to provide facilities for experimental work on problems bearing on surgical diagnosis and treatment and for the investigation by experimental methods of more fundamental biological problems. In addition to six large laboratories, the research unit is provided with complete animal accommodation, a fully equipped operating theatre, X-ray and photographic rooms and a pathological laboratory. The laboratories are furnished with movable units, which allow of the remodelling of the laboratories to suit the individual requirements of those who use them. One of the most interesting features is the use which has been made in the building of Empire timber for furnishing, flooring, etc. Ample provision is made for twenty research workers, and the staff accommodation is well arranged on the sixth floor, which leaves the floor below a complete research unit. Pathological, X-ray and photographic rooms are on the fourth floor. The detailed equipment of the research rooms is interesting. Use is made of gas plugs instead of gas taps, electric power and light outlets are grouped in such a way as to facilitate the assembly of electrical equipment for experimental work. The operating theatre has been designed as a model theatre for animal work, and is completely equipped with modern steam sterilizing plant, X-ray viewing screens, diathermy and telephone installation.

Visual Purple and Vision

DR. R. J. LYTHGOE delivered the Thomas Young Oration of the Physical Society, entitled "The Structure of the Retina and the Role of its Visual Purple", on December 9. The key to the understanding of the processes by which the energy of a light wave causes impulses in the optic nerve lies in the retina. It is found that about 400 rods of the retina must be served by one nerve fibre after the demands of the cones, the organs for visual acuity, have been satisfied. The conger and other deep-sea fishes have retinæ almost exclusively composed of rods, and these rods are fine and filamentous. The fineness of the rods in the conger's retina cannot result in a higher resolving power of its eye, since some 1,600 rods must be attached to one nerve fibre. It is suggested that visual purple, the light-sensitive substance found in the rods, is adsorbed on their surfaces and that the large number of rods in the conger, by increasing the quantity of visual purple, improves the animal's vision at low illuminations. The increase in visual purple will not have a great effect on animals living at very great depths where only a narrow band of wave-lengths is transmitted. Deep-sea fishes also improve their vision at low illuminations in other ways, namely, by having large aperture eyes and also by the movements of pigment which protect the rods and their visual purple during exposure to light. The eyes of the monkeys have been shown to possess a remarkable adaptation to habit, day-hunting species having a cone type of retina, night-hunting forms having mostly rods, whilst in addition the retina is lined with tapetum, which appears to act by reflecting light back on to the rods. Recent work on visual purple has shown that the quantum efficiency of the bleaching process is about unity, and in addition visual purple has a high extinction coefficient. The 'bleaching' of visual purple by light results in the production of a yellow substance, and there are probably other intermediate products. The presence of these coloured breakdown products in high concentration might considerably modify the perception of light of different wave-lengths.