inhibitor to prevent the growth of microorganisms or cancer cells, are now being tackled. The basic requirements are that the compound used should be able to be transported to the enzyme in the host body, and that it should be selective in action. Dr M. F. G. Stevens (Heriot-Watt University) concluded the symposium by giving details of the triazinobenzotriazines he had been preparing in attempts to make masked diazo compounds which would meet the exacting requirements in this field.

COSMETICS

More than Skin Deep

from a Correspondent

ABOUT two hundred people attended the Symposium on Skin, at Eastbourne, on November 19 and 20, organized by the Society of Cosmetic Chemists of Great Britain. Among the topics covered were the properties of skin relating to its function as a barrier to external stimuli, the effect of substances modifying its biochemical properties, and the mechanisms by which the skin is penetrated by substances used to combat infection or treat disease.

In the first session, the need for official methods of testing the hazard to health of cosmetic products or for an adequate code of practice was stressed by Dr G. B. West (BIBRA). Accounts of the mechanical properties of skin and of its microcirculation were given by R. T. Tregear (ARC Unit, Oxford) and W. Harston (London Hospital), emphasis being placed on the fact that all hypersensitivity reactions in the skin, whether of endogenous or exogenous origin, involve the microcirculation. As a result of the development of a reliable tape-stripping method for investigating the structure of the skin's surface (H. L. Jenkins, Unilever Research Laboratory, Sharnbrook), three distinct stages in the maturation of corneum cells are now recognized, similar cell types being found in similar patterns in the mouse, rat, hamster, guinea-pig, rabbit and man. Dr K. H. Harper and R. E. Davies reported that interspecies variation in dermal reactivity does, however, occur, and the mouse and rabbit usually have sensitivity equal to or greater than that of man.

During the second session, tests for skin irritancy based on biochemical determinations were reported by V. K. H. Brown and J. D. Middleton to be generally unpredictable. According to D. Bass, however, such tests are not needed for compounds such as cycloimidinium amphoteric surfactants which were lacking in irritancy to skin and eyes. Discussing corticosteroids, Dr C. W. Marsden (ICI) said that their long chain esters (for example, triamcinolone acetonide) show increased penetration through the skin compared with that of the parent substances. An account of contact allergy by Dr C. N. D. Cruickshank (MRC Unit, Birmingham) contained the satisfying statement that there has been no evidence of any increase in the incidence of sensitization to cosmetic products in recent years.

In the third session, it was made all too apparent, for example by Mr C. W. Barrett (London Hospital), that further work is needed to follow the pathways and mechanics of penetration of the skin by chemicals. With fewer medicaments of greater specificity now in use, Dr H. Baker (St John's Hospital for Diseases of the Skin) said that interest has centred more on the effect of the vehicle on skin penetration.

Germicides, discussed by Mr R. Hall (ICI), are used in the home for their skin-deodorant properties and other purposes, in hospitals for the disinfection of the operation site as well as of the staff, and in the food industry to reduce contamination. Whereas some bacterial populations are eliminated by this process, others are, however, increased. Most cosmetics tend to be nutritive towards certain types of organism, and preservatives are therefore necessary to maintain the integrity of the preparation during manufacture and storage as well as during use. Mr G. Sykes (Boots Pure Drug Co. Ltd) reported that the popular preservatives in use today include formaldehyde, esters of *p*-hydroxybenzoic acid, and quaternary ammonium compounds. The feeling was, however, expressed that the ideal preservative for cosmetics has yet to be discovered.

PROTEIN SYNTHESIS

Termination of Peptide Chains

from our Molecular Genetics Correspondent

DURING protein synthesis the growing peptide chain is esterified to a *t*RNA molecule. The final act in the completion of the polypeptide is its release from this *t*RNA molecule and thus from the ribosome. Both biochemical and genetical studies have indicated that there are three triplets in the genetic code of *Escherichia coli* which can cause the release of the growing peptide chain. Thus chain termination occurs when the amber triplet UAG, the ochre triplet UAA or the triplet UGA is encountered in the messenger RNA. How does chain termination occur ? It has been supposed for some time that there might be a *t*RNA, or *t*RNAs, which read these triplets and, in some unknown way, thereby cause chain termination. There are, however, at least two alternative mechanisms: (1) there is no *t*RNA and termination occurs if there is nothing to read these three triplets; (2) these triplets are recognized by one or more protein molecules.

Evidence has recently appeared which shows that an unreadable triplet in the messenger RNA does not lead to chain termination, nor does a *t*RNA for chain termination seem to exist (Bretscher, M. S., *J. Mol. Biol.*, **34**, 131; 1968). Earlier, evidence that a protein factor was implicated in chain termination was presented by Ganoza (*Cold Spring Harbor Symp. Quant. Biol.*, **31**, 273; 1966). This observation was confirmed and extended by Capecchi (*Proc. US Nat. Acad. Sci.*, **58**, 114; 1967), who has isolated and purified a protein required for chain termination at the triplet UAG.

Two important papers have now appeared which provide considerably more insight into how these three triplets are recognized. The first (Caskey, Tompkins, Scolnick and Nirenberg, *Science*, **162**, 135; 1968) describes a new and simple assay for chain termination. Formylmethionyl-tRNA$_F$ is bound to ribosomes in the presence of its appropriate triplet, AUG. The hydrolysis of this bound initiator *t*RNA is then assayed and Caskey and his collaborators were able to show that the rate of hydrolysis of formylmethionyl-*t*RNA could be increased by the addition of Capecchi's release factor in the presence of any one of the three trinucleotides which code for chain termination. This assay system