at a somewhat higher rate. Its action upon the β-amylose substrate is, however, not so well sustained as that of pancreatic or malt amylase. This relatively early falling off in the speed of sugar formation together with the high ratio of amyloclastic to saccharogenic power indicate that this amylase is a more active catalyst of the earlier than of the later stages of the hydrolysis.

Contrasting the action of comparable amounts of the three different amylases it appears that they catalyze the successive stages of the hydrolysis of β-amylose and its products at relatively different velocities. The time curve for pancreatic amylase is practically logarithmic up to the production of about three-fourths the theoretical amount of maltose while beyond this point the reaction proceeds at a lower velocity. Compared with this result, the catalytic effect of the amylase of *Aspergillus oryzae* is more pronounced in the earlier and less pronounced in the later stages, while purified malt amylase is relatively less efficient in the earlier stages but catalyzes the later stages more efficiently.

In the digestion of α-amylose all of the amylases showed more pronounced catalytic effect upon the earlier than upon the later stages of the digestion. Starch pastes made at low temperatures (65–80°), autoclaved starch, and Lintner soluble starch all resemble the α-amylose rather than the β-amylose substrate in their behavior toward all three amylases, doubtless because α-amylose is the chief component of all these forms of starch.

The separation of starch into its α- and β-fractions made possible a more satisfactory study of the course of the amylase hydrolyses because of the greater homogeneity of the new substrates. All the data pertaining to the earlier stages of these hydrolyses indicate that Lintner soluble starch is well adapted to its purpose as substrate for testing the activities of the different amylases and that its use leads to conservative estimates of the diastatic powers of purified preparations.

Tested upon any of the four substrates here studied, the three amylases show distinctly different ratios of amyloclastic to saccharogenic powers.

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CORRECTIONS.

Page 1366, line 7 from bottom: after the words "to 170°" insert "with aniline."

In the article by C. E. Hudson in the August number of THIS JOURNAL (p. 1572, line 22) the specific rotation of trehalose octacetate in chloroform should be "+162°" instead of "—162°."

On page 1569, line 11 from the bottom, "melibiose" should be "gentiobiose."