The unconditioned response \((R_u)\) seemed to form of the concept of Bridgman's idea of the hypothetical inhibitory factor: When the disconfirmation of a reward was expected; that is, the omission of a reward that previously had been present following a response. How to measure \(R_u\) was then the problem.

The solution came to me in the form of a variant of the simple straight-runway apparatus then in frequent use with laboratory rats. (The subjects for this experiment were three pregnant rats sent down from Iowa; there were then no animal facilities at Newcomb College.) Built out of pine boards and hardware-cloth mesh, the apparatus consisted of two straight runways in series: Startbox→Runway 1→Goalbox 1→Runway 2→Goalbox 2. The Goalbox of Runway 1 became the Startbox for Runway 2. The other item of equipment was a stopwatch. The idea was to run hungry rats down this “double-runway,” first giving reward \((R)\) in both goalboxes; then, after reward expectancy was built up in both goalboxes, to institute test trials in which, on a random half of the trials, responses in Runway 1 to Goalbox 1 were not rewarded. Speeds in Runway 2 following these N-trials would then be compared with speeds in Runway 2 following the intermixed R-trials, and the increase in N-speeds over the R-speeds in Runway 2 would be the measure of primary frustration \((R_u)\). This unconditioned response for the conditioned response of anticipatory frustration \((R_u-s)\) is the third inhibitory factor that I thought should be added to Hull's other two. It turned out that the invigoration of the response in Runway 1, which came to be known as the “frustration effect,” was a reliable and stable finding (though others differed on its interpretation), and the double runway became a standard method for investigating the variables that affect the strength of primary frustration. I was surprised at the popularity and the application of this simple idea and procedure, and I thought of (and still think of) this experiment, which I conducted with Jacqueline Roussel, an undergraduate student at Newcomb College, Tulane University, Louisiana, as a small, albeit necessary, step in the theoretical sequence that I intended to pursue in the 1951 paper. The elaboration of a more comprehensive theory of reward-schedule effects in instrumental learning, frustration theory, emerged some years later in several theoretical papers, two of which also were designated Citation Classics.²

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