

CHEMICAL GENEALOGY

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SINCE a study of the history of chemistry is included in the chemistry curriculum at the University of Illinois, it has been found worth-while to use various devices to interest the seniors who take the work. Many students see little relationship between what has happened in the past and their present-day needs. Accordingly, as the lectures near their close, a presentation is made of a chemical genealogical tree as illustrated by the accompanying charts. The students are very much interested in seeing the inheritance which they have through their instructors from the great teachers of the past. The charts serve to emphasize once more the dependence of today's events on those of yesterday.

The diagrams include most of the senior staff of the chemistry department of the University of Illinois. Their names are connected to that of the men who directed their doctors' dissertations. In turn, these men were taught by others. The chemists listed fall rather naturally into three classes. There are the contemporary or nearly contemporary chemists whom the staff know. There are those who are not yet included in the histories of chemistry and whose academic records must be determined by theses, obituaries, and other biographical accounts. Finally, there are those men of the nineteenth century or earlier whose story is found in any history of chemistry. The information has been secured from these sources, the staff, and the biographical literature.

A very few points might be made clear. It is impossible to indicate all the chemists with whom every man has come in contact so that the doctor's degree in so far as it is possible has been used as the most significant study. The entire list is given, except in the case of Professor Dennis, who had no earned doctor's degree but who studied widely in Germany. Professor Dennis

