

eccentricity of an elliptic orbit, and that in the case of Jupiter's satellites the outer orbits are highly eccentric, and the inner orbits nearly circular. It may be mentioned that Mercury is an exception to his rule.

Suppose that Laplace had not thought of the possibility of capture. Then Laplace would have been as much entitled to say detachment was the true explanation, because no other was possible, as Dr. See is now entitled to say that capture survives as the only possible explanation. Laplace, of course, would not have reasoned in this way. His theory explains many features of the solar system, in fact so many that when new discoveries showed that his theory was incomplete, there has been a nearly universal reluctance to say that it was altogether wrong. We do not see that Dr. See's hypothesis explains anything. Why, for instance, on the hypothesis of capture are the vast majority of orbits near the plane of the ecliptic and their motion direct?

#### STATE AID FOR UNIVERSITY EDUCATION.<sup>1</sup>

THE grant in aid of university colleges originated in the demand for advanced education in 1889 arising from the university extension movement, and was intended to help university colleges in providing suitable courses. In twenty years conditions have changed, and some of the university colleges have become universities, but they are still claimants for the aid. The members of the University Colleges Advisory Committee had a difficult task before them, and they submitted a report dated July 24, 1908. On this a Treasury minute, June 3, 1909, has been founded which lays down the conditions for participation in the grant. The conditions are summarised thus:—

(1) Any institution to secure a share of the grant must be prepared to afford satisfactory instruction of university standard, which should normally include English, classics, French, German, history, philosophy, mathematics, physics, chemistry, biology.

(2) The courses of instruction must be attended by a reasonable number of students capable of profiting by the education afforded.

(3) The buildings and initial equipment must be adequate for the courses established.

(4) The aggregate income of the institution, whether derived from grants or otherwise, must be sufficient to maintain all the departments in a state of efficiency, and to provide a superannuation scheme.

(5) The grants should be confined to institutions serving great centres of population, and no new institution should be admitted unless it serves a district not already adequately provided with instruction of a university standard.

(6) Due regard must be paid, not only to the standard and the efficiency of the teaching, but also to the spirit animating the institution and its influence as an intellectual centre.

These are the conditions, and it must be agreed that they appear very just, except number five, concerning the admission of new institutions to the privileges, as there may be two or more institutions in a great centre which afford equal or identical advantages, one, however, receiving the grant to the exclusion of the other. This is the case in London, where there are two large institutions fulfilling the conditions, but excluded because certain other colleges are sharing already in the grant. Both Birkbeck College and East London College more than satisfy all the conditions, and there are several other institutions and polytechnics which fulfil, or come very near to fulfilling, the qualifications.

It will naturally be asked why the grant in aid is to be limited to certain favoured institutions in some

<sup>1</sup> University Colleges (Great Britain). Grant in Aid. Parliamentary Paper 182. (London: Wyman and Sons.) Price 1½d.

centres, and the answer must lie in the miserable inadequacy of the grant. The advisory committee had before them, not the difficulty of the standard of the colleges, but how to make quite too small a meal satisfy the demands of a large, hungry, and rapidly increasing family. In domestic affairs the difficulty has to be met by the father increasing the family allowance, and it would be more logical for Parliament to increase the allowance. The solution of allowing part of the family to starve is indefensible. We have alluded to the condition of affairs in London particularly because London has come off worse in amount than any other city in proportion to its population. London, too, has suffered from want of civic spirit. In the lesser cities strong civic spirit pushes their claims on Parliamentary notice.

It must be noted that the advisory committee is fully alive to the fact that many of the universities and university colleges are drawing grants from several sources, *i.e.* Board of Education, Board of Agriculture, Parliamentary grants, and local rates, and there is danger of their being paid twice over for the same work; but the advisory committee does not suggest at present any way out of this difficulty other than getting a return made to them from each of the granting authorities.

It has been suggested before that all higher institutions should receive their grants from one authority, which should be able to take a survey of the whole kingdom. At present many higher institutions have to depend largely on the local education authority, which secures neither breadth of treatment nor sufficient continuity. The institutions find that there are fat and lean years, and it is not likely that the best educational results will be obtained when there is so much uncertainty. In an article which appeared recently in this journal it was suggested that the control of the higher technical institutions throughout the country should be under a central authority, for prosperity in trade is a national affair, and not local. The same view must be taken in regard to the university colleges and universities. They should be as free from local restraint as possible. This is foreshadowed in the report in the following words:—

We trust, however, that it may be found possible to regard such a scheme as being merely transitional, and to replace it in the near future by one on the more simple lines we have indicated. . . . a scheme that would comprise in a single vote the whole aid granted by Parliament to universities and university colleges for education of university character and standard. The coordination of the institutions which provide higher education in the country in accordance with the principles of administration embodied in the Education Act, 1902, is proceeding apace, and the universities and university colleges have taken the initiative in connecting themselves with the local education authorities most closely related to them by locality and communications. Universities, however, are non-local as well as local institutions, and it is of importance that this two-fold aspect should be appreciated by the central administration, which has to dispense the State subvention for higher education by way of grants to this or that locality, and which must at the same time pay due regard to the interests and necessities of the country as a whole.

#### NOTES.

THE present summer promises to be one of the coldest on record, but for rainfall it is likely to be several inches short of the measurement in 1903, when at Greenwich the total fall for the three months, June to August, was 16.16 inches. So far, the highest temperature at Greenwich since the commencement of June is 77.7°, on July 18, whilst at the observing station of the Meteorological Office, in St. James's Park, the highest temperature is