SUBJECTIVE VALUE AS REWARD. (Inspired in George C Homans, The Nature of Social Science (NY : Harcourt, Brace & World, 1967).

Something is subjectively valuable to someone if it is rewarding to him, disvaluable if it punishes him. And the greater the value the subject assigns to a reward, the more prone he will be to take whatever action may bring about that reward. (Note that the propensity is proportional to the value of the reward rather than to the latter. The hungry set much more value on a loaf of bread than the satiate.) These ideas can be formalized as follows.

1 Case of deterministic action

If action a brings reward r , then $Pr(a) = V(r)/C(r)$ (benefit/cost ratio)

where $V(r)$ is the value the subject assigns to r, and $C(r)$ the cost of his getting r . Now, the cost of r equals the value of the outcome of "an alternative action forgone in performing the first" (p. 48). Call this alternative action $\bar{r}$. Then we are left with

$$Pr(a) = V(r) / V(\bar{r}) .$$

Moreover assume that the values of r and $\bar{r}$ are mutually complementary, i.e.

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$$V(r) + V(\overline{r}) = 1.$$

Then we are left with

$$\Pr(a) = \frac{V(r)}{1 - V(r)} = \frac{1 - V(\overline{r})}{V(\overline{r})}$$

If the cost of the action goes up while the value of its result remains constant, the actor is less likely to perform the action. He is more likely to take action if the cost goes down while the value of the reward does not vary.

From the preceding principle we get the corollary: If action a brings about a more valuable reward than action b , then $\not{i}\not{t}$ is more likely to be taken than b .

2 Case of probabilistic action

If action a brings about result r only with some probability $\Pr(r)$, usually then the probability of the action will be smaller than in the previous case. We assume that

$$\Pr(a) = \Pr(r). \ V(r)/C(r) = \Pr(r). \ \frac{V(r)}{1 - V(r)}$$