ENGINEERING

Engineers of Britain, Unite

ONE more attempt to unify the engineering profession in Britain was set under way in May this year by the official foundation of the United Kingdom Association of Professional Engineers (UKAPE). Having found its feet and its first fifteen hundred members, UKAPE emerged to face the world on September 24, and is now starting actively to campaign for members among what the vice-president, Mr R. L. Clarke, claimed to be 200,000 potential recruits.

The association owes its existence to the absence of a trade union or similar body covering the interests of professional engineers. The Engineers' Guild, which since 1938 has been trying to overcome the fragmentation of the profession, suffers from its legal status as a company in that it is not entitled to enter into negotiations on such topics as conditions of employment. It was in fact ten leading members of the guild who decided towards the end of 1968 that a new body was needed which could act to promote the interests of members, and the result of further discussions was the establishment of UKAPE.

Although UKAPE has no official connexion with the Council of Engineering Institutions (CEI), it does in practice use membership of one of the fourteen institutions affiliated to the CEI as a criterion for eligibility. The term "professional engineer" is thus effectively given a definition, which covers two groups—corporate members of an institution, who may become full members of UKAPE, and non-corporate (including a fair number of technicians who are on the way up), who are eligible for associate membership. But does this stipulation of what it is to be a professional have the effect of creating a new division among engineers by preventing a whole section of those who are employed in engineering from joining UKAPE? Apparently this demarcation is quite intentional, so it may be that the price for bringing together the professional engineers will turn out to be their further separation within the engineering industry as a whole from those who are not "professional".

UKAPE is endowed with the legal powers of a trade union, but expects to be very sparing in its use of them. It will not, for instance, seek affiliation to the TUC, and seems to be totally horrified at the thought of strikes. What it does intend to do is not really clear at all—Mr Clarke said, for example, that within the engineering profession UKAPE was concerned with "those areas where the chartered engineer is unprotected or his interests inadequately promoted", and to qualify this, added only that "time will show where these areas are". Its basis for action will be what was referred to as "the ethics of the engineering profession", defined on request by the president, Mr G. B. M. Oliver, as "something that every engineer knows in his heart".

The future of UKAPE may in the end depend on two factors—how successful it is in winning new members, particularly in fields where other unions are relatively strong, and how far it is able to steer a middle course between militancy and merely giving advice without giving the appearance of ineffective compromise. Perhaps a common reaction will be that of Mr W. Howie, MP for Luton, and himself a chartered engineer, who remarked that he was pleased to be asked to join but that "I've just looked at the fee—and I'm wondering".

WOMEN ENGINEERS

Recruiting More Girls

As part of the campaign to attract girls into engineering, the Central Office of Information has produced an 18 minute film: "The Engineer is a Woman". The picture shows Sally Craven, one of the four engineers featured at work. Her job as a maintenance engineer

provided plenty of opportunity for wide vistas of factory floors. Girls should be impressed by their chances of breaking into a man's world, although the drawing office may appeal to some more than the dry dock.

PLANT PHYSIOLOGY

How Roots Work

from our Botany Correspondent

ALL manner of complex plant physiology was on show when the Letcombe Laboratory of the Agricultural Research Council opened its doors to visitors last week for the first time since its name was changed from the Radiological Laboratory earlier this year. Most of the work in progress is concerned with plant roots and soil, which have taken up more and more of the laboratory's resources since the need to monitor environmental radioactivity began to decline after 1962.

One of the many unsolved problems facing agricultural botanists is the extent to which different soils restrict the growth of roots. The approach to this problem at Letcombe is to grow cereals in beakers containing small glass beads through which an aerated culture solution is passed. When the beads measure 3 mm across they restrict growth very little, but when they are only 1 mm across growth is quite distorted at the apex, and lateral roots proliferate, making the whole root system look stunted.

But of course this does not mean that small soil particles necessarily restrict growth in the field, where there is no constraint on the soil equivalent to the sides of the beaker. And so the glass beads were put between flexible plastic, and preliminary results indicate that although there is less restriction, the 1 mm beads still affect the morphology of growing roots.