

# The Power of the Marginal

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A couple years ago my friend Trevor and I went to look at the Apple garage. As we stood there, he said that as a kid growing up in Saskatchewan he'd been amazed at the dedication Jobs and Wozniak must have had to work in a garage.

"Those guys must have been freezing!"

That's one of California's hidden advantages: the mild climate means there's lots of marginal space. In cold places that margin gets trimmed off. There's a sharper line between outside and inside, and only projects that are officially sanctioned — by organizations, or parents, or wives, or at least by oneself — get proper indoor space. That raises the activation energy for new ideas. You can't just tinker. You have to justify.

Some of Silicon Valley's most famous companies began in garages: Hewlett-Packard in 1938, Apple in 1976, Google in 1998. In Apple's case the garage story is a bit of an urban legend. Woz says all they did there was assemble some computers, and that he did all the actual design of the Apple I and Apple II in his apartment or his cube at HP.

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This was apparently too marginal even for Apple's PR people.

By conventional standards, Jobs and Wozniak were marginal people

too. Obviously they were smart, but they can't have looked good on paper. They were at the time a pair of college dropouts with about three years of school between them, and hippies to boot. Their previous business experience consisted of making "blue boxes" to hack into the phone system, a business with the rare distinction of being both illegal and unprofitable.

## Outsiders

Now a startup operating out of a garage in Silicon Valley would feel part of an exalted tradition, like the poet in his garret, or the painter who can't afford to heat his studio and thus has to wear a beret indoors. But in 1976 it didn't seem so cool. The world hadn't yet realized that starting a computer company was in the same category as being a writer or a painter. It hadn't been for long. Only in the preceding couple years had the dramatic fall in the cost of hardware allowed outsiders to compete.

In 1976, everyone looked down on a company operating out of a garage, including the founders. One of the first things Jobs did when they got some money was to rent office space. He wanted Apple to seem like a real company.

They already had something few real companies ever have: a fabulously well designed product. You'd think they'd have had more confidence. But I've talked to a lot of startup founders, and it's always this way. They've built something that's going to change the world, and they're worried about some nit like not having proper business cards.

That's the paradox I want to explore: great new things often come from the margins, and yet the people who discover them are looked down on by everyone, including themselves.

It's an old idea that new things come from the margins. I want to examine its internal structure. Why do great ideas come from the margins? What kind of ideas? And is there anything we can do to encourage the process?

## Insiders

One reason so many good ideas come from the margin is simply that there's so much of it. There have to be more outsiders than insiders, if insider means anything. If the number of outsiders is huge it will always seem as if a lot of ideas come from them, even if few do per capita. But I think there's more going on than this. There are real disadvantages to being an insider, and in some kinds of work they can outweigh the advantages.

Imagine, for example, what would happen if the government decided to commission someone to write an official Great American Novel. First there'd be a huge ideological squabble over who to choose. Most of the best writers would be excluded for having offended one side or the other. Of the remainder, the smart ones would refuse such a job, leaving only a few with the wrong sort of ambition. The committee would choose one at the height of his career — that is, someone whose best work was behind him — and hand over the project with copious free advice about how the book should show in positive terms the strength and diversity of the American people, etc, etc.

The unfortunate writer would then sit down to work with a huge weight of expectation on his shoulders. Not wanting to blow such a public commission, he'd play it safe. This book had better command respect, and the way to ensure that would be to make it a tragedy. Audiences have to be enticed to laugh, but if you kill people they feel obliged to take you seriously. As everyone knows, America plus tragedy equals the Civil War, so that's what it would have to be about. When finally completed twelve years later, the book would be a 900-page pastiche of existing popular novels — roughly *Gone with the Wind* plus *Roots*. But its bulk and celebrity would make it a bestseller for a few months, until blown out of the water by a talk-show host's autobiography. The book would be made into a movie and thereupon forgotten, except by the more waspish sort of reviewers, among whom it would be a byword for bogusness like *Milli Vanilli* or *Battlefield Earth*.

Maybe I got a little carried away with this example. And yet is this not at each point the way such a project would play out? The

government knows better than to get into the novel business, but in other fields where they have a natural monopoly, like nuclear waste dumps, aircraft carriers, and regime change, you'd find plenty of projects isomorphic to this one — and indeed, plenty that were less successful.

