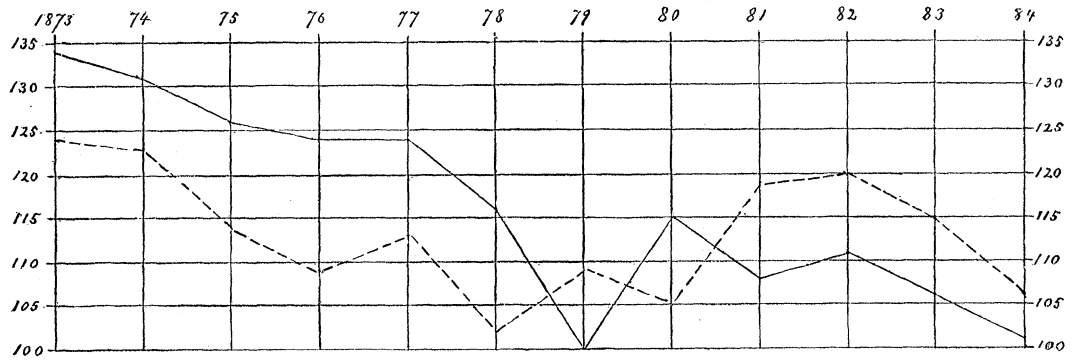
prices of 1884 are given as 92.2 per cent of those of 1883; yet side by side other figures are given which make the ratio 91 per cent.

Nevertheless, it would be going too far to say that the results are quite without value. A very large number of articles are included in the comparison, which gives a probability that the mistakes will balance each other, or will not appreciably affect the general results. It is not unreasonable to believe that the figures which are finally given as indicating the rise and fall of general prices for the successive years, although they cannot be accepted as an accurate gauge of the ascertainable change from any one year to the next year, yet represent fairly enough the general fluctuations of the series of years. They are at all events probably as good an index of the actual changes as the tables of the *London economist*, which have been much quoted and used. We reproduce the mint figures in the accompanying chart for the years since 1873, and for comparison give also the *Economist* figures, which indicate the course of prices in England. It should be said that, for both countries, the standard (indicated by the number 100) is the average range of prices of the years 1845–50. Those were the years just before the Australian and Californian gold discoveries, and the average for them has always been used by the *Economist* as the basis of comparison in its table of prices.

We have arranged the mint figures on the same basis, using for that purpose the figures for 1845–50 given in the earlier mint report. This method of comparison is of course open to objections, but seems on the whole to be the best:



PRICES IN ENGLAND ——————

PRICES IN UNITED STATES - - - - - - - - - - - - - - - - -

The figures begin with 1873, a year of speculation and of inflated prices all over the world; and it will be seen that in both countries prices fell continuously during the long years of depression from 1873 to 1878. The fall in England was from 134 to 116; and in England there was in 1879 a still further fall to 100. That is, in 1879 prices in England had gone down to the level of the years 1845–50. In this country, the fall from 1873 to 1878 was from 124 to 102. The revival began here earlier than in England, and from 1878 to 1879 there was already a rise from 102 to 109. After 1879 the tendencies in both countries for a few years was to a rise. A temporary fall, it is true, is indicated in the United States from 1879 to 1880; but one cannot but look at this fall with suspicion, and ascribe it, at least in part, to some of the mistakes made in calculating the mint figures. In England the highest point since 1878, according to the *Economist*, was reached in 1880. But there are reasons, which there is not space to explain, for ascribing the high figure for that year to the peculiar methods of the *Economist*, and for believing that there was in reality but little fall in 1882 as compared with 1880. In the Uuited States there was a fairly steady rise from 1878 to 1882. Since 1882 there has been a steady fall in both countries. Last year (1884) prices were at 101 in England, and at 106 in this country; in other words, notwithstanding the severe depression, they had not gone so low as the lowest points reached during the last period of depression in England in 1879, and in this country in 1878. F. W. TAUSSIG.

THE NEW PHILOLOGY.

