reduce overall retinal illumination and cause the driver to be better adapted to the dark. Consequently, although they relieve the sensation of glare from oncoming headlights, the recovery time is prolonged, and the use of any such filter should be discouraged. The speaker described filters placed on the windscreen, or spectacles, uniformly or progressively tinted, or even striped: none met with his approval.

The forty-ninth Ettles Memorial lecture was delivered by Dr G. B. Arden, who described how the recording of electrical potentials from the eye and brain can be used to make clinical diagnoses of ocular pathology. The electro-oculogram, produced by the secretory pigment epithelium, and the electroretinogram, produced by the nerve cells of the retina, can both be used to provide information when other clinical methods fail (for example, in infants or when the media of the eye loses transparency). These tests could give advanced warning of eye disease, and could be used in prognosis. The recent use of special purpose computers for the on-line averaging of small biological potentials has greatly increased the scope of these methods. It is now possible to record the responses of the fovea, either by a modification of electroretinographic technique, or by recording the responses of the optic cortex. The techniques are very new, but rival other methods in sensitivity.

The more traditional interests of the participants were catered for by a vigorous trade fair. This, and a final session at the congress, emphasized that no matter what their aspirations, the livelihood of ophthalmic opticians is still tied to the sale of appliances.

Biopolymers and Biological Membranes

from a Correspondent

THE second Polymer Meeting Point on May 24 was organized on behalf of the Polymer Consortium at Essex University, Colchester, by Professor M. Gordon. These meetings are designed to promote industrial–academic contacts and to explore the interfaces of polymer science with adjacent disciplines.

Professor D. Chapman (Unilever Ltd, Welwyn, and Sheffield University) spoke on recent physical studies of lipids and biological membranes at Welwyn. Lipids and proteins are important components of biological membranes. Professor Chapman has recently been studying, using a variety of physical techniques, the behaviour of lipid molecules and their interaction with protein. In addition to these studies on the individual components of cell membranes, various studies have also been carried out using techniques such as nuclear magnetic resonance spectroscopy on biological membranes. Phase changes on heating lipid molecules were elucidated by NMR, DTA and DSC spectra.

The aim of the talk was to assess the present knowledge about the structure of biological membranes and to try to see the way in which these recent physical studies are helping to provide some information about membrane organization. Discussion of the paper focused on the effects of sonication on the structure of membranes, with particular regard to relevant information contained in NMR line widths.

In the second lecture, Dr J. Hijmans (Royal Dutch Shell Laboratories, Amsterdam) presented a model for the helix-coil transition in branched synthetic self-complementary DNA. A molecule was pictured as a network of rings in the random coil state joined by helical sections. The model allows the calculation of a number of properties such as the mean fraction of bonded pairs, the mean size of helices and rings and the mean degree of branching of the rings, as function of temperature. Some comparison with literature data was included.

The relative importance of hydrophobic against base-base bonds was considered in the discussion that followed. It was also pointed out that Dr Hijman's model of the helix-chain transition led to far-reaching mathematical similarities with the critical (gel) point in polyfunctional polymerizations.

Professor Julian H. Gibbs (Brown University, Providence) gave the final lecture in which a mathematical model for the kinetics of synthesis of polypeptide chains on polyribosomes was discussed. Only steady state solutions have been found. Even some of these, however, display some of the phenomena one encounters in automobile traffic. The inability of one growing-centre (i.e., ribosome plus peptidyl transfer RNA) to "pass" another which precedes it on the same *m*RNA template was shown to introduce, under appropriate boundary conditions, the phenomena of traffic jams, traffic shocks and occurrence of a maximum in the curve for total rate of synthesis against ribosome density on the polyribosomes. The results of the radioactive pulse-labelling experiments of Dintzis and Ingram and the possible appearance of polyribosomes under electron microscopic investigation were given a simple and natural interpretation in the light of the theoretical results.

Catalogue of Arboviruses

from a Correspondent

PERHAPS the most significant publication on arboviruses, the *Catalogue of Arthropod-borne Viruses of the World*, has just been published (US Government Printing Office, $5·25). This catalogue has been available to participants in the Arbovirus Information Exchange for several years, but it is now available to all who require it. It represents the working catalogue as at February 1967. It provides details of the source and manner of isolation of 204 viruses provisionally classified as arboviruses, together with what is known about their physical, chemical and antigenic properties, their natural and experimental host range, their pathogenesis, geographical distribution and the frequency and symptomatology of human infections with them. Registration of viruses and information about them has been submitted voluntarily by scientists throughout the world. Although the amount of information available about individual viruses varies greatly with the length of time since its isolation, and with its apparent importance in human disease, the catalogue is a very valuable compilation of this very large and complex group of viruses the full importance of which is only now becoming apparent.

The steady increase in the number of known arboviruses is shown by the annual additions to the catalogue which in 1960 contained 43 viruses. Since then the number has increased in 1961 to 58, in 1962 to 110, in 1963 to 128, to 1964 to 141, in 1965 to 161 and in February 1966 there are 204 viruses registered. This is an expression of the increasing rate at which new arboviruses have been isolated: before 1930, only five