This little thought experiment suggests a few of the disadvantages of insider projects: the selection of the wrong kind of people, the excessive scope, the inability to take risks, the need to seem serious, the weight of expectations, the power of vested interests, the undiscerning audience, and perhaps most dangerous, the tendency of such work to become a duty rather than a pleasure.

## Tests

A world with outsiders and insiders implies some kind of test for distinguishing between them. And the trouble with most tests for selecting elites is that there are two ways to pass them: to be good at what they try to measure, and to be good at hacking the test itself.

So the first question to ask about a field is how honest its tests are, because this tells you what it means to be an outsider. This tells you how much to trust your instincts when you disagree with authorities, whether it's worth going through the usual channels to become one yourself, and perhaps whether you want to work in this field at all.

Tests are least hackable when there are consistent standards for quality, and the people running the test really care about its integrity. Admissions to PhD programs in the hard sciences are fairly honest, for example. The professors will get whoever they admit as their own grad students, so they try hard to choose well, and they have a fair amount of data to go on. Whereas undergraduate admissions seem to be much more hackable.

One way to tell whether a field has consistent standards is the overlap between the leading practitioners and the people who teach the subject in universities. At one end of the scale you have fields like math and physics, where nearly all the teachers are

among the best practitioners. In the middle are medicine, law, history, architecture, and computer science, where many are. At the bottom are business, literature, and the visual arts, where there's almost no overlap between the teachers and the leading practitioners. It's this end that gives rise to phrases like "those who can't do, teach."

Incidentally, this scale might be helpful in deciding what to study in college. When I was in college the rule seemed to be that you should study whatever you were most interested in. But in retrospect you're probably better off studying something moderately interesting with someone who's good at it than something very interesting with someone who isn't. You often hear people say that you shouldn't major in business in college, but this is actually an instance of a more general rule: don't learn things from teachers who are bad at them.

How much you should worry about being an outsider depends on the quality of the insiders. If you're an amateur mathematician and think you've solved a famous open problem, better go back and check. When I was in grad school, a friend in the math department had the job of replying to people who sent in proofs of Fermat's last theorem and so on, and it did not seem as if he saw it as a valuable source of tips — more like manning a mental health hotline. Whereas if the stuff you're writing seems different from what English professors are interested in, that's not necessarily a problem.

### Anti-Tests

Where the method of selecting the elite is thoroughly corrupt, most of the good people will be outsiders. In art, for example, the image of the poor, misunderstood genius is not just one possible image of a great artist: it's the standard image. I'm not saying it's correct, incidentally, but it is telling how well this image has stuck. You couldn't make a rap like that stick to math or medicine.

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If it's corrupt enough, a test becomes an anti-test, filtering out the people it should select by making them to do things only the

wrong people would do. Popularity in high school seems to be such a test. There are plenty of similar ones in the grownup world. For example, rising up through the hierarchy of the average big company demands an attention to politics few thoughtful people could spare.

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Someone like Bill Gates can grow a company under him, but it's hard to imagine him having the patience to climb the corporate ladder at General Electric — or Microsoft, actually.

It's kind of strange when you think about it, because lord-of-the-flies schools and bureaucratic companies are both the default. There are probably a lot of people who go from one to the other and never realize the whole world doesn't work this way.

I think that's one reason big companies are so often blindsided by startups.

People at big companies don't realize the extent to which they live in an environment that is one large, ongoing test for the wrong qualities.

If you're an outsider, your best chances for beating insiders are obviously in fields where corrupt tests select a lame elite. But there's a catch: if the tests are corrupt, your victory won't be recognized, at least in your lifetime. You may feel you don't need that, but history suggests it's dangerous to work in fields with corrupt tests. You may beat the insiders, and yet not do as good work, on an absolute scale, as you would in a field that was more honest.

Standards in art, for example, were almost as corrupt in the first half of the eighteenth century as they are today. This was the era of those fluffy idealized portraits of countesses with their lapdogs.

Chardin

decided to skip all that and paint ordinary things as he saw them. He's now considered the best of that period — and yet not the equal of Leonardo or Bellini or Memling, who all had the additional encouragement of honest standards.

