Why Bother to Learn Calculus

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If somebody told you that it might be a good idea to wander the desert for 40 years, you'd probably start looking for a new source of ideas. But if that same person told you to wander the desert for 40 years, and lo, you would find yourself in the land of milk and honey -- well it does seem farfetched, but at least he's given you a reason for such foolishness.

The most frequent complaint I've heard from math students is, "Why do I have to learn this stuff? It's so hard, and it seems utterly useless." First, let me assure you that I lay the blame for the second part of the complaint squarely at the feet of the math teaching community. It caters well to the gifted among us, and to those who, like myself, had good math training at home. But it does nothing to entice the rest of humanity into something that ought to be as joyous to learn as music. But as far as the first complaint, that math is hard, I can't help that. It is hard. So is music.

Calculus in particular and math in general should not be a grind. You cannot do well at it as long as you regard it as a dreaded battleground that you must cross by hook or by crook in order to get your card punched. Instead, think of it as a hike over a mountain pass. Yes it's hard work to trudge up the slopes. And yes, you long to rest in the valley that lies on the other side. But the view from up there is breathtaking.

And that's what calculus does for you. It gives you a vantage point on the world that you cannot have any other way. It teaches you the language you must know to understand how the wind blows, how the waters flow, how the sun shines, how music reaches your ear, how the planets cycle through the heavens, and much more. Even the ebb and flow of such human activities as population dynamics and economics are better viewed from calculus' highlands.

So I will try my best, as your guide, to show you the sights along the way. And perhaps then you will see why learning calculus is a good idea -- not just to satisfy your academic requirements, but for your own wellbeing too. But there is still one more reason to learn it, even if it weren't such a useful tool for understanding the rest of the world. As nothing more than an abstraction, it keeps asking and answering questions about itself. It scratches an itch. When you were a child, didn't you ask your parents countless questions, like, "Why is the sky blue," and "How does a fly walk on the ceiling?" Perhaps you have put your curiosity away. Perhaps you regard it as a childish thing. Well, take it out again. It's time to see how it has grown since you were small. It's time to scratch that itch all over again.