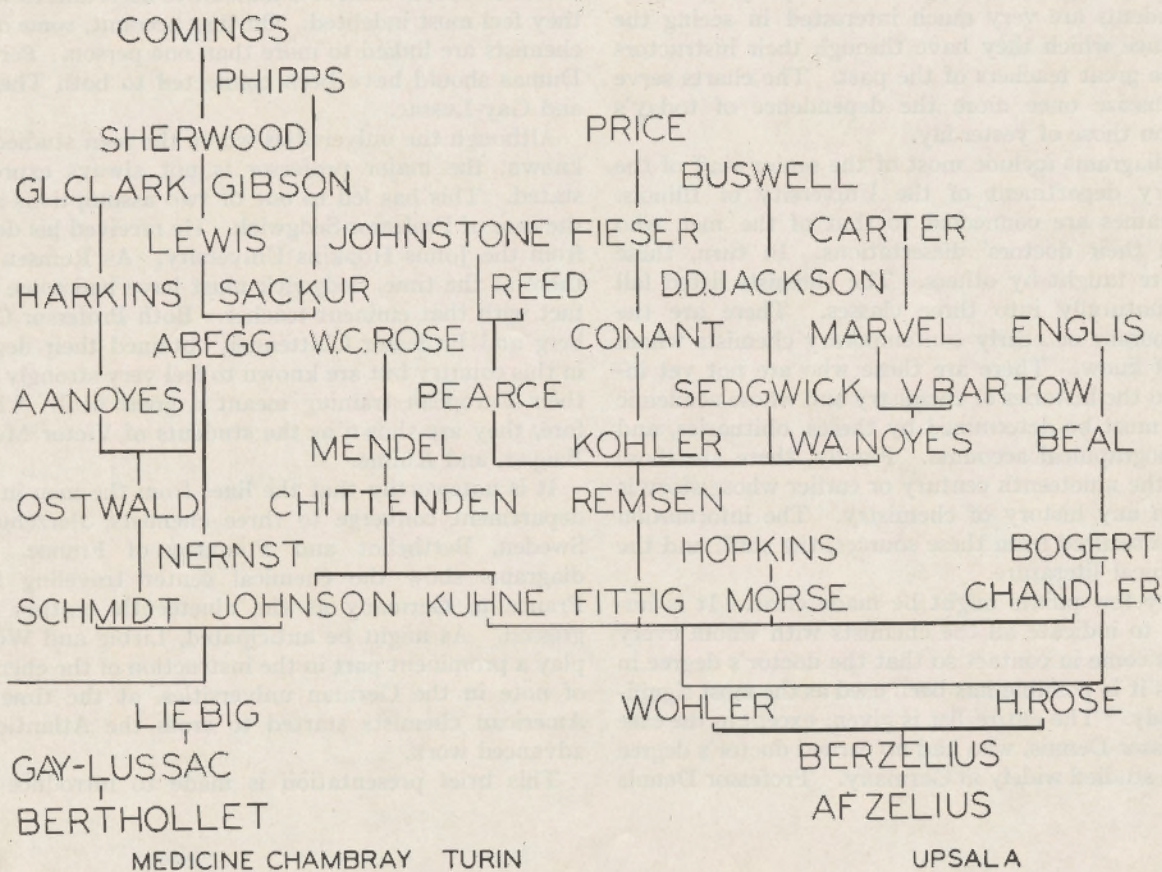
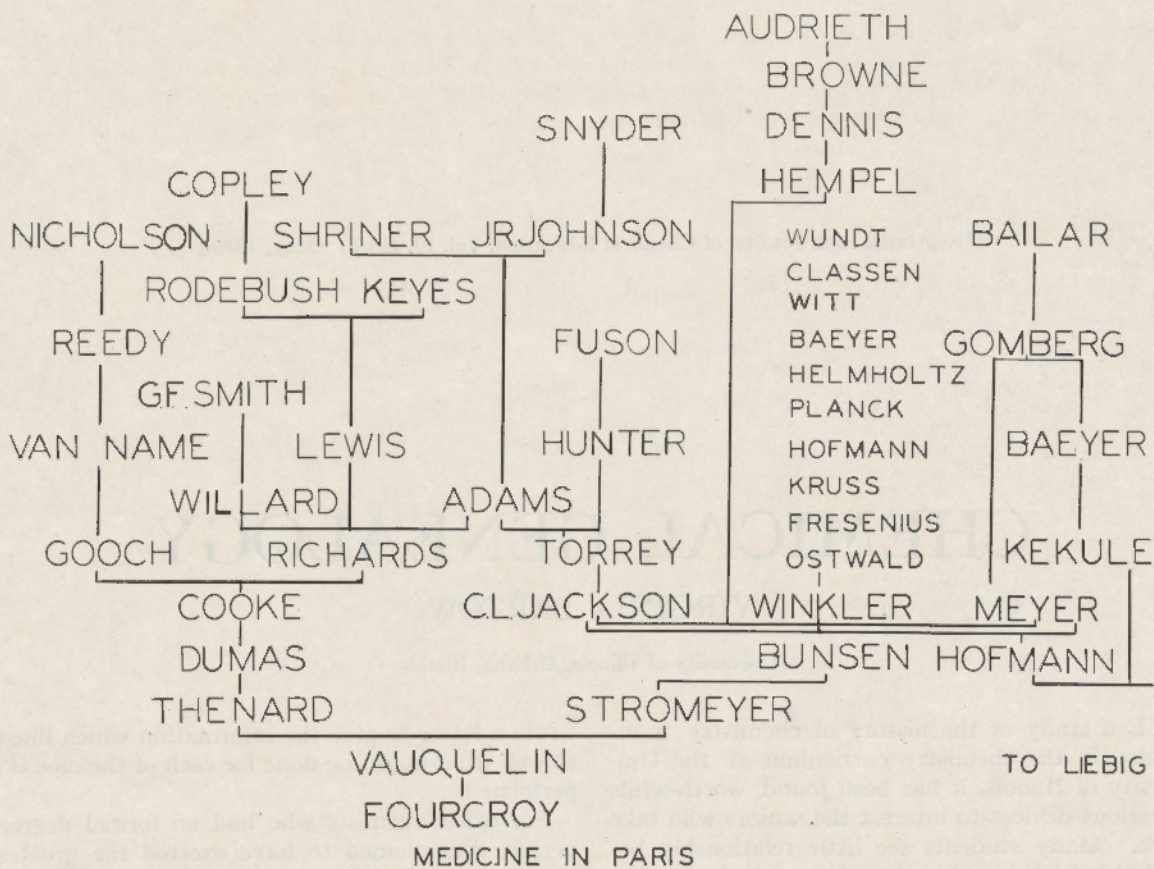
wrote a letter to give the information which illustrates so well what might be done for each of the men if space permitted.

