figures," Dean Walters gives the five largest summer session enrolments as follows:

Columbia University	14,007
University of Chicago	6,338
University of Minnesota	6,641
University of Wisconsin	5,065
University of California	10,228

SPECIAL ARTICLES

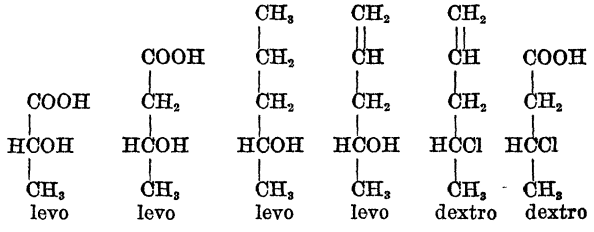
ON THE CONFIGURATIONAL RELATIONSHIP OF 3-CHLOROBUTYRIC AND 3-HYDROXYBUTYRIC ACIDS

IN recent years reports have appeared from several laboratories on the correlation of the configurations of hydroxy and of halogeno acids. The conclusions reached by different authors are quite contradictory. As an illustration two pairs of acids may be mentioned, namely, lactic and chloropropionic acids and malic and bromo- or chlorosuccinic acids. According to Clough and to Levene and Mikeska, dextro-lactic acid is correlated with dextro-chloropropionic acid, whereas Freudenberg correlates it with levo-chloropropionic acid. In the succinic acid series, Clough, Holmberg, Levene and Mikeska correlate dextro-malic with dextro-chloro- or bromosuccinic acid, whereas Freudenberg and Kuhn correlate it with levo-bromosuccinic acid.

All the conclusions were reached by indirect methods and therefore need confirmation by more direct methods.

Levene and Mikeska have advanced sufficient evidence for the assumption that in simple aliphatic secondary alcohols the substitution of the hydroxyl by a halogen atom proceeds without Walden Inversion.

Admitting the correctness of this assumption, it is possible to correlate the configurations of the halogeno acids with carbinols, and these have already been correlated with lactic acid. The process by which this task can be accomplished is seen from the following figures:



Thus, on the basis of this set of reactions, dextro-3-chlorobutyric acid is correlated with levo-3-hydroxybutyric acid and hence with levo-lactic acid.

The same conclusion had been reached previously by Levene and Mikeska on the basis of the behavior of 3-hydroxybutyric and 3-chlorobutyric acids on passing from the ionized to the unionized state. In the pair levo-3-hydroxybutyric and dextro-3-chlorobutyric acids the difference $[M]_{ion} - [M]_{acid}$ has a minus sign.

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THE SPECTRUM OF DOUBLY IONIZED POTASSIUM (K III)

A LARGE number of lines of the spark spectrum of potassium appearing in the electrodeless discharge have been classified by the author as belonging to the K II spectrum. (*Proc.*, Amsterdam, 1926; *Zeitschr. f. Phys.*, 38: 94, 1926; *Archives Neerlandaises*, 11: 70, 1928). The remaining lines lay in the region below λ 3500. It was supposed that these lines belong to the higher ionization stages K III and K IV. A list of these lines has been published by the author. Since we now know the spectra of Chlorine I (De Bruin and Kiess, SCIENCE, 68: 356, 1928) and Argon II (De Bruin, *Zeitschr. f. Phys.*, 48: 62, 1928; 51: 101, 1928) it is not difficult to locate the K III spectrum by aid of the irregular doublet law and to find the energy scheme. A doublet and quartet term system has been found. The key to the analysis is given by the deep $4s^4P_{321}$ with the term differences $\Delta\nu = 1265.9$ and 773.5. The low $4s^2P_{21}$ has the difference $\Delta\nu = 1506.9$. In the following table we give as an example the principal multiplets of the quartet sys-

		$4s^4P_{321} - 4p^4P_{321}$	
5	3513.88	28450.4	$4s^4P_1 - 4p^4P_2$
6	3468.32	28824.2	$4s^4P_2 - 4p^4P_3$
3	3448.01	28993.9	$4s^4P_1 - 4p^4P_1$
6	3420.82	29224.4	$4s^4P_2 - 4p^4P_2$
3	3358.43	29767.3	$4s^4P_2 - 4p^4P_1$
6	3322.40	30090.1	$4s^4P_3 - 4p^4P_3$
6	3278.79	30490.3	$4s^4P_3 - 4p^4P_2$
		$4s^4P_{321} - 4p^4D_{4321}$	
5	3056.84	32704.0	$4s^4P_1 - 4p^4D_2$
6	3052.07	32755.2	$4s^4P_2 - 4p^4D_3$
3	3023.43	33065.4	$4s^4P_1 - 4p^4D_1$
6	2992.42	33408.0	$4s^4P_3 - 4p^4D_4$
5	2986.20	33477.6	$4s^4P_2 - 4p^4D_2$
3	2954.33	33838.8	$4s^4P_2 - 4p^4D_1$
5	2938.45	34021.6	$4s^4P_3 - 4p^4D_3$
1	2877.31	34743.6	$4s^4P_3 - 4p^4D_2$
		$4s^4P_{321} - 4p^4S_2$	
5	2689.90	37165.0	$4s^4P_1 - 4p^4S_2$
5	2635.11	37937.8	$4s^4P_2 - 4p^4S_2$
6	2550.02	39203.0	$4s^4P_3 - 4p^4S_2$