THE new school of philology in Germany, of which Professor Brugmann is one of the ablest representatives, claims to be a legitimate advance on its predecessors in the direction of scientific sobriety and precision. The older scholars from Bopp down to a few years ago, says Sievers (in his article on Indo-Germanic philology, in the Encyclopædia Britannica), had naturally occupied

themselves largely with glottogonic problems; and some of them had adopted misleading metaphors, as Schleicher in his theory that language was an organism, and linguistics one of the natural sciences. Brugmann, in a recent pamphlet,[1] charges further that mechanical methods were employed in comparisons of words, as when the fullest form was judged to be always the oldest. The new school discards glottogonic problems, on the ground that the materials for their discussion are, at least at present, insufficient, rejects the misleading metaphors, and abstractions in general, and professes to confine itself to known facts. But the principle on which it lays most stress is that "our general views of language and methods of comparison should be formed after study of living languages, because these alone are controllable in detail, and can give an insight into the motive forces that shape and modify language" (Sievers). The most prominent of these forces are held to be two: phonetic variation, to whose laws there are no exceptions, and which is differentiating in its tendency; and analogy, an assimilating force, whose procedures cannot be reduced to rule. An example of the first is the separation of the old English short *a* (pronounced as in Italian) into two sounds, that in *mare* before *r*, and that in *make* before all other consonants; an example of the second is found in the plural of *book*, which was formed in the older language simply by change of vowel, like *feet* from *foot*, but was afterwards assimilated to other plurals in *s*.

These are the views that Brugmann defends in his pamphlet. It consists of three pieces. The first, an address delivered when he entered on the duties of his university chair, is a statement of the relation between linguistics and philology. Defining the latter, after Böckh, as the science that investigates the historical manifestation of the mind of peoples, that is, their development of culture, he points out that the science of language is merely one branch of this larger department, and that all attempts to draw a line between them have failed. After exhorting scholars of all linguistic departments, wider and narrower, Indo-Germanists, Hellenists, Latinists, Germanists and others, to work in harmony, he gives a short sketch of the progress recently made in the systematic investigation of the general vital conditions of language. The foundation for this, he says, was laid by Wilhelm von Humboldt, and Steinthal, and W. D. Whitney had also contributed; Scherer, in 1868, showed the importance of analogy in the explanation of older forms, and Leskien soon after announced the doctrine that the laws of phonetic variation are in themselves subject to no exception. Other scholars, among whom are Osthoff, Paul, Delbrück, Sievers and Brugmann, have continued the investigation and application of principles. Brugmann closes with the expression of the opinion that for young students of classical and Germanic philology, while Sanskrit is important, it is still more important to understand the nature of language and the laws that govern its growth.

The second and longest paper is Brugmann's reply to a 'Criticism of the latest linguistic investigations' by Georg Curtius, whose recent death has deprived Indo-Germanic philology of one of its most distinguished and useful workers. Curtius had treated of four points: phonetic laws, analogy, the Indo-Germanic vowel-system, and the origin of primitive Indo-Germanic forms; Brugmann takes these up in the same order. The principle of the constancy of phonetic laws, defended by the new school against Curtius, is understood by them to mean that the same sound under the same conditions always moves in the same direction and undergoes the same change,—there are no exceptions or irregularities. Brugmann draws his proof of this proposition from a consideration of the physical and psychical processes concerned in the production of words, and the way in which the individuals of a community act on one another in the production of sounds. Phonetic change, he says, is at the same time a psychical and a physical process: individuals are constantly modifying their pronunciation, but the modifications are controlled by the necessity of being understood by the community, and thus all the members of the community necessarily move on together; when the phonetic change is completed, it is inconceivable that in different words different courses should be taken, for the pronunciation is not learned separately for each individual word, but the same phonetic conditions necessarily induce the same feeling and the same pronunciation. Curtius insists that many unexplained cases of phonetic change exist, and that an inductive demonstration of the constancy of the law of phonetic change is impossible. Brugmann admits that such demonstration is, in the nature of the case, impossible, since so much of the necessary material has perished, but holds that the number of unexplained changes is constantly diminishing, many of the seeming 'exceptions' to rules depending on false etymologies, or resulting from the fact that one dialect has borrowed from another, in which different laws of literal interchange exist, or being otherwise explicable. Curtius thinks that a letter is sometimes retained in a particular form, when it has disappeared from

[1] *Zum heutigen stand der sprachwissenschaft.* Von Karl Brugmann. Strassburg, *Trübner*, 1885. 144 p. 8°.

phonetically similar forms, because it was felt to be significant; Brugmann replies that the processes of phonetic change are unconscious, quite ignoring the meaning of sounds, as, in fact, we often find that phonetic decay removes letters that we know to have been originally significant.

