



# Economics and Efficiency

1. [Against Tulip Subsidies](#)
2. [Considerations On Cost Disease](#)
3. [Highlights From The Comments On Cost Disease](#)
4. [The Price Of Glee In China](#)
5. [Things Probably Matter](#)
6. [How The West Was Won](#)
7. [The Lizard People Of Alpha Draconis 1 Decided To Build An Ansible](#)
8. [A Modern Myth](#)

# Against Tulip Subsidies

## I.

Imagine a little kingdom with a quaint custom: when a man likes a woman, he offers her a tulip; if she accepts, they are married shortly thereafter. A couple who marries sans tulip is considered to be living in sin; no other form of proposal is appropriate or accepted.

One day, a Dutch trader comes to the little kingdom. He explains that his homeland *also* has a quaint custom involving tulips: they [speculate on them, bidding the price up to stratospheric levels](#). Why, in the Netherlands, a tulip can go for ten times more than the average worker earns in a year! The trader is pleased to find a new source of bulbs, and offers the people of the kingdom a few guilders per tulip, which they happily accept.

Soon other Dutch traders show up and start a bidding war. The price of tulips goes up, and up, and up; first dozens of guilders, then hundreds. Tulip-growers make a fortune, but everyone else is less pleased. Suitors wishing to give a token of their love find themselves having to invest their entire life savings – with no guarantee that the woman will even say yes! Soon, some of the poorest people are locked out of marriage and family-raising entirely.

Some of the members of Parliament are outraged. Marriage is, they say, a human right, and to see it forcibly denied the poor by foreign speculators is nothing less than an abomination. They demand that the King provide every man enough money to guarantee he can buy a tulip. Some objections are raised: won't it deplete the Treasury? Are we obligated to buy everyone a beautiful flawless bulb, or just the sickliest, grungiest plant that will technically satisfy the requirements of the ritual? If some man continuously proposes to women who reject him, are we obligated to pay for a new bulb each time, subsidizing his stupidity?

The pro-subsidy faction declares that the people asking these question are well-off, and can probably afford tulips of their own, and so from their place of privilege they are trying to raise pointless objections to other people being able to obtain the connubial happiness they themselves enjoy. After the doubters are tarred and feathered and thrown in the river, Parliament votes that the public purse pay for as many tulips as the poor need, whatever the price.

A few years later, another Dutch trader comes to the little kingdom. Everyone asks if he is there to buy tulips, and he says no, the Netherlands' tulip bubble has long since collapsed, and the price is down to a guilder or two. The people of the kingdom are very surprised to hear that, since the price of their own tulips has never stopped going up, and is now in the range of tens of thousands of guilders. Nevertheless, they are glad that, however high tulip prices may be for them, they know the government is always there to help. Sure, the roads are falling apart and the army is going hungry for lack of rations, but at least everyone who wants to marry is able to do so.

Meanwhile, across the river is another little kingdom that had the same tulip-related marriage custom. They also had a crisis when the Dutch merchants started making the prices go up. But they didn't have enough money to afford universal tulip subsidies. It was pretty touch-and-go for a while, and a lot of poor people were very unhappy.

But nowadays they use daffodils to mark engagements, and their economy has never been better.

## II.

In America, aspiring doctors do four years of undergrad in whatever area they want (I did Philosophy), then four more years of medical school, for a total of eight years post-high school education. In Ireland, aspiring doctors go straight from high school to medical school and finish after five years.

I've done medicine in both America and Ireland. The doctors in both countries are about equally good. When Irish doctors take the American standardized tests, they usually do pretty well. Ireland is one of the approximately 100% of First World countries that gets better health outcomes than the United States. There's no evidence whatsoever that American doctors gain anything from those three extra years of undergrad. And why would they? Why is having a philosophy degree under my belt supposed to make me any better at medicine?

(I guess I might have acquired a talent for colorectal surgery through long practice pulling things out of my ass, but it hardly seems worth it.)

I'll make another confession. Ireland's medical school is five years as opposed to America's four because the Irish spend their first year teaching the basic sciences – biology, organic chemistry, physics, calculus. When I applied to medical school in Ireland, they offered me an accelerated four year program on the grounds that I had surely gotten all of those in my American undergraduate work. I hadn't. I read some books about them over the summer and did just fine.

Americans take eight years to become doctors. Irishmen can do it in four, and achieve the same result. Each year of higher education at a good school – let's say an Ivy, doctors don't study at Podunk Community College – costs about \$50,000. So American medical students are paying an extra \$200,000 for...what?

Remember, a modest amount of the current health care crisis is caused by [doctors' crippling level of debt](#). Socially responsible doctors often consider less lucrative careers helping the needy, right up until the bill comes due from their education and they realize they have to make a lot of money *right now*. We took one look at that problem and said "You know, let's make doctors pay an extra \$200,000 for no reason."

And to paraphrase Dirksen, \$200,000 here, \$200,000 there, and pretty soon it adds up to real money. 20,000 doctors graduate in the United States each year; that means the total yearly cost of requiring doctors to have undergraduate degrees is \$4 billion. That's most of the amount of money you'd need to house every homeless person in the country ([\\$10,000](#) to house one homeless x [600,000](#) homeless).

