

The Anatomy of Determination

paulgraham.com · Paul Graham · 2009-09 · [source](#)

|

September 2009

Like all investors, we spend a lot of time trying to learn how to predict which startups will succeed. We probably spend more time thinking about it than most, because we invest the earliest. Prediction is usually all we have to rely on.

We learned quickly that the most important predictor of success is determination. At first we thought it might be intelligence. Everyone likes to believe that's what makes startups succeed. It makes a better story that a company won because its founders were so smart. The PR people and reporters who spread such stories probably believe them themselves. But while it certainly helps to be smart, it's not the deciding factor. There are plenty of people as smart as Bill Gates who achieve nothing.

In most domains, talent is overrated compared to determination—partly because it makes a better story, partly because it gives onlookers an excuse for being lazy, and partly because after a while determination starts to look like talent.

I can't think of any field in which determination is overrated, but the relative importance of determination and talent probably do vary somewhat. Talent probably matters more in types of work that are purer, in the sense that one is solving mostly a single type of problem instead of many different types. I suspect determination would not take you as far in math as it would in, say, organized crime.

I don't mean to suggest by this comparison that types of work that depend more on talent are always more admirable. Most people would agree it's more admirable to be good at math than memorizing long

strings of digits, even though the latter depends more on natural ability.

Perhaps one reason people believe startup founders win by being smarter is that intelligence does matter more in technology startups than it used to in earlier types of companies. You probably do need to be a bit smarter to dominate Internet search than you had to be to dominate railroads or hotels or newspapers. And that's probably an ongoing trend. But even in the highest of high tech industries, success still depends more on determination than brains.

If determination is so important, can we isolate its components? Are some more important than others? Are there some you can cultivate?

The simplest form of determination is sheer willfulness. When you want something, you must have it, no matter what.

A good deal of willfulness must be inborn, because it's common to see families where one sibling has much more of it than another. Circumstances can alter it, but at the high end of the scale, nature seems to be more important than nurture. Bad circumstances can break the spirit of a strong-willed person, but I don't think there's much you can do to make a weak-willed person stronger-willed.

Being strong-willed is not enough, however. You also have to be hard on yourself. Someone who was strong-willed but self-indulgent would not be called determined. Determination implies your willfulness is balanced by discipline.

That word balance is a significant one. The more willful you are, the more disciplined you have to be. The stronger your will, the less anyone will be able to argue with you except yourself. And someone has to argue with you, because everyone has base impulses, and if you have more will than discipline you'll just give into them and end up on a local maximum like drug addiction.

We can imagine will and discipline as two fingers squeezing a slippery melon seed. The harder they squeeze, the further the seed flies, but they must both squeeze equally or the seed spins off

sideways.

If this is true it has interesting implications, because discipline can be cultivated, and in fact does tend to vary quite a lot in the course of an individual's life. If determination is effectively the product of will and discipline, then you can become more determined by being more disciplined.

[1]

Another consequence of the melon seed model is that the more willful you are, the more dangerous it is to be undisciplined. There seem to be plenty of examples to confirm that. In some very energetic people's lives you see something like wing flutter, where they alternate between doing great work and doing absolutely nothing. Externally this would look a lot like bipolar disorder.

The melon seed model is inaccurate in at least one respect, however: it's static. In fact the dangers of indiscipline increase with temptation. Which means, interestingly, that determination tends to erode itself. If you're sufficiently determined to achieve great things, this will probably increase the number of temptations around you. Unless you become proportionally more disciplined, willfulness will then get the upper hand, and your achievement will revert to the mean.

That's why Shakespeare's Caesar thought thin men so dangerous. They weren't tempted by the minor perquisites of power.

The melon seed model implies it's possible to be too disciplined. Is it? I think there probably are people whose willfulness is crushed down by excessive discipline, and who would achieve more if they weren't so hard on themselves. One reason the young sometimes succeed where the old fail is that they don't realize how incompetent they are. This lets them do a kind of deficit spending. When they first start working on something, they overrate their achievements. But that gives them confidence to keep working, and their performance improves. Whereas someone clearer-eyed would see their initial incompetence for what it was, and perhaps be discouraged from continuing.

There's one other major component of determination: ambition. If willfulness and discipline are what get you to your destination, ambition is how you choose it.

I don't know if it's exactly right to say that ambition is a component of determination, but they're not entirely orthogonal. It would seem a misnomer if someone said they were very determined to do something trivially easy.

And fortunately ambition seems to be quite malleable; there's a lot you can do to increase it. Most people don't know how ambitious to be, especially when they're young. They don't know what's hard, or what they're capable of. And this problem is exacerbated by having few peers. Ambitious people are rare, so if everyone is mixed together randomly, as they tend to be early in people's lives, then the ambitious ones won't have many ambitious peers. When you take people like this and put them together with other ambitious people, they bloom like dying plants given water. Probably most ambitious people are starved for the sort of encouragement they'd get from ambitious peers, whatever their age.

[2]

Achievements also tend to increase your ambition. With each step you gain confidence to stretch further next time.

So here in sum is how determination seems to work: it consists of willfulness balanced with discipline, aimed by ambition. And fortunately at least two of these three qualities can be cultivated. You may be able to increase your strength of will somewhat; you can definitely learn self-discipline; and almost everyone is practically malnourished when it comes to ambition.

I feel like I understand determination a bit better now. But only a bit: willfulness, discipline, and ambition are all concepts almost as complicated as determination.

[3]

Note too that determination and talent are not the whole story. There's a third factor in achievement: how much you like the work. If you really love working on something,

you don't need determination to drive you; it's what you'd do anyway. But most types of work have aspects one doesn't like, because most types of work consist of doing things for other people, and it's very unlikely that the tasks imposed by their needs will happen to align exactly with what you want to do.

Indeed, if you want to create the most wealth, the way to do it is to focus more on their needs than your interests, and make up the difference with determination.

Notes

[1]

Loosely speaking. What I'm claiming with the melon seed model is more like determination is proportionate to $w^m - k|w - d|^n$, where w is will and d discipline.

[2]

Which means one of the best ways to help a society generally is to create events and institutions that bring ambitious people together. It's like pulling the control rods out of a reactor: the energy they emit encourages other ambitious people, instead of being absorbed by the normal people they're usually surrounded with.

Conversely, it's probably a mistake to do as some European countries have done and try to ensure none of your universities is significantly better than the others.

[3]

For example, willfulness clearly has two subcomponents, stubbornness and energy. The first alone yields someone who's stubbornly inert. The second alone yields someone flighty. As willful people get older or otherwise lose their energy, they

tend to become merely stubborn.

Thanks to Sam Altman, Jessica Livingston, and Robert Morris for reading drafts of this.

|