For other chemists who had no formal degree, the person who seemed to have exerted the greatest influence was chosen as the "forebear." As so often happened in the nineteenth century, students traveled from one university to another, finally presenting their theses at one, so that it is difficult to ascertain to which they feel most indebted. On that account, some of the chemists are linked to more than one person. Perhaps Dumas should have been connected to both Thenard and Gay-Lussac.

Although the universities where the men studied are known, the major professor is not always expressly stated. This has led to one or two assumptions as in the case of Professor Sedgwick. He received his degree from the Johns Hopkins University. As Remsen was there at the time, Sedgwick must have had some contact with that eminent teacher. Both Professor Gomberg and Professor Chittenden obtained their degrees in this country but are known to feel very strongly that their European training meant a great deal. Therefore, they are shown as the students of Victor Meyer, Baeyer, and Kühne.

It is noteworthy that the lines from the men in this department converge to three chemists, Berzelius of Sweden, Berthelot and Fourcroy of France. The diagrams show the chemical center traveling from France to Germany as the nineteenth century progressed. As might be anticipated, Liebig and Wöhler play a prominent part in the instruction of the chemists of note in the German universities, at the time our American chemists started to cross the Atlantic for advanced work.

This brief presentation is made to introduce this



device, which can be applied to any group with a little effort. The bibliography is listed for those men for whom the literature sources were used. Perhaps some reader will know of readjustments which should be

made. In conclusion, the writer wishes to express her appreciation to those members of the department at the University of Illinois who contributed a considerable amount of the information.

LITERATURE CITED—SUBJECT AND REFERENCE

- (1) BOGERT, M. T., *Ind. Eng. Chem.*, **12**, 189 (1920).
- (2) CHANDLER, C. F., *ibid.*, **12**, 190 (1920).
- (3) FITTIG, R., *Ber.*, **44**, 1339-83 (1911).
- (4) GOMBERG, M., *Ind. Eng. Chem.*, **23**, 116 (1931).
- (5) GOOCH, F. A., *ibid.*, **15**, 1088 (1923).
- (6) HEMPEL, W., *Ber.*, **49**, 2839-41 (1916).
- (7) JACKSON, C. L., *Ind. Eng. Chem.*, **18**, 872 (1926).
- (8) JOHNSON, S. W., Cf. OSBORNE, ELIZABETH A., editor "From the letter files of S. W. Johnson," Yale University Press, New Haven, Conn., 1913.
- (9) KUHNE, W., *Ber.*, **33**, 3875-80 (1900).
- (10) LEWIS, W. K., "Who's Who in America" Don Marquis Co., Chicago, Ill., Vol. 16, p. 1367.
- (11) MORSE, H. N., *Science* [N. S.] **52**, 497-500 (1900).
- (12) NOYES, A. A., *Ind. Eng. Chem.*, **23**, 443-5 (1931).
- (13) OSTWALD, W., *Oesterr. Chem. Ztg.*, **35** [N. S.], 68 (1932).
- (14) SACKUR, O., *Ber.*, **48**, 1-4 (1915).
- (15) SCHMIDT, K., *ibid.*, **27**, 747 (1894).
- (16) SEDGWICK, W. T., *Science* [N. S.], **53**, 171-8 (1921).
- (17) TORREY, H. A., *Am. Chem. J.*, **20**, 395 (1898).
- (18) WINKLER, C., *Ber.*, **39**, 4491-543 (1906).
- (19) BERZELIUS, J. J., BUNSEN, R. W., GAY-LUSSAC, J. L., VAUQUELIN, L. N., THENARD, L. J., STROMEYER, F., WOHLER, F., Cf. WEEKS, M. E., "Discovery of the elements," Mack Printing Co., Easton, Pa., 1933.
- (20) BAEYER, A. VON, COOKE, J. P., KEKULE, A., LIEBIG, J., MEYER, V., REMSEN, I., RICHARDS, T. W., Cf. MOORE, F. J., "A history of chemistry" rev. by W. T. HALL, 2nd ed., McGraw-Hill Book Co., Inc., New York City, 1931.
- (21) BERTHELLOT, C. L., DUMAS, J. B., ROSE, H., Cf. BROWN, J. C., "A history of chemistry," 2nd ed., P. Blakiston's Son and Co., Philadelphia, Pa., 1920.