

This video reveals a fundamental source of ambiguity in two-dimensional measurements of operant performance for reward, such as those obtained in the curve-shift and progressive-ratio paradigms. We show how the three-dimensional portrayal provided by the reward-mountain model resolves this ambiguity.

The reward-mountain model is derived, described, discussed, and applied in the following papers:

- Arvanitogiannis A, & Shizgal P (2008) The reinforcement mountain: allocation of behavior as a function of the rate and intensity of rewarding brain stimulation. *Behav Neurosci* **122**:1126-1138. doi: 10.1037/a0012679
<http://psycnet.apa.org/journals/bne/122/5/1126/>
- Hernandez G, Breton YA, Conover K, & Shizgal P (2010) At what stage of neural processing does cocaine act to boost pursuit of rewards? *PLoS One* **5**:e15081. doi: 10.1371/journal.pone.0015081
<http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0015081>
- Shizgal, P, & Hernandez, G (2010). Intracranial Self-Stimulation. *Encyclopedia of Psychopharmacology*, 653–660. doi:10.1007/978-3-540-68706-1_66
<http://www.springerlink.com/content/w37074k2586301j6/?MUD=MP>
- Trujillo-Pisanty I, Hernandez G, Moreau-Debord I, Cossette MP, Conover K, Cheer JF, & Shizgal P (2011) Cannabinoid receptor blockade reduces the opportunity cost at which rats maintain operant performance for rewarding brain stimulation. *J Neurosci* **31**:5426-5435. doi: 10.1523/JNEUROSCI.0079-11.2011
<http://www.jneurosci.org/content/31/14/5426.long>
- Shizgal, P. (2012). Scarce means with alternative uses: Robbins' definition of economics and its extension to the behavioral and neurobiological study of animal decision making. *Frontiers in Neuroscience*, **6**, 20. doi:10.3389/fnins.2012.00020
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3275781/>
- Hernandez, G., Trujillo-Pisanty, I., Cossette, M-P., Conover, K., & Shizgal, P. (2012) Role of dopamine tone in the pursuit of brain stimulation reward. *Journal of Neuroscience*, 2012, **32**, 11032-11041. doi: 10.1523/JNEUROSCI.1051-12.2012
<http://www.jneurosci.org/content/32/32/11032.long>
- Breton, Y.-A. et al., 2013. Validation and extension of the reward-mountain model. *Frontiers in Behavioral Neuroscience*, **7**, 125.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3787655/>
- Trujillo-Pisanty, I., Conover, K. & Shizgal, P., 2013. A new view of the effect of dopamine receptor antagonism on operant performance for rewarding brain stimulation in the rat. *Psychopharmacology*, in press.
<http://link.springer.com/article/10.1007%2Fs00213-013-3328-x>

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