I want to be able to say people have noticed the Irish/American discrepancy and are thinking hard about it. I *can* say that. Just not in the way I would like. Many of the elder doctors I talked to in Ireland wanted to switch to the American system. Not because they thought it would give them better doctors. Just because they said it was more fun working with medical students like myself who were older and a little wiser. The Irish medical students were just out of high school and hard to relate to – us foreigners were four years older than that and had one or another undergraduate subject under our belts. One of my attendings said that it was nice having me around

because I'd studied Philosophy in college and that gave our team a touch of class. A *touch of class!*

This is why, despite my reservations about libertarianism, it's not-libertarianism that really scares me. Whenever some people without skin in the game are allowed to make decisions for other people, you end up with a bunch of elderly doctors getting together, think "Yeah, things *do* seem a little classier around here if we make people who are not us pay \$200,000, make it so," and then there goes the money that should have housed all the homeless people in the country.

But more important, it also destroyed my last shred of hope that the current mania for requiring college degrees for everything had a good reason behind it.

### III.

The only reason I'm picking on medicine is that it's so clear. You have your experimental group in the United States, your control group in Ireland, you can see the lack of difference. You can take an American doctor and an Irish doctor, watch them prescribe the same medication in the same situation, and have a visceral feel for "Wait, we just spent \$200,000 for no reason."

But it's not just medicine. Let me tell you about my family.

There's my cousin. He wants to be a firefighter. He's wanted to be a firefighter ever since he was young, and he's done volunteer work for his local fire department, who have promised him a job. But in order to get it, he has to go do four years of college. You can't be a firefighter without a college degree. That would be ridiculous. Back in the old days, when people were allowed to become firefighters after getting only thirteen measly years of book learning, I have it on good authority that several major states burnt to the ground.

My mother is a Spanish teacher. After twenty years teaching, with excellent reviews by her students, she pursued a Masters' in Education because her school was going to pay her more money if she had it. She told me that her professors were incompetent, had never actually taught real students, and spent the entire course pushing whatever was the latest educational fad; however, after paying them thousands of dollars, she got the degree and her school dutifully increased her salary. She is lucky. In several states, teachers are required by law to pursue a Masters' degree to be allowed to continue teaching. Oddly enough, these states have no better student outcomes than states without this requirement, but this does not seem to affect their zeal for this requirement. Even though [many rigorous well-controlled studies](#) have found that presence of absence of a Masters' degree explains approximately zero percent of variance in teacher quality, many states continue to require it if you want to keep your license, and almost every state will pay you more for having it.

Before taking my current job, I taught English in Japan. I had no Japanese language experience and no teaching experience, but the company I interviewed with asked if I had an undergraduate degree in some subject or other, and that was good enough for them. Meanwhile, I knew people who were fluent in Japanese and who had high-level TOEFL certification. They did not have a college degree so they were not considered.

My ex-girlfriend majored in Gender Studies, but it turned out all of the high-paying gender factories had relocated to China. They solved this problem by going to App Academy, a three month long, \$15,000 course that taught programming. App

Academy graduates compete for the same jobs as people who have taken computer science in college, a four year long, \$200,000 undertaking.

I see no reason to think my family and friends are unique. The overall picture seems to be one of people paying hundreds of thousands of dollars to get a degree in Art History to pursue a job in Sales, or a degree in Spanish Literature to get a job as a middle manager. Or *not* paying hundreds of thousands of dollars, if they happen to be poor, and so being permanently locked out of jobs as a firefighter or salesman.

#### IV.

So presidential candidate Bernie Sanders has proposed [universal free college tuition](#).

On the one hand, I sympathize with his goals. If you can't get any job better than 'fast food worker' without a college degree, and poor people can't afford college degrees, that's a pretty grim situation, and obviously unfair to the poor.

On the other hand, if can't you get married without a tulip, and poor people can't afford tulips, that's also a pretty grim situation, and obviously unfair to the poor.

But the solution isn't universal tulip subsidies.

Higher education is in a bubble much like the old tulip bubble. In the past forty years, the price of college has dectupled (quadrupled when adjusting for inflation). It [used to be easy](#) to pay for college with a summer job; now it is impossible. At the same time, the unemployment rate of people without college degrees is [twice that](#) of people who have them. Things are clearly very bad and Senator Sanders is right to be concerned.

But, well, when we require doctors to get a college degree before they can go to medical school, we're throwing out a mere \$5 billion, barely enough to house all the homeless people in the country. But Senator Sanders admits that his plan would cost \$70 billion per year. That's about the size of the entire economy of Hawaii. It's enough to give \$2000 every year to every American in poverty.

At what point do we say "Actually, no, let's not do that, and just let people hold basic jobs even if they don't cough up a a hundred thousand dollars from somewhere to get a degree in Medieval History"?

I'm afraid that Sanders' plan is a lot like the tulip subsidy idea that started off this post. It would subsidize the continuation of a useless tradition that has turned into a speculation bubble, prevent the bubble from ever popping, and disincentivize people from figuring out a way to route around the problem, eg replacing the tulips with daffodils.

(yes, it is nice to have college for non-economic reasons too, but let's be honest - if there were no such institution as college, would you, totally for non-economic reasons, suggest the government pay poor people \$100,000 to get a degree in Medieval History? Also, anything not related to job-getting can be done three times as quickly by just reading a book.)

If I were Sanders, I'd propose a different strategy. Make "college degree" a protected characteristic, like race and religion and sexuality. If you're not allowed to ask a job candidate whether they're gay, you're not allowed to ask them whether they're a college graduate or not. You can give them all sorts of examinations, you can ask them their high school grades and SAT scores, you can ask their work history, but if

you ask them if they have a degree then that's illegal class-based discrimination and you're going to jail. I realize this is a blatant violation of my usual semi-libertarian principles, but at this point I don't care.