It can be worth participating in a corrupt contest, however, if

it's followed by another that isn't corrupt. For example, it would be worth competing with a company that can spend more than you on marketing, as long as you can survive to the next round, when customers compare your actual products. Similarly, you shouldn't be discouraged by the comparatively corrupt test of college admissions, because it's followed immediately by less hackable tests.

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## Risk

Even in a field with honest tests, there are still advantages to being an outsider. The most obvious is that outsiders have nothing to lose. They can do risky things, and if they fail, so what? Few will even notice.

The eminent, on the other hand, are weighed down by their eminence. Eminence is like a suit: it impresses the wrong people, and it constrains the wearer.

Outsiders should realize the advantage they have here. Being able to take risks is hugely valuable. Everyone values safety too much, both the obscure and the eminent. No one wants to look like a fool. But it's very useful to be able to. If most of your ideas aren't stupid, you're probably being too conservative. You're not bracketing the problem.

Lord Acton said we should judge talent at its best and character at its worst. For example, if you write one great book and ten bad ones, you still count as a great writer — or at least, a better writer than someone who wrote eleven that were merely good. Whereas if you're a quiet, law-abiding citizen most of the time but occasionally cut someone up and bury them in your backyard, you're a bad guy.

Almost everyone makes the mistake of treating ideas as if they were indications of character rather than talent — as if having a stupid idea made you stupid. There's a huge weight of tradition advising us to play it safe. "Even a fool is thought wise if he keeps silent," says the Old Testament (Proverbs 17:28).

Well, that may be fine advice for a bunch of goatherds in Bronze Age Palestine. There conservatism would be the order of the day. But times have changed. It might still be reasonable to stick with the Old Testament in political questions, but materially the world now has a lot more state. Tradition is less of a guide, not just because things change faster, but because the space of possibilities is so large. The more complicated the world gets, the more valuable it is to be willing to look like a fool.

## Delegation

And yet the more successful people become, the more heat they get if they screw up — or even seem to screw up. In this respect, as in many others, the eminent are prisoners of their own success. So the best way to understand the advantages of being an outsider may be to look at the disadvantages of being an insider.

If you ask eminent people what's wrong with their lives, the first thing they'll complain about is the lack of time. A friend of mine at Google is fairly high up in the company and went to work for them long before they went public. In other words, he's now rich enough not to have to work. I asked him if he could still endure the annoyances of having a job, now that he didn't have to. And he said that there weren't really any annoyances, except — and he got a wistful look when he said this — that he got so much email.

The eminent feel like everyone wants to take a bite out of them. The problem is so widespread that people pretending to be eminent do it by pretending to be overstretched.

The lives of the eminent become scheduled, and that's not good for thinking. One of the great advantages of being an outsider is long, uninterrupted blocks of time. That's what I remember about grad school: apparently endless supplies of time, which I spent worrying about, but not writing, my dissertation. Obscurity is like health food — unpleasant, perhaps, but good for you. Whereas fame tends to be like the alcohol produced by fermentation. When it reaches a certain concentration, it kills off the yeast that produced it.

The eminent generally respond to the shortage of time by turning into managers. They don't have time to work. They're surrounded by junior people they're supposed to help or supervise. The obvious solution is to have the junior people do the work. Some good stuff happens this way, but there are problems it doesn't work so well for: the kind where it helps to have everything in one head.

For example, it recently emerged that the famous glass artist Dale Chihuly hasn't actually blown glass for 27 years. He has assistants do the work for him. But one of the most valuable sources of ideas in the visual arts is the resistance of the medium. That's why oil paintings look so different from watercolors. In principle you could make any mark in any medium; in practice the medium steers you. And if you're no longer doing the work yourself, you stop learning from this.

So if you want to beat those eminent enough to delegate, one way to do it is to take advantage of direct contact with the medium. In the arts it's obvious how: blow your own glass, edit your own films, stage your own plays. And in the process pay close attention to accidents and to new ideas you have on the fly. This technique can be generalized to any sort of work: if you're an outsider, don't be ruled by plans. Planning is often just a weakness forced on those who delegate.

Is there a general rule for finding problems best solved in one head? Well, you can manufacture them by taking any project usually done by multiple people and trying to do it all yourself. Wozniak's work was a classic example: he did everything himself, hardware and software, and the result was miraculous. He claims not one bug was ever found in the Apple II, in either hardware or software.