The second principle discussed by Curtius, analogy, is one the influence of which has always been more or less acknowledged by writers on language; but it has usually been regarded as a secondary and sporadic force, leading (as the current expression 'false analogy' indicates) to malformation and confusion. The new school holds, on the contrary, that analogy is a natural, universally active force, equally prominent in the processes of forming and of learning languages. In our ordinary speaking, words present themselves to us in groups, and a new word is assigned to its most natural group, and treated accordingly. "The action of groups is, along with phonetic change, at least in our observation of accessible periods, the most important factor in the development of language" (Paul). A familiar example in English is the tendency to convert strong preterites into weak, as 'crowed' instead of the old 'crew.' The analogic process, being thus assimilative, acts in opposition to the differentiating influence of phonetic change, which more commonly tends to destroy the similarity between words. The younger philologists call in the principle of analogy to account for a number of phonetic phenomena, which the older generation of scholars either treated as unintelligible anomalies or endeavored to explain by referring them to the desire to retain significant letters, etc. Curtius objects to this wide extension of the principle, on the ground that its employment is arbitrary, and that it rests on no better basis than the admitted usage of modern languages. Brugmann rejoins that there is no reason to suppose a difference in this respect between ancient and modern languages; and Delbrück, in his 'Einleitung in das sprachstudium,' endeavors to define the character of analogical change.

The third and fourth points of Brugmann's reply to Curtius relate to questions of Indo-Germanic grammar, such as whether the primitive Indo-Germanic language had not only the vowels *a, i, u,* as the older school holds, but also *e, o,* together with diphthongs and sonant nasals and liquids, and what the origin of the inflections was. Brugmann remarks that the new philology does not absolutely avoid all glottogonic or morphogonic problems, but only those in which there are clearly not sufficient data for a solution; and whether it is worth while to attack any given problem, each man must decide for himself. Finally, in the third piece of his pamphlet, Brugmann replies to some points made by Johannes Schmidt.

The new philological school may be said to represent a more rigid adherence to law in the treatment of linquistic questions. While gratefully acknowledging the eminent services rendered to the science of language by Bopp, Grimm, Pott, Benfey, Schleicher, Curtius, and others, it claims to carry out more consistently the principles they lay down, and to fill in part the gaps they left.

C. H. TOY.

CHEMICAL NOMENCLATURE.

A COMMITTEE of fourteen chemists, including such eminent men as Williamson, Frankland, Crum Brown, Odling, and Armstrong, presented their third report on chemical nomenclature to the British association at the Aberdeen meeting. This committee was entrusted with the duty of "drawing up a statement of the varieties of chemical names which have come into use, and of indicating the causes which led to their adoption, as well as considering what can be done to bring about some convergence of the views on chemical nomenclature obtaining among English and foreign chemists."

This weighty committee produce, as might be expected, an eminently conservative report; they regard as ill advised any attempt, on etymological grounds, to change a system so firmly established as that involved in the present use of the prefixes *hypo* and *hyper*.

After confirming the terminations *ic* and *ous*, the committee considers the minor question how far the termination *ous* ought to be written in the forms *ious* and *eous*. The answer is: as seldom as possible; cupreous has given way to cuprous, and 'ruthenious' and 'iridious' should also lose the superfluous *i*.

In answer to the question whether the termination *ic* should be employed in the names of salts of which only one class is known—as magnesic sulphate instead of magnesium sulphate, the committee says: "There is something to be claimed for both systems; and, as the diversity of practice does not lead to confusion, the question need not be regarded as vital." In our opinion, the committee might have exerted their influence to suppress the use of the unmeaning and often non-euphonious termination *ic*. Such terms as 'zincic' and 'nickelic' offend the ears of hearers; 'scandic' and 'ytterbic' would be unwelcome.

The committee calls attention to the advantage of affixing the syllable *ic* to the names of positive radicals in ethereal salts. The ambiguity arising in *speaking* ethyl phenylacetate, which might be taken for ethylphenyl acetate, can be obviated by