# Considerations On Cost Disease

## I.

Tyler Cowen [writes about cost disease](#). I'd previously heard the term used to refer only to a specific theory of why costs are increasing, involving labor becoming more efficient in some areas than others. Cowen seems to use it indiscriminately to refer to increasing costs in general – which I guess is fine, goodness knows we need a word for that.

Cowen assumes his readers already understand that cost disease exists. I don't know if this is true. My impression is that most people still don't know about cost disease, or don't realize the extent of it. So I thought I would make the case for the cost disease in the sectors Tyler mentions – health care and education – plus a couple more.

First let's look at primary education:



There was some argument about the style of this graph, but [as per Politifact](#) the basic claim is true. Per student spending has increased about 2.5x in the past forty years even after adjusting for inflation.

At the same time, test scores have stayed relatively stagnant. You can see [the full numbers here](#), but in short, high school students' reading scores went from 285 in 1971 to 287 today – a difference of 0.7%.

There is some heterogeneity across races – white students' test scores increased 1.4% and minority students' scores by about 20%. But it is hard to credit school spending for the minority students' improvement, which occurred almost entirely during the period from 1975-1985. School spending has been on exactly the same trajectory before and after that time, and in white and minority areas, suggesting that there was something specific about that decade which improved minority (but not white) scores. Most likely this was the general improvement in minorities' conditions around that time, giving them better nutrition and a more stable family life. It's hard to construct a narrative where it was school spending that did it – and even if it did, note that the majority of the increase in school spending happened from 1985 on, and demonstrably helped neither whites *nor* minorities.

I discuss this phenomenon more [here](#) and [here](#), but the summary is: no, it's not just because of special ed; no, it's not just a factor of how you measure test scores; no, there's not a "ceiling effect". Costs really did more-or-less double without any concomitant increase in measurable quality.

So, imagine you're a poor person. White, minority, whatever. Which would you prefer? Sending your child to a 2016 school? Or sending your child to a 1975 school, and getting a check for \$5,000 every year?

I'm proposing that choice because as far as I can tell that *is* the stakes here. 2016 schools have whatever tiny test score advantage they have over 1975 schools, and cost \$5000/year more, inflation adjusted. That \$5000 comes out of the pocket of somebody – either taxpayers, or other people who could be helped by government programs.



Second, college is even worse:



*Note this is not adjusted for inflation; see link below for adjusted figures*

Inflation-adjusted cost of a university education was [something like \\$2000/year in 1980](#). Now it's closer to \$20,000/year. No, it's not because of [decreased government funding](#), and there are similar trajectories for public and private schools.

I don't know if there's an equivalent of "test scores" measuring how well colleges perform, so just use your best judgment. Do you think that modern colleges provide \$18,000/year greater value than colleges did in your parents' day? Would you rather graduate from a modern college, or graduate from a college more like the one your parents went to, plus get a check for \$72,000?

(or, more realistically, have \$72,000 less in student loans to pay off)

Was your parents' college even noticeably worse than yours? My parents sometimes talk about their college experience, and it seems to have had all the relevant features of a college experience. Clubs. Classes. Professors. Roommates. I might have gotten something extra for my \$72,000, but it's hard to see what it was.

Third, health care. The graph is starting to look disappointingly familiar:



The cost of health care has about quintupled since 1970. It's actually been rising since earlier than that, but I can't find a good graph; it looks like it would have been about \$1200 in today's dollars in 1960, for an increase of about 800% in those fifty years.

This has had the expected effects. The average 1960 worker [spent ten days' worth of their yearly paycheck](#) on health insurance; the average modern worker spends sixty days' worth of it, a sixth of their entire earnings.



*Or not.*

This time I can't say with 100% certainty that all this extra spending has been for nothing. Life expectancy has gone way up since 1960:



*Extra bonus conclusion: the Spanish flu was really bad*

But a lot of people think that life expectancy depends on other things a lot more than healthcare spending. Sanitation, nutrition, quitting smoking, plus advances in health technology that don't involve spending more money. ACE inhibitors (invented in 1975) are great and probably increased lifespan a lot, but they cost \$20 for a year's supply and replaced older drugs that cost about the same amount.

In terms of calculating how much lifespan gain healthcare spending has produced, we have a couple of options. Start with by country:



Countries like South Korea and Israel have about the same life expectancy as the US but pay about 25% of what we do. Some people use this to prove the superiority of centralized government health systems, although [Random Critical Analysis](#) has an alternative perspective. In any case, it seems very possible to get the same improving life expectancies as the US without octupling health care spending.

The Netherlands increased their health budget by a lot around 2000, sparking a bunch of studies on whether that increased life expectancy or not. There's a good meta-analysis [here](#), which lists six studies trying to calculate how much of the change in life expectancy was due to the large increases in health spending during this period. There's a broad range of estimates: 0.3%, 1.8%, 8.0%, 17.2%, 22.1%, 27.5% (I'm taking their numbers for men; the numbers for women are pretty similar). They also mention two studies that they did not officially include; one finding 0% effect and one finding 50% effect (I'm not sure why these studies weren't included). They add:

In none of these studies is the issue of reverse causality addressed; sometimes it is not even mentioned. This implies that the effect of health care spending on mortality may be overestimated.

They say:

Based on our review of empirical studies, we conclude that it is likely that increased health care spending has contributed to the recent increase in life expectancy in the Netherlands. Applying the estimates from published studies to the observed increase in health care spending in the Netherlands between 2000 and 2010 [of 40%] would imply that 0.3% to almost 50% of the increase in life expectancy may have been caused by increasing health care spending. An important reason for the wide range in such estimates is that they all include methodological problems highlighted in this paper. However, this wide range indicates that the counterfactual study by Meerding et al, which argued that 50% of the increase in life expectancy in the Netherlands since the 1950s can be attributed to medical care, can probably be interpreted as an upper bound.

