Table 1
Median RT as a Function of Stimulus Intensity, Instructions, and Block of Trials

	Block	Accuracy Criterion 40 dB	60 dB	90 dB	Speed Criterion 40 dB	60 dB	90 dB
S 1	1	183	154	136	138	127	121
	2	222	164	144	141	122	117
S 2	1	243	176	149	179	150	131
	2	213	192	145	180	146	124
S 3	1	439	363	236	248	200	184
	2	284	216	194	232	193	178
S 4	1	177	139	126	151	126	116
	2	175	138	123	159	136	118
S 5	1	192	142	119	170	134	121
	2	184	139	119	163	132	117
S 6	1	153	130	116	133	118	113
	2	138	127	107	133	127	109
$\bar{X}$	1	231	184	131	170	143	131
	2	203	163	139	168	142	127

the variance in these correlations is accounted for by the large intensity effect, the variance of RT was compared for the two criteria across Ss and intensities. A sign test revealed that the increase in variability of RT from risky to cautious criteria was not significant at $p < .10$. This is in accordance with the predictions of the variable-input model of McGill (1963) and the variable-criterion model of Grice (1968), that RT variability is linearily related to signal intensity but unrelated to criterion changes.

A major problem for the statistical decision model is the nature of the criterion process. Swensson & Edwards (1970), in a series of choice-RT experiments, failed to find the continuous speed-accuracy tradeoff predicted by random walk models with variable cost for time. Instead, their Ss either responded accurately and accepted the time cost or made a preprogrammed detection response and accepted chance-level error rates. False positives in the present task were negligible. Out of 72 possible responses on catch trials, one S made 2 and another made 1, the rest being error-free. While these errors all occurred in the second speed block, they provide scant evidence for a tradeoff. However, it is possible that the error component of simple RT consists in anticipation responses. Snodgrass et al (1967) have shown that Ss may base responses on time estimates of the foreperiod in simple RT when there are high costs for time, and Snodgrass (1969) has advanced a two-strategy model of the tradeoff process in terms of anticipatory and detection responses. This is analogous to the discontinuous tradeoff model employed by Swensson & Edwards (1970) for choice RT.

There is no evidence for such a process underlying the criterion shift in the present experiment. The choice of only three foreperiods, with a range which is large with respect to that of RT, should render such a strategy obvious in terms of RTs clearly below the accepted irreducible minimum and an exaggeration of the increased variability noted by Snodgrass (1969) for time-estimation responses. In fact, the difference in variability was insignificant and in the opposite direction. Furthermore, taking the conventional, if arbitrary, 100-msec estimate of the irreducible minimum RT, only two Ss ever produced RTs faster than this, accounting for 5.5% and 0.5% of their responses.

In these data, therefore, there is little evidence for speed being gained at the cost of errors, of whatever type. Errors, within the performance limits investigated, are neither a necessary part of the strategy for gaining speed nor a component of the payoff costs. However, maximization of the reward for speed may be constrained by the implicit cost of effort.

In conclusion, the present experiment finds qualitative support for a statistical decision model of simple RT: Ss adopted criteria yielding different latencies. While the error rate was negligible, the slope of RT over signal intensity provided an estimate of criterion location. This relationship may provide a quantitative basis for further applications of decision models to simple RT.

ERRATUM

DERVIN, DENNIS, & DEFFENBACHER, KENNETH. Effects of proportion of positive instances and degree of restriction on the induction of a princi
the induction of a principle. Psychon. Sci., 1970, 21 (2), 79-80.–P. 80, Col. 2. The last sentences of the first paragraph should read as follows: "An analysis involving Groups U, RN50, RL50, and RNL50 yielded H(3) = 16.02, $p < .01$. Analysis of Groups U, RN70, RL70, and RNL70 produced H(3) = 6.58, $p < .10$. Finally, analysis of Groups RN50, RL50, RNL50, RN70, RL70, and RNL70 yielded H(5) = 22.0, $p < .001$."

REFERENCES

CHOCOLLE, R. Variations des temps de reaction auditif en fonction de l'intensité à divers frequences. Année Psychologique, 1945, 41-42, 65-124.

GRICE, G. R. Stimulus intensity and response evocation. Psychological Review, 1968, 75, 359-373.

JOHN, I. D. A statistical decision theory of simple reaction time. Australian Journal of Psychology, 1967, 19, 27-34.

McGILL, W. J. Stochastic latency mechanisms. In R. D. Luce, R. R. Bush, and E. Galanter (Eds.) *Handbook of mathematical psychology.* Vol. 1. New York: Wiley, 1963. Pp. 309-360.

SMITH, E. E. Choice reaction time: An analysis of the major theoretical positions. Psychological Bulletin, 1968, 69, 77-110.

SNODGRASS, J. G. Foreperiod effects in simple reaction time: Anticipation or expectancy. Journal of Experimental Psychology, 1969, 79, 1-19.

SNODGRASS, J. G., LUCE, R. D., & GALANTER, E. Some experiments on simple and choice reaction time. Journal of Experimental Psychology, 1967, 75, 1-17.

SWENSSON, R. G., & EDWARDS, W. Response strategies in a two-choice reaction task with a linear cost for time. Unpublished manuscript, 1970.

THRANE, V. C. Sensory and preparatory factors in response latency. V. Stimulus blanks as regulator of preparatory set. Scandinavian Journal of Psychology, 1962, 3, 1-15.