physiology of tryptophane; the metabolism and chemistry of hæmoglobin in so far as they bear on its production in the animal body; the comparison of normal and pathological tissues as regards their content of intracellular ferments. The Physiological and Chemical Laboratories, Cambridge.

Frederick James Fitzmaurice Barrington, M.B., B.S. (Lond.), F.R.C.S. The functions of the male accessory genital glands. University College Medical School.

John Foster Gaskell, M.B., B.C. (Cantab.), M.R.C.P. (Lond.). The origin of the suprarenal body in the invertebrates and lower vertebrates and the function of chlorogogen cells in invertebrates. St. Bartholomew's Hospital Medical School.

UNIVERSITY AND EDUCATIONAL NEWS

HARVARD UNIVERSITY has received an additional gift of $100,000 from Mr. Adolphus Busch, of St. Louis, Mo., towards the erection and maintenance of the Germanic Museum. This sum makes a total of $350,000 given to the museum by Mr. Busch.

IT is stated in the *Yale Alumni Weekly* that owing to the lack of room, notwithstanding the great wealth of material, the work of mounting prehistoric animals for public exhibition at Peabody Museum has been temporarily discontinued. The development of the resources of the museum must apparently await new building construction. This may involve an entirely new site and plant in accordance with the university development on the Hillhouse property. The building fund of the institution, according to the last report of the university treasurer, amounted to $173,923.

THE Harvard University Catalogue shows this year a total enrollment of 4,123 students in the university exclusive of the summer schools, Radcliffe College, and the university extension courses. The total number of students is 77 more than it was at the corresponding period last year. The attendance in the college is 48 less than it was last year, but this decrease is more than offset by gains in the graduate and law schools.

MR. CLARENCE T. JOHNSTON has been appointed professor of civil engineering at the University of Michigan, succeeding Professor Emeritus J. B. Davis, retired on the Carnegie grant. Professor Johnson was graduated from the University of Michigan as an engineer in 1895, and received the degree of C.E. in 1899. He was state engineer of Wyoming during the period in which were formulated the irrigation laws.

AT a meeting of the trustees of Princeton University on January 12, 1911, William Gillespie, assistant professor, and George David Birkhoff, preceptor, were made full professors of mathematics. Ulric Dahlgren, assistant professor of biology, was made full professor.

DISCUSSION AND CORRESPONDENCE

CARELESS CRITICISM

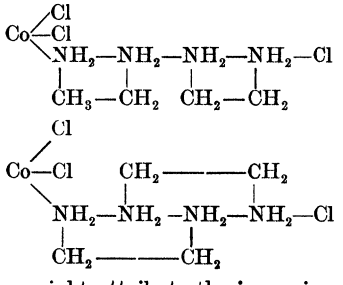
WITHIN the past year a new book has appeared, bearing the title "Recent Advances in Physical and Inorganic Chemistry," by A. W. Stewart. The book has received very favorable comment from the reviewers in various chemical journals; and deservedly so, for the author has selected certain striking lines of advance and has pointed out the chief experimental evidence on which these are based.

There is one glaring error, however, which seems to have escaped the notice of the reviewers. In all of the chapters, except one, the author writes from the standpoint of the record as shown in chemical literature, but in this, the seventh chapter, The Cobaltammines, he departs from his usual conservatism and assumes the rôle of a caustic critic.

After a discussion of the various views put forward to explain the structure of these compounds, the author plunges into the Jörgensen-Werner controversy, defending very earnestly Jörgensen's views and criticizing with equal warmth those of Werner. On page 121, following a discussion of the points at issue between Jörgensen and Werner, the author states:

Now, since all these difficulties arise only from the assumption that the ethylene diamine series of compounds are exactly parallel to the tetrammino-compounds, the simplest way out of the difficulty seems to be to abandon any such parallelism. Jörgensen pointed out that in the case of

ethylene diamine, we can imagine two possible arrangements with the cobaltammine molecule—



so that we might attribute the isomerism in these compounds to this difference. Now, in the ammonia compounds such an isomerism could not occur, owing to the similarity of all four ammonia groups. We should therefore expect to find no isomerism in the case of the ammonia-compounds of the type $[(NH_3)_4CoCl_3]$; *and, as a matter of fact, no such isomers are known; the compound exists in one form only.*

And again on page 125, in summarizing the whole controversy, the author states:

The question at issue is quite clear. Jörgensen points out that if we take the three cases of the dichloro-diethylene-diammino salts, the dinitrito-tetrammino salts and the dichloro-tetrammino salts, two isomeric series are known in the case of the first two sets, but the dichloro-tetrammino compounds occur in one form only—

$\left[Co\begin{matrix}Cl_2\\en_2\end{matrix}\right]X$ Occur in two forms.

$\left[Co\begin{matrix}(NO_2)_2\\(NH_3)_4\end{matrix}\right]X$ Occur in two forms.

$\left[Co\begin{matrix}Cl_2\\(NH_3)_4\end{matrix}\right]X$ Only one form known.

So that in each case where isomerism is observed there are either two nitro-groups or two ethylene diamine molecules. Where these are both absent, no isomerism occurs. Werner, on the other hand, maintains that his theory accounts better for the facts, *though he has not been able to produce the two isomeric tetrammino salts which, according to his views, ought to exist.* The non-production of these salts is specially significant when we consider how easily we can transform one di-ethylene-diamine isomer into the other; evaporation with mineral acids produces one form, from which the other can be regenerated by evaporating with water after making the solution neutral.

Briefly, Dr. Stewart contends that Werner's views are untenable as he has not been able to prepare the isomeric modification of dichloro-tetrammino cobaltic chloride. This is the crowning argument with which the chapter is closed.

Unfortunately for the argument, Werner published in 1907 in so accessible a journal as the *Berichte der Deutschen Chemischen Gesellschaft,* Vol. 40, p. 4817, a full account of the discovery, the method of preparation, and the properties of this second and isomeric modification of dichloro-tetrammino-cobaltic chloride. This was no accidental discovery, nor the result of haphazard experiment, but a logical consequence of the extension of Werner's views to the complicated poly-nucleal compounds, a field brilliantly developed by Werner during the past twelve years, but not mentioned in the chapter on Cobaltammines.

The critic can not afford to be careless in keeping up with the literature of a subject. The plea of recent publication of Werner's work on this compound can not be put forward, as Dr. Stewart has included in this chapter the still later (1908) published views of Ramsay and of Friend; indeed, the date of his preface, September, 1909, shows that the manuscript was in hand two years after Werner's announcement in the *Berichte* of his success in preparing the isomeric modification of dichloro-tetrammino-cobaltic chloride.

CHAS. H. HERTY
UNIVERSITY OF NORTH CAROLINA,
CHAPEL HILL, N. C.,
December 16, 1910

SCIENTIFIC BOOKS

The Differentiation and Specificity of Corresponding Proteins and Other Vital Substances in Relation to Biological Classification and Organic Evolution. The Crystallography of Hemoglobins. By E. T. REICHERT and A. P. BROWN. Washington, D. C., published by the Carnegie Institution of Washington. 1909.

This is an important and very interesting work, the combined production of a physiologist and a crystallographer. This review will be restricted to a consideration of some