



tional antedating goal responses produce stimuli, which Hull called s_G . Little s_G is the way it feels to salivate and to prepare in other ways to eat food, and it is the way it feels when we anticipate the receiving of our award. We have already seen how postulate IV specifies that r_G occur in advance of the meeting with the goal object, so there is no difficulty in accounting for why s_G occurs early in the sequence; it is produced by r_G .

However, s_G is a stimulus and it also obeys postulate IV; all stimuli present when responses occur shortly before drive reduction become attached to those responses. So s_G becomes an added determinant of the responses in the sequence, along with the stimuli of the world sequence and the stimuli produced by movement toward the goal object. Little s_G is more strongly attached to those responses that are closest to drive reduction, and this accounts for the acceleration as we approach our goal and the rat's acceleration as it nears its food.

This, then, is Hull's (1930, 1931) explanation for our behavior when we go through a sequence of stimuli that we have gone through often in the past. Knowledge is accounted for as the product of action-produced stimuli, which leave a copy of the world sequence within us, translated into our reactions to that sequence.

To complete Hull's account for knowledge, foresight, and purpose, we have only to add $r_G - s_G$ to the mechanisms described so far. Recall that s_G , being a stimulus, obeys postulate IV and becomes an added evoker of each response, especially those nearest the goal stimulus. This is the

basis for anticipation and the acceleration shown as a goal is approached. The final diagram is above.

Practical Application of Hull's Theory

Hull spent a lot of time applying his theory in animal research, and most of his amazing predictions of experimental results refer to animal research. He was a master at attaching numbers to the habit strengths assumed to be present in a given situation and then going through a complex set of deductions, using equations described in his major works (1943, 1952b) and arriving at results so near those actually obtained that critics blanched. (The reader may wish to consult Hull's 1952 book to see just how good he was at predicting the minutest details of an experimental result.)

But Hull's overall goal was to explain that which is worth explaining; it is clear in his writings that he felt we must first make a convincing case for the possibility of explaining complex behavior. If his death had not cut short his work, he may have gone much further than we might guess in dealing with complicated behavior. His students' work suggests the directions he would have taken, and the transcripts of his "Monday-night group" at Yale outlines the sorts of analyses he planned for a range of complex psychological phenomena.

Hull had no formal duties at Yale from 1929 until his death in 1952, aside from the directing of a mass of research carried out by some of the most capable workers in psychology and biology