It's going to be completely irresponsible to try to apply this to the increase in health spending in the US over the past 50 years, since this is probably different at every margin and the US is not the Netherlands and the 1950s are not the 2010s. But if we irresponsibly take their median estimate and apply it to the current question, we get that increasing health spending in the US has been worth about one extra year of life expectancy.

[This study](#) attempts to directly estimate a %GDP health spending to life expectancy conversion, and says that an increase of 1% GDP corresponds to an increase of 0.05 years life expectancy. That would suggest a slightly different number of 0.65 years life expectancy gained by healthcare spending since 1960)

If these numbers seem absurdly low, remember [all of those controlled experiments](#) where giving people insurance doesn't seem to make them much healthier in any meaningful way.

Or instead of slogging through the statistics, we can just ask the same question as before. Do you think the average poor or middle-class person would rather:

- a) Get modern health care
- b) Get the same amount of health care as their parents' generation, but with modern technology like ACE inhibitors, and also earn \$8000 extra a year

Fourth, we see similar effects in infrastructure. The first New York City subway opened around 1900. Various sources list lengths from 10 to 20 miles and costs from \$30 million to \$60 million dollars – I think my sources are capturing it at different stages of construction with different numbers of extensions. In any case, it suggests costs of between \$1.5 million to \$6 million dollars/mile = \$1-4 million per kilometer. That looks like it's about the inflation-adjusted equivalent of \$100 million/kilometer today, though I'm very uncertain about that estimate. In contrast, [Vox notes](#) that a new New York subway line being opened this year costs about \$2.2 *billion* per kilometer, suggesting a cost increase of twenty times – although I'm very uncertain about this estimate.

Things become clearer when you compare them country-by-country. The same Vox article notes that Paris, Berlin, and Copenhagen subways cost about \$250 million per kilometer, almost 90% less. Yet even those European subways are overpriced [compared to Korea](#), where a kilometer of subway in Seoul costs \$40 million/km (another Korean subway project cost \$80 million/km). This is a difference of 50x between Seoul and New York for apparently comparable services. It suggests that the 1900s New York estimate above may have been roughly accurate if their efficiency was roughly in line with that of modern Europe and Korea.

Fifth, housing ([source](#):



Most of the important commentary on this graph has [already been said](#), but I would add that optimistic takes like [this one](#) by the American Enterprise Institute are missing some of the dynamic. Yes, homes are bigger than they used to be, but part of that is zoning laws which make it easier to get big houses than small houses. There are a lot of people who would prefer to have a smaller house but don't. When I first moved to Michigan, I lived alone in a three bedroom house because there were no good one-bedroom houses available near my workplace and all of the apartments were loud and crime-y.

Or, once again, just ask yourself: do you think most poor and middle class people would rather:

1. Rent a modern house/apartment
2. Rent the sort of house/apartment their parents had, for half the cost

## II.

So, to summarize: in the past fifty years, education costs have doubled, college costs have decupled, health insurance costs have decupled, subway costs have at least decupled, and housing costs have increased by about fifty percent. US health care costs about four times as much as equivalent health care in other First World countries; US subways cost about eight times as much as equivalent subways in other First World countries.

I worry that people don't appreciate how weird this is. I didn't appreciate it for a long time. I guess I just figured that Grandpa used to talk about how back in his day movie tickets only cost a nickel; that was just the way of the world. *But all of the numbers above are inflation-adjusted*. These things have decupled in cost even *after* you adjust for movies costing a nickel in Grandpa's day. They have really, genuinely decupled in cost, no economic trickery involved.

And this is especially strange because we expect that improving technology and globalization ought to cut costs. In 1983, the first mobile phone cost \$4,000 – about \$10,000 in today's dollars. It was also a gigantic piece of crap. Today you can get a much better phone for \$100. This is the right and proper way of the universe. It's why we fund scientists, and pay businesspeople the big bucks.

But things like college and health care have *still* had their prices dectuple. Patients can now schedule their appointments online; doctors can send prescriptions through the fax, pharmacies can keep track of medication histories on centralized computer systems that interface with the cloud, nurses get automatic reminders when they're giving two drugs with a potential interaction, insurance companies accept payment through credit cards – and all of this costs ten times as much as it did in the days of punch cards and secretaries who did calculations by hand.

It's actually even worse than this, because we take so many opportunities to save money that were unavailable in past generations. Underpaid foreign nurses immigrate to America and work for a song. Doctors' notes are sent to India overnight where they're transcribed by sweatshop-style labor for pennies an hour. Medical equipment gets manufactured in goodness-only-knows which obscure Third World country. And it *still* costs ten times as much as when this was all made in the USA – and that back when minimum wages were proportionally higher than today.

And it's actually even worse than *this*. A lot of these services have decreased in quality, presumably as an attempt to cut costs even further. Doctors used to make house calls; even when I was young in the '80s my father would still go to the houses of difficult patients who were too sick to come to his office. [This study](#) notes that for women who give birth in the hospital, "the standard length of stay was 8 to 14 days in the 1950s but declined to less than 2 days in the mid-1990s". The doctors I talk to say this isn't because modern women are healthier, it's because they kick them out as soon as it's safe to free up beds for the next person. Historic records of hospital care generally describe leisurely convalescence periods and making sure somebody felt absolutely well before letting them go; this seems bizarre to anyone who has participated in a modern hospital, where the mantra is to kick people out as soon as they're "stable" ie not in acute crisis.