Another way to find good problems to solve in one head is to focus on the grooves in the chocolate bar — the places where tasks are divided when they're split between several people. If you want to beat delegation, focus on a vertical slice: for example, be both writer and editor, or both design buildings and construct them.

One especially good groove to span is the one between tools and things made with them. For example, programming languages and

applications are usually written by different people, and this is responsible for a lot of the worst flaws in programming languages.

I think every language should be designed simultaneously with a large application written in it, the way C was with Unix.

Techniques for competing with delegation translate well into business, because delegation is endemic there. Instead of avoiding it as a drawback of senility, many companies embrace it as a sign of maturity. In big companies software is often designed, implemented, and sold by three separate types of people. In startups one person may have to do all three. And though this feels stressful, it's one reason startups win. The needs of customers and the means of satisfying them are all in one head.

## Focus

The very skill of insiders can be a weakness. Once someone is good at something, they tend to spend all their time doing that. This kind of focus is very valuable, actually. Much of the skill of experts is the ability to ignore false trails. But focus has drawbacks: you don't learn from other fields, and when a new approach arrives, you may be the last to notice.

For outsiders this translates into two ways to win. One is to work on a variety of things. Since you can't derive as much benefit (yet) from a narrow focus, you may as well cast a wider net and derive what benefit you can from similarities between fields. Just as you can compete with delegation by working on larger vertical slices, you can compete with specialization by working on larger horizontal slices — by both writing and illustrating your book, for example.

The second way to compete with focus is to see what focus overlooks. In particular, new things. So if you're not good at anything yet, consider working on something so new that no one else is either. It won't have any prestige yet, if no one is good at it, but you'll have it all to yourself.

The potential of a new medium is usually underestimated, precisely

because no one has yet explored its possibilities. Before Durer tried making engravings, no one took them very seriously. Engraving was for making little devotional images — basically fifteenth century baseball cards of saints. Trying to make masterpieces in this medium must have seemed to Durer's contemporaries the way that, say, making masterpieces in comics might seem to the average person today.

In the computer world we get not new mediums but new platforms: the minicomputer, the microprocessor, the web-based application. At first they're always dismissed as being unsuitable for real work. And yet someone always decides to try anyway, and it turns out you can do more than anyone expected. So in the future when you hear people say of a new platform: yeah, it's popular and cheap, but not ready yet for real work, jump on it.

As well as being more comfortable working on established lines, insiders generally have a vested interest in perpetuating them. The professor who made his reputation by discovering some new idea is not likely to be the one to discover its replacement. This is particularly true with companies, who have not only skill and pride anchoring them to the status quo, but money as well. The Achilles heel of successful companies is their inability to cannibalize themselves. Many innovations consist of replacing something with a cheaper alternative, and companies just don't want to see a path whose immediate effect is to cut an existing source of revenue.

So if you're an outsider you should actively seek out contrarian projects. Instead of working on things the eminent have made prestigious, work on things that could steal that prestige.

The really juicy new approaches are not the ones insiders reject as impossible, but those they ignore as undignified. For example, after Wozniak designed the Apple II he offered it first to his employer, HP. They passed. One of the reasons was that, to save money, he'd designed the Apple II to use a TV as a monitor, and HP felt they couldn't produce anything so declassé.

Less

Wozniak used a TV as a monitor for the simple reason that he couldn't afford a monitor. Outsiders are not merely free but compelled to make things that are cheap and lightweight. And both are good bets for growth: cheap things spread faster, and lightweight things evolve faster.

The eminent, on the other hand, are almost forced to work on a large scale. Instead of garden sheds they must design huge art museums. One reason they work on big things is that they can: like our hypothetical novelist, they're flattered by such opportunities. They also know that big projects will by their sheer bulk impress the audience. A garden shed, however lovely, would be easy to ignore; a few might even snicker at it. You can't snicker at a giant museum, no matter how much you dislike it. And finally, there are all those people the eminent have working for them; they have to choose projects that can keep them all busy.

Outsiders are free of all this. They can work on small things, and there's something very pleasing about small things. Small things can be perfect; big ones always have something wrong with them. But there's a magic in small things that goes beyond such rational explanations. All kids know it. Small things have more personality.

Plus making them is more fun. You can do what you want; you don't have to satisfy committees. And perhaps most important, small things can be done fast. The prospect of seeing the finished project hangs in the air like the smell of dinner cooking. If you work fast, maybe you could have it done tonight.

