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Our Bandwidth

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A signal's bandwidth determines the amount of information it can carry and how fast the data transfer. Increasing the bandwidth increases the amount of data that can be sent in a given period of time. We also have bandwidth, and our bandwidth determines how much we can effectively accomplish in a given period of time.

Our bandwidth is limited and the content perishable, meaning that you cannot use the content in last week's bandwidth to accomplish this week's uncompleted tasks. We fill our bandwidth with work, professional activities, home, family, friends, and personal activities. Often, we want to dedicate large amounts of our time to a multitude of these activities, but our bandwidth limits what can actually be accomplished over a defined period of time.

The Planning Fallacy, conceptualized by Daniel Kahneman and Amos Tversky in 1979 [1], describes the phenomenon in which people are overly optimistic about the amount of time required to complete a task [2]. The original research on this matter studied honor students' ability to estimate the amount of time required to complete their theses and found that, on average, the actual amount of time required was 164% of their estimates.

When extrapolated to additional studies on stockbrokers, electrical engineers,

doctors, Christmas shopping, and tax submission; Kahneman and Tversky saw similar results of people drastically underestimating the time commitment required to complete the associated assignment. This tendency to underestimate the amount of time required to complete a project often results in people either failing to meet previously committed obligations or leaving them incomplete. The planning fallacy further explains that people are overly biased about their own abilities to complete assignments and disregard past experience when planning for the future.

People tend to be overly confident in their self-awareness, which leads to the Planning Fallacy. To appropriately plan within your bandwidth, it is important to first take an unbiased view on the amount of time required to meet your goals, whether personal or professional. It is also important to understand the number of prior commitments and urgent tasks and how they will impact your ability to meet these defined goals. True self-awareness requires an honest evaluation of what you can accomplish, and almost more importantly, what you cannot accomplish. This requires you to evaluate obligations and goals based on true capacity planning rather than a simple ranking of competing priorities.

We can learn to increase our bandwidth through techniques such as multitasking and leveraging efficiencies. For instance, tomorrow, I will multitask by

riding my bike to a medical appointment instead of driving my car. Although biking takes longer, because I have already prioritized exercising, I will be able to go to my medical appointment and exercise in less time than it would take to drive to my appointment and then work out separately. I eliminated the unnecessary component, driving, without much impact.

However; this approach is not always effective. For instance, if your spouse wants to have a nice dinner with you, but you try to multitask by constantly checking your email on your smartphone, you will likely be ineffective at both tasks. Dinner probably won't go well because you will not be mentally present, and your spouse will not get the quality time that he or she was seeking. In addition, you might feel stressed about your smartphone interactions and make mistakes when drafting emails (if you want a good laugh, Google "autocorrect mistakes"). To effectively prioritize your tasks and goals, you must first honestly evaluate the amount of time required for you to complete these actions and so understand your bandwidth.

REFERENCES
[1] D. Kahneman and A. Tversky, "Prospect theory: an analysis of decision under risk," *Econometrica*, vol. 47, no. 2, pp. 263–290, Mar 1979.
[2] S. J. Dubner, "Here's why all your projects are always late—And what to do about it," *Freakonomics Radio*, Episode 323, May 22, 2019. [Online]. Available: http://freakonomics.com/podcast/project-management-rebroadcast/