

AUGUST KEKULÉ.

BY the death of this eminent chemist at the age of sixty-six, which took place on July 13, science loses one of her most distinguished votaries. It is only four years ago since a remarkable demonstration was held in Bonn in celebration of the twenty-fifth year of Kekulé's professorship in that University. Two years previously, in March 1890, a similar rejoicing had been held in Berlin in honour of the twenty-fifth anniversary of the promulgation of the benzene theory by its illustrious author. It appears that Kekulé was intended by his father to have been an architect, and for that purpose he was sent to Giessen to become proficient in the subject after having undergone a preliminary training of the ordinary kind at the Darmstadt Gymnasium. At Giessen he came under the powerful spell of Liebig, and having attended some lectures on chemistry by that great master, his inclination towards the adoption of this science as a profession instead of architecture appears to have received a strong impulse. After a short period of probation at the Darmstadt Polytechnicum, where he tells us he learnt chemistry under Moldenhauer, and spent his leisure in lathe-turning and modelling in plaster, he returned to Giessen and entered as a student under Liebig and Will. Even at this stage of his career he appears to have been capable of rendering material assistance to his master in the experimental work being carried on in connection with the familiar "Letters on Chemistry," in which Liebig includes the name of Kekulé among those of many other chemists now well known in science, in acknowledgment of the services rendered by the future founder of structural organic chemistry. That Liebig thought highly of his pupil may be inferred from the circumstance that he very nearly received the appointment of assistant in the Giessen laboratory, then renowned throughout Europe for the chemical work being carried on there. Instead of remaining at Giessen, however, young Kekulé went to Paris, and having sat at the feet of Regnault, Frémy and Wurtz, he was casually attracted by a course of lectures on chemical philosophy advertised by Gerhardt, who had resigned his professorship at Montpellier, and was giving private courses of instruction in the French capital. Gerhardt appears also to have recognised the capabilities of his student, and an intimate personal friendship sprang up between them. It is probable that this contact with Gerhardt acted as a stimulus in developing the particular faculty as a theoriser which must have been inherent in Kekulé, and which found expression in all his later work. From Paris, where he declined an invitation to become Gerhardt's assistant, he went for a short time to Switzerland as assistant to Von Plantu in the Castle of Reichenau. After this Swiss sojourn, and chiefly at the instigation of Bunsen, he accepted an offer from the late Dr. Stenhouse, then at St. Bartholomew's Hospital, and for a time this country had the honour of fostering young Kekulé. The bent of his mind in the direction of chemical theory is well brought out by his confession in later life that he did not derive much profit from his experience at St. Bartholomew's; but having become acquainted with Williamson, who had just completed his classical work on etherification, he appears to have found a more congenial outlet for his energies in the school of thought being evolved by that investigator and Odling, and which he declared, in 1892, to have been an excellent school "for the encouragement of independent thought." While in this country an offer was made to Kekulé that he should remain here as a technologist, but the Fatherland had greater attractions for him; his great ambition was to become attached to a German University, and he started a small laboratory in the house of a corn merchant in the main street of Heidelberg, where he received pupils. In these days of palatial laboratories, it is interesting to recall that in this little kitchen Kekulé carried out his work

on the fulminates, and that Baeyer, then one of his pupils, conducted his researches on cacodyl. It is not the laboratory that makes the chemist!

Kekulé's first call as ordinary professor was to Ghent, where the Belgian Prime Minister was instrumental in getting him a modest laboratory; and here for nine years he worked with a success that can be measured by the fact that, in addition to Baeyer, he numbered among his pupils Ladenburg, Victor Meyer, Wichelhaus, and others whose names are as household words in the annals of chemical science. From Ghent he was "called" to Bonn, in which University the magnificent laboratories grew under his inspiring influence, and where he remained till the last, adding to the lustre of his reputation and shedding the light of his intellect over that country in which modern chemistry appears to have found its headquarters.

As an experimentalist, Kekulé's contributions to science are not great as compared with the enormous influence which his genius for theorising has exerted upon the development of the science of the century. His greatest and most precious gift was his power of penetrating into the inner mysteries of molecular constitution, and it is through this work that his name will ever be revered. It was Kekulé who first gave definite form to Frankland's conception of valency, and his application of this idea to the study of the carbon compounds was nothing less than epoch-making. Out of this conception grew the famous theory of cyclic compounds, which has been prolific to an extent almost unparalleled in the history of pure science, and which from the practical side has made Germany what it is in the domain of organic chemical technology. If the life-work of any chemist of our age need be quoted as a standing protest against the *cui bono* attitude of mind which we in this country are still suffering under, and which relegates abstract theoretical studies to the realms of "academic" thought remote from human interests, let the speculations of August Kekulé be put forward as an answer crushing and complete for all time.

The present writer never had the privilege of coming into personal contact with the master-thinker who has so recently passed away. His geniality of disposition appears to have endeared him to all who came under his influence. The chemists of this country join with those of the Fatherland in mourning over the gap that has been caused in their ranks.

R. M.

NOTES.

THE International Geological Congress will hold its seventh session at St. Petersburg at the end of August next year, under the acting presidency of Dr. A. Karpinsky, and with the Grand Duke Constantine as honorary president. The session will continue about a week, and the proceedings of the Congress will not be divided into sections, as at Zürich, but will be devoted chiefly to the discussion of broad principles. Extended excursions are announced, the most important being to the Ural Mountains before, and to the Caucasus after, the meeting at St. Petersburg. Shorter excursions have also been arranged to Finland and elsewhere. Geologists who propose to attend this meeting should send notice of the excursions in which they wish to participate, before next October, to the General Secretary of the Congress. The Emperor of Russia has decided, on the favourable report of the Minister of Public Ways, to grant to all geologists duly enrolled for the meeting, free first-class railway tickets during their sojourn in Russia.

THE forty-second annual meeting of the German Geological Society will be held at Stuttgart, on August 9-12. Another important annual meeting is that of the German Anthropological Society, which takes place on August 3-6, at Spire.