Working on small things is also a good way to learn. The most important kinds of learning happen one project at a time. ("Next time, I won't...") The faster you cycle through projects, the faster you'll evolve.

Plain materials have a charm like small scale. And in addition

there's the challenge of making do with less. Every designer's ears perk up at the mention of that game, because it's a game you can't lose. Like the JV playing the varsity, if you even tie, you win. So paradoxically there are cases where fewer resources yield better results, because the designers' pleasure at their own ingenuity more than compensates.

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So if you're an outsider, take advantage of your ability to make small and inexpensive things. Cultivate the pleasure and simplicity of that kind of work; one day you'll miss it.

## Responsibility

When you're old and eminent, what will you miss about being young and obscure? What people seem to miss most is the lack of responsibilities.

Responsibility is an occupational disease of eminence. In principle you could avoid it, just as in principle you could avoid getting fat as you get old, but few do. I sometimes suspect that responsibility is a trap and that the most virtuous route would be to shirk it, but regardless it's certainly constraining.

When you're an outsider you're constrained too, of course. You're short of money, for example. But that constrains you in different ways. How does responsibility constrain you? The worst thing is that it allows you not to focus on real work. Just as the most dangerous forms of procrastination are those that seem like work, the danger of responsibilities is not just that they can consume a whole day, but that they can do it without setting off the kind of alarms you'd set off if you spent a whole day sitting on a park bench.

A lot of the pain of being an outsider is being aware of one's own procrastination. But this is actually a good thing. You're at least close enough to work that the smell of it makes you hungry.

As an outsider, you're just one step away from getting things done. A huge step, admittedly, and one that most people never seem to make, but only one step. If you can summon up the energy to get started, you can work on projects with an intensity (in both senses) that few insiders can match. For insiders work turns into a duty, laden with responsibilities and expectations. It's never so pure as it was when they were young.

Work like a dog being taken for a walk, instead of an ox being yoked to the plow. That's what they miss.

## Audience

A lot of outsiders make the mistake of doing the opposite; they admire the eminent so much that they copy even their flaws. Copying is a good way to learn, but copy the right things. When I was in college I imitated the pompous diction of famous professors. But this wasn't what made them eminent — it was more a flaw their eminence had allowed them to sink into. Imitating it was like pretending to have gout in order to seem rich.

Half the distinguishing qualities of the eminent are actually disadvantages. Imitating these is not only a waste of time, but will make you seem a fool to your models, who are often well aware of it.

What are the genuine advantages of being an insider? The greatest is an audience. It often seems to outsiders that the great advantage of insiders is money — that they have the resources to do what they want. But so do people who inherit money, and that doesn't seem to help, not as much as an audience. It's good for morale to know people want to see what you're making; it draws work out of you.

If I'm right that the defining advantage of insiders is an audience, then we live in exciting times, because just in the last ten years the Internet has made audiences a lot more liquid. Outsiders don't have to content themselves anymore with a proxy audience of a few smart friends. Now, thanks to the Internet, they can start to grow themselves actual audiences. This is great news for the marginal, who retain the advantages of outsiders while increasingly being

able to siphon off what had till recently been the prerogative of the elite.

Though the Web has been around for more than ten years, I think we're just beginning to see its democratizing effects. Outsiders are still learning how to steal audiences. But more importantly, audiences are still learning how to be stolen — they're still just beginning to realize how much deeper bloggers can dig than journalists, how much more interesting a democratic news site can be than a front page controlled by editors, and how much funnier a bunch of kids with webcams can be than mass-produced sitcoms.

The big media companies shouldn't worry that people will post their copyrighted material on YouTube. They should worry that people will post their own stuff on YouTube, and audiences will watch that instead.

## Hacking

If I had to condense the power of the marginal into one sentence it would be: just try hacking something together. That phrase draws in most threads I've mentioned here. Hacking something together means deciding what to do as you're doing it, not a subordinate executing the vision of his boss. It implies the result won't be pretty, because it will be made quickly out of inadequate materials. It may work, but it won't be the sort of thing the eminent would want to put their name on. Something hacked together means something that barely solves the problem, or maybe doesn't solve the problem at all, but another you discovered en route. But that's ok, because the main value of that initial version is not the thing itself, but what it leads to. Insiders who daren't walk through the mud in their nice clothes will never make it to the solid ground on the other side.