If we had to provide the same quality of service as we did in 1960, and without the gains from modern technology and globalization, who even *knows* how many times more health care would cost? Fifty times more? A hundred times more?

And the same is true for colleges and houses and subways and so on.

### III.

The existing literature on cost disease focuses on [the Baumol effect](#). Suppose in some underdeveloped economy, people can choose either to work in a factory or join an orchestra, and the salaries of factory workers and orchestra musicians reflect relative supply and demand and profit in those industries. Then the economy undergoes a technological revolution, and factories can produce ten times as many goods. Some of the increased productivity trickles down to factory workers, and they earn more money. Would-be musicians leave the orchestras behind to go work in the higher-paying factories, and the orchestras have to raise their prices if they want to be assured enough musicians. So tech improvements in the factory sector raise prices in the orchestra sector.

We could tell a story like this to explain rising costs in education, health care, etc. If technology increases productivity for skilled laborers in other industries, then less susceptible industries might end up footing the bill since they have to pay their workers more.

There's only one problem: health care and education aren't paying their workers more; in fact, quite the opposite.

Here are teacher salaries over time ([source](#)):



Teacher salaries are relatively flat adjusting for inflation. But salaries for other jobs are increasing modestly relative to inflation. So teacher salaries relative to other occupations' salaries are actually declining.

Here's a similar graph for professors ([source](#)):



Professor salaries are going up a little, but again, they're probably losing position relative to the average occupation. Also, note that although the average salary of each type of faculty is stable or increasing, the average salary of all faculty is going down. No mystery here – colleges are doing everything they can to switch from tenured professors to adjuncts, who complain of being [overworked and abused](#) while making about the same amount as a Starbucks barista.

This seems to me a lot like the case of the hospitals cutting care for new mothers. The price of the service dectuples, yet at the same time the service has to sacrifice quality in order to control costs.

And speaking of hospitals, here's the graph for nurses ([source](#)):



Female nurses' salaries went from about \$55,000 in 1988 to \$63,000 in 2013. This is probably around the average wage increase during that time. Also, some of this reflects [changes in education](#): in the 1980s only 40% of nurses had a degree; by 2010, about 80% did.

And for doctors ([source](#))



Stable again! Except that a lot of doctors' salaries now go to paying off their medical school debt, which has been ballooning like everything eles.

I don't have a similar graph for subway workers, but come on. The overall pictures is that health care and education costs have managed to increase by ten times without a single cent of the gains going to teachers, doctors, or nurses. Indeed these professions seem to have lost ground salary-wise relative to others.

I also want to add some anecdote to these hard facts. My father is a doctor and my mother is a teacher, so I got to hear a lot about how these professions have changed

over the past generation. It seems at least a little like the adjunct story, although without the clearly defined “professor vs. adjunct” dichotomy that makes it so easy to talk about. Doctors are really, really, *really* unhappy. When I went to medical school, some of my professors would tell me outright that they couldn’t believe anyone would still go into medicine with all of the new stresses and demands placed on doctors. This doesn’t seem to be limited to one medical school. *Wall Street Journal*: [Why Doctors Are Sick Of Their Profession](#) – “American physicians are increasingly unhappy with their once-vaunted profession, and that malaise is bad for their patients”. *The Daily Beast*: [How Being A Doctor Became The Most Miserable Profession](#) – “Being a doctor has become a miserable and humiliating undertaking. Indeed, many doctors feel that America has declared war on physicians”. *Forbes*: [Why Are Doctors So Unhappy?](#) – “Doctors have become like everyone else: insecure, discontent and scared about the future.” *Vox*: [Only Six Percent Of Doctors Are Happy With Their Jobs](#). *Al Jazeera America*: [Here’s Why Nine Out Of Ten Doctors Wouldn’t Recommend Medicine As A Profession](#). Read these articles and they all say the same thing that all the doctors I know say – medicine used to be a well-respected, enjoyable profession where you could give patients good care and feel self-actualized. Now it kind of sucks.

Meanwhile, I also see articles like [this piece from NPR](#) saying teachers are experiencing historic stress levels and up to 50% say their job “isn’t worth it”. Teacher job satisfaction is at [historic lows](#). And the veteran teachers I know say the same thing as the veteran doctors I know – their jobs used to be enjoyable and make them feel like they were making a difference; now they feel overworked, unappreciated, and trapped in mountains of paperwork.

It might make sense for these fields to become more expensive if their employees’ salaries were increasing. And it might make sense for salaries to stay the same if employees instead benefitted from lower workloads and better working conditions. But neither of these are happening.

#### **IV.**

So what’s going on? Why *are* costs increasing so dramatically? Some possible answers:

First, can we dismiss all of this as an illusion? Maybe adjusting for inflation is harder than I think. Inflation is an average, so some things have to have higher-than-average inflation; maybe it’s education, health care, etc. Or maybe my sources have the wrong statistics.

But I don’t think this is true. The last time I talked about this problem, someone mentioned they’re running a private school which does just as well as public schools but costs only \$3000/student/year, a fourth of the usual rate. Marginal Revolution [notes that](#) India has a private health system that delivers the same quality of care as its public system for a quarter of the cost. Whenever the same drug is provided by the official US health system and some kind of grey market supplement sort of thing, the grey market supplement costs between a fifth and a tenth as much; for example, Google’s first hit for Deplin®, official prescription L-methylfolate, [costs \\$175 for a month’s supply](#); unregulated L-methylfolate supplement delivers the same dose [for about \\$30](#). And this isn’t even mentioning things like [the \\$1 bag of saline that costs \\$700 at hospitals](#). Since it seems like it’s not too hard to do things for a fraction of what we currently do things for, probably we should be less reluctant to believe that the cost of everything is really inflated.



Second, might markets just not work? I know this is kind of an extreme question to ask in a post on economics, but maybe nobody knows what they're doing in a lot of these fields and people can just increase costs and not suffer any decreased demand because of it. Suppose that people proved beyond a shadow of a doubt that Khan Academy could teach you just as much as a normal college education, but for free. People would still ask questions like – will employers accept my Khan Academy degree? Will it look good on a resume? Will people make fun of me for it? The same is true of community colleges, second-tier colleges, for-profit colleges, et cetera. I got offered a free scholarship to a mediocre state college, and I turned it down on the grounds that I knew nothing about anything and maybe years from now I would be locked out of some sort of Exciting Opportunity because my college wasn't prestigious enough. Assuming everyone thinks like this, can colleges just charge whatever they want?

Likewise, my workplace offered me three different health insurance plans, and I chose the middle-expensiveness one, on the grounds that I had no idea how health insurance worked but maybe if I bought the cheap one I'd get sick and regret my choice, and maybe if I bought the expensive one I *wouldn't* be sick and regret my choice. I am a doctor, my employer is a hospital, and the health insurance was for treatment in my own health system. The moral of the story is that I am an idiot. The second moral of the story is that people probably are not super-informed health care consumers.

This can't be pure price-gouging, since corporate profits haven't increased nearly enough to be where all the money is going. But a while ago a commenter linked me to the [Delta Cost Project](#), which scrutinizes the exact causes of increasing college tuition. Some of it is the administrative bloat that you would expect. But a lot of it is fun "student life" types of activities like clubs, festivals, and paying Milo Yiannopoulos to speak and then cleaning up after the ensuing riots. These sorts of things improve the student experience, but I'm not sure that the average student would rather go to an expensive college with clubs/festivals/Milo than a cheap college without them. More important, it doesn't really seem like the average student is offered this choice.

This kind of suggests a picture where colleges expect people will pay whatever price they set, so they set a very high price and then use the money for cool things and increasing their own prestige. Or maybe clubs/festivals/Milo become such a signal of prestige that students avoid colleges that don't comply since they worry their degrees won't be respected? Some people have pointed out that hospitals have switched from many-people-all-in-a-big-ward to private rooms. Once again, nobody seems to have been offered the choice between expensive hospitals with private rooms versus cheap hospitals with roommates. It's almost as if industries have their own reasons for switching to more-bells-and-whistles services that people don't necessarily want, and consumers just go along with it because for some reason they're not exercising choice the same as they would in other markets.

(this article on [the Oklahoma City Surgery Center](#) might be about a partial corrective for this kind of thing)

Third, can we attribute this to the inefficiency of government relative to private industry? I don't think so. The government handles most primary education and subways, and has its hand in health care. But we know that for-profit hospitals aren't much cheaper than government hospitals, and that private schools usually aren't much cheaper (and are sometimes more expensive) than government schools. And private colleges cost more than government-funded ones.



Fourth, can we attribute it to indirect government intervention through regulation, which public and private companies alike must deal with? This seems to be at least part of the story in health care, given how much money you can save by grey-market practices that avoid the FDA. It's harder to apply it to colleges, though some people have pointed out regulations like Title IX that affect the educational sector.

One factor that seems to speak out against this is that starting with Reagan in 1980, and picking up steam with Gingrich in 1994, we got an increasing presence of Republicans in government who declared war on overregulation – but the cost disease proceeded unabated. This is suspicious, but in fairness to the Republicans, they did sort of fail miserably at deregulating things. “The literal number of pages in the regulatory code” is kind of a blunt instrument, but it doesn't exactly inspire confidence in the Republicans' deregulation efforts:



Here's a more interesting (and more fun) argument against regulations being to blame: what about pet health care? Veterinary care is much less regulated than human health care, yet its cost is rising as fast (or faster) than that of the human medical system ([popular article](#), [study](#)). I'm not sure what to make of this.

Fifth, might the increased regulatory complexity happen not through literal regulations, but through fear of lawsuits? That is, might institutions add extra layers of administration and expense not because they're *forced* to, but because they fear being sued if they don't and then something goes wrong?

I see this all the time in medicine. A patient goes to the hospital with a heart attack. While he's recovering, he tells his doctor that he's really upset about all of this. Any normal person would say “You had a heart attack, of course you're upset, get over it.” But if his doctor says this, and then a year later he commits suicide for some unrelated reason, his family can sue the doctor for “not picking up the warning signs” and win several million dollars. So now the doctor consults a psychiatrist, who does an hour-long evaluation, charges the insurance company \$500, and determines using her immense clinical expertise that the patient is upset because he just had a heart attack.

Those outside the field have *no idea* how much of medicine is built on this principle. [People often say that](#) the importance of lawsuits to medical cost increases is overrated because malpractice insurance doesn't cost that much, but the situation above would never look lawsuit-related; the whole thing only works because everyone involved documents it as well-justified psychiatric consult to investigate depression. Apparently [some studies](#) suggest this isn't happening, but all they do is survey doctors, and with all due respect all the doctors I know say the opposite.

This has nothing to do with government regulations (except insofar as these make lawsuits easier or harder), but it sure can drive cost increases, and it might apply to fields outside medicine as well.

Sixth, might we have changed our level of risk tolerance? That is, might increased caution be due not purely to lawsuitphobia, but to really caring more about whether or not people are protected? I read stuff every so often about how playgrounds are becoming obsolete because nobody wants to let kids run around unsupervised on something with sharp edges. Suppose that one in 10,000 kids get a horrible playground-related injury. Is it worth making playgrounds cost twice as much and be half as fun in order to decrease that number to one in 100,000? This isn't a rhetorical

question; I think different people can have legitimately different opinions here (though there are probably some utilitarian things we can do to improve them).

To bring back the lawsuit point, some of this probably relates to a difference between personal versus institutional risk tolerance. Every so often, an elderly person getting up to walk to the bathroom will fall and break their hip. This is a fact of life, and elderly people deal with it every day. Most elderly people I know don't spend thousands of dollars fall-proofing the route from their bed to their bathroom, or hiring people to watch them at every moment to make sure they don't fall, or buy a bedside commode to make bathroom-related falls impossible. This suggests a revealed preference that elderly people are willing to tolerate a certain fall probability in order to save money and convenience. Hospitals, which face huge lawsuits if any elderly person falls on the premises, are *not* willing to tolerate that probability. They put rails on elderly people's beds, place alarms on them that will go off if the elderly person tries to leave the bed without permission, and hire patient care assistants who among other things go around carefully holding elderly people upright as they walk to the bathroom ([I assume](#) this job will soon require at least a master's degree). As more things become institutionalized and the level of acceptable institutional risk tolerance becomes lower, this could shift the cost-risk tradeoff even if there isn't a population-level trend towards more risk-aversion.

Seventh, might things cost more for the people who pay because so many people don't pay? This is somewhat true of colleges, where an increasing number of people are getting in on scholarships funded by the tuition of non-scholarship students. I haven't been able to find great statistics on this, but one argument against: couldn't a college just not fund scholarships, and offer much lower prices to its paying students? I get that scholarships are good and altruistic, but it would be surprising if every single college thought of its role as an altruistic institution, and cared about it more than they cared about providing the same service at a better price. I guess this is related to my confusion about why more people don't open up colleges. Maybe this is the "smart people are rightly too scared and confused to go to for-profit colleges, and there's not enough ability to discriminate between the good and the bad ones to make it worthwhile to found a good one" thing again.

This also applies in health care. Our hospital (and every other hospital in the country) has some "frequent flier" patients who overdose on meth at least once a week. They comes in, get treated for their meth overdose (we can't legally turn away emergency cases), get advised to get help for their meth addiction (without the slightest expectation that they will take our advice) and then get discharged. Most of them are poor and have no insurance, but each admission costs a couple of thousand dollars. The cost gets paid by a combination of taxpayers and other hospital patients with good insurance who get big markups on their own bills.

Eighth, might total compensation be increasing even though wages aren't? There definitely seems to be a pensions crisis, especially in a lot of government work, and it's possible that some of this is going to pay the pensions of teachers, etc. My understanding is that in general [pensions aren't really increasing much faster than wages](#), but this might not be true in those specific industries. Also, this might pass the buck to the question of why we need to spend more on pensions now than in the past. I don't think increasing life expectancy explains all of this, but I might be wrong.

#### **IV.**

I mentioned politics briefly above, but they probably deserve more space here. Libertarian-minded people keep talking about how there's too much red tape and the economy is being throttled. And less libertarian-minded people keep interpreting it as not caring about the poor, or not understanding that government has an important role in a civilized society, or as a "dog whistle" for racism, or whatever. I don't know why more people don't just come out and say "LOOK, REALLY OUR MAIN PROBLEM IS THAT ALL THE MOST IMPORTANT THINGS COST TEN TIMES AS MUCH AS THEY USED TO FOR NO REASON, PLUS THEY SEEM TO BE GOING DOWN IN QUALITY, AND NOBODY KNOWS WHY, AND WE'RE MOSTLY JUST DESPERATELY FLAILING AROUND LOOKING FOR SOLUTIONS HERE." State that clearly, and a lot of political debates take on a different light.

For example: some people promote free universal college education, remembering a time when it was easy for middle class people to afford college if they wanted it. Other people oppose the policy, remembering a time when people didn't depend on government handouts. Both are true! My uncle paid for his tuition at a really good college just by working a pretty easy summer job – not so hard when college cost a tenth of what it did now. The modern conflict between opponents and proponents of free college education is over how to distribute our losses. In the old days, we could combine low taxes with widely available education. Now we can't, and we have to argue about which value to sacrifice.

Or: some people get upset about teachers' unions, saying they must be sucking the "dynamism" out of education because of increasing costs. Others people fiercely defend them, saying teachers are underpaid and overworked. Once again, in the context of cost disease, both are obviously true. The taxpayers are just trying to protect their right to get education as cheaply as they used to. The teachers are trying to protect their right to make as much money as they used to. The conflict between the taxpayers and the teachers' unions is about how to distribute losses; *somebody* is going to have to be worse off than they were a generation ago, so who should it be?

And the same is true to greater or lesser degrees in the various debates over health care, public housing, et cetera.

Imagine if tomorrow, the price of water dectupled. Suddenly people have to choose between drinking and washing dishes. Activists argue that taking a shower is a basic human right, and grumpy talk show hosts point out that in *their* day, parents taught their children not to waste water. A coalition promotes laws ensuring government-subsidized free water for poor families; a Fox News investigative report shows that some people receiving water on the government dime are taking long luxurious showers. Everyone gets really angry and there's lots of talk about basic compassion and personal responsibility and whatever but all of this is secondary to *why does water costs ten times what it used to?*

I think this is the basic intuition behind so many people, even those who genuinely want to help the poor, are afraid of "tax and spend" policies. In the context of cost disease, these look like industries constantly doubling, tripling, or dectupling their price, and the government saying "Okay, fine," and increasing taxes however much it costs to pay for whatever they're demanding now.

If we give everyone free college education, that solves a big social problem. It also locks in a price which is ten times too high for no reason. This isn't fair to the government, which has to pay ten times more than it should. It's not fair to the poor people, who have to face the stigma of accepting handouts for something they could

easily have afforded themselves if it was at its proper price. And it's not fair to future generations if colleges take this opportunity to increase the cost by *twenty* times, and then our children have to subsidize *that*.

I'm not sure how many people currently opposed to paying for free health care, or free college, or whatever, would be happy to pay for health care that cost less, that was less wasteful and more efficient, and whose price we expected to go down rather than up with every passing year. I expect it would be a lot.

And if it isn't, who cares? The people who want to help the poor have enough political capital to spend eg \$500 billion on Medicaid; if that were to go ten times further, then everyone could get the health care they need without any more political action needed. If some government program found a way to give poor people good health insurance for a few hundred dollars a year, college tuition for about a thousand, and housing for only two-thirds what it costs now, that would be the greatest anti-poverty advance in history. That program is called "having things be as efficient as they were a few decades ago".

## V.

In 1930, economist John Maynard Keynes [predicted](#) that his grandchildren's generation would have a 15 hour work week. At the time, it made sense. GDP was rising so quickly that anyone who could draw a line on a graph could tell that our generation would be four or five times richer than his. And the average middle-class person in his generation felt like they were doing pretty well and had most of what they needed. Why *wouldn't* they decide to take some time off and settle for a lifestyle merely twice as luxurious as Keynes' own?

Keynes was sort of right. GDP per capita *is* 4-5x greater today than in his time. Yet we still work forty hour weeks, and some large-but-inconsistently-reported percent of Americans ([76](#)? [55](#)? [47](#)?) still live paycheck to paycheck.

And yes, part of this is because [inequality is increasing and most of the gains are going to the rich](#). But this alone wouldn't be a disaster; we'd get to Keynes' utopia a little slower than we might otherwise, but eventually we'd get there. Most gains going to the rich means at least some gains are going to the poor. And at least there's a lot of mainstream awareness of the problem.

I'm more worried about the part where the cost of basic human needs goes up faster than wages do. Even if you're making twice as much money, if your health care and education and so on cost ten times as much, you're going to start falling behind. Right now the standard of living isn't just stagnant, it's [at risk of declining](#), and a lot of that is student loans and health insurance costs and so on.

What's happening? I don't know and I find it really scary.

# Highlights From The Comments On Cost Disease

I got many good responses to my [Considerations On Cost Disease](#) post, both in the comments and elsewhere. A lot of people thought the explanation was obvious; unfortunately, they all disagreed on what the obvious explanation was. Below are some of the responses I found most interesting.

## [John Cochrane](#):

So, what is really happening? I think Scott nearly gets there. Things cost 10 times as much, 10 times more than they used to and 10 times more than in other countries. It's not going to wages. It's not going to profits. So where is it going?

The unavoidable answer: The number of people it takes to produce these goods is skyrocketing. Labor productivity — number of people per quality adjusted output — declined by a factor of 10 in these areas. It pretty much has to be that: if the money is not going to profits, to to each employee, it must be going to the number of employees.

How can that happen? Our machines are better than ever, as Scott points out. Well, we (and especially we economists) pay too much attention to snazzy gadgets. Productivity depends on organizations not just on gadgets. Southwest figured out how to turn an airplane around in 20 minutes, and it still takes United an hour.

Contrariwise, I think we know where the extra people are. The ratio of teachers to students hasn't gone down a lot — but the ratio of administrators to students has shot up. Most large public school systems spend more than half their budget on administrators. Similarly, class sizes at most colleges and universities haven't changed that much — but administrative staff have exploded. There are 2.5 people handling insurance claims for every doctor. Construction sites have always had a lot of people standing around for every one actually working the machine. But now for every person operating the machine there is an army of planners, regulators, lawyers, administrative staff, consultants and so on. (I welcome pointers to good graphs and numbers on this sort of thing.)

So, my bottom line: administrative bloat.

Well, how does bloat come about? Regulations and law are, as Scott mentions, part of the problem. These are all areas either run by the government or with large government involvement. But the real key is, I think lack of competition. These are above all areas with not much competition. In turn, however, they are not by a long shot "natural monopolies" or failure of some free market. The main effect of our regulatory and legal system is not so much to directly raise costs, as it is to lessen competition (that is often its purpose). The lack of competition leads to the cost disease.

Though textbooks teach that monopoly leads to profits, it doesn't "The best of all monopoly profits is a quiet life" said Hicks. Everywhere we see businesses protected from competition, especially highly regulated businesses, we see the cost disease spreading. And it spreads largely by forcing companies to hire loads of useless people.

Yes, technical regress can happen. Productivity depends as much on the functioning of large organizations, and the overall legal and regulatory system in which they operate, as it does on gadgets. We can indeed “forget” how those work. Like our ancestors peer at the buildings, aqueducts, dams, roads, and bridges put up by our ancestors, whether Roman or American, and wonder just how they did it.