The word "try" is an especially valuable component. I disagree

here with Yoda, who said there is no try. There is try. It implies there's no punishment if you fail. You're driven by curiosity instead of duty. That means the wind of procrastination will be in your favor: instead of avoiding this work, this will be what you do as a way of avoiding other work. And when you do it, you'll be in a better mood. The more the work depends on imagination, the more that matters, because most people have more ideas when they're happy.

If I could go back and redo my twenties, that would be one thing I'd do more of: just try hacking things together. Like many people that age, I spent a lot of time worrying about what I should do. I also spent some time trying to build stuff. I should have spent less time worrying and more time building. If you're not sure what to do, make something.

Raymond Chandler's advice to thriller writers was "When in doubt, have a man come through a door with a gun in his hand." He followed that advice. Judging from his books, he was often in doubt. But though the result is occasionally cheesy, it's never boring. In life, as in books, action is underrated.

Fortunately the number of things you can just hack together keeps increasing. People fifty years ago would be astonished that one could just hack together a movie, for example. Now you can even hack together distribution. Just make stuff and put it online.

Inappropriate

If you really want to score big, the place to focus is the margin of the margin: the territories only recently captured from the insiders. That's where you'll find the juiciest projects still undone, either because they seemed too risky, or simply because there were too few insiders to explore everything.

This is why I spend most of my time writing essays lately. The writing of essays used to be limited to those who could get them published. In principle you could have written them and just shown them to your friends; in practice that didn't work.

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An

essayist needs the resistance of an audience, just as an engraver needs the resistance of the plate.

Up till a few years ago, writing essays was the ultimate insider's game. Domain experts were allowed to publish essays about their field, but the pool allowed to write on general topics was about eight people who went to the right parties in New York. Now the reconquista has overrun this territory, and, not surprisingly, found it sparsely cultivated. There are so many essays yet unwritten. They tend to be the naughtier ones; the insiders have pretty much exhausted the motherhood and apple pie topics.

This leads to my final suggestion: a technique for determining when you're on the right track. You're on the right track when people complain that you're unqualified, or that you've done something inappropriate. If people are complaining, that means you're doing something rather than sitting around, which is the first step. And if they're driven to such empty forms of complaint, that means you've probably done something good.

If you make something and people complain that it doesn't work, that's a problem. But if the worst thing they can hit you with is your own status as an outsider, that implies that in every other respect you've succeeded. Pointing out that someone is unqualified is as desperate as resorting to racial slurs. It's just a legitimate sounding way of saying: we don't like your type around here.

But the best thing of all is when people call what you're doing inappropriate. I've been hearing this word all my life and I only recently realized that it is, in fact, the sound of the homing beacon. "Inappropriate" is the null criticism. It's merely the adjective form of "I don't like it."

So that, I think, should be the highest goal for the marginal. Be inappropriate. When you hear people saying that, you're golden. And they, incidentally, are busted.

## Notes

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The facts about Apple's early history are from an interview with Steve Wozniak in Jessica Livingston's Founders at Work.

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As usual the popular image is several decades behind reality. Now the misunderstood artist is not a chain-smoking drunk who pours his soul into big, messy canvases that philistines see and say "that's not art" because it isn't a picture of anything. The philistines have now been trained that anything hung on a wall is art. Now the misunderstood artist is a coffee-drinking vegan cartoonist whose work they see and say "that's not art" because it looks like stuff they've seen in the Sunday paper.

[3]

In fact this would do fairly well as a definition of politics: what determines rank in the absence of objective tests.

[4]

In high school you're led to believe your whole future depends on where you go to college, but it turns out only to buy you a couple years. By your mid-twenties the people worth impressing already judge you more by what you've done than where you went to school.

[5]

Managers are presumably wondering, how can I make this miracle happen? How can I make the people working for me do more with less? Unfortunately the constraint probably has to be self-imposed. If you're expected to do more with less, then you're being starved, not eating virtuously.

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Without the prospect of publication, the closest most people come to writing essays is to write in a journal. I find I never get as deeply into subjects as I do in proper essays. As the name implies, you don't go back and rewrite journal entries over and over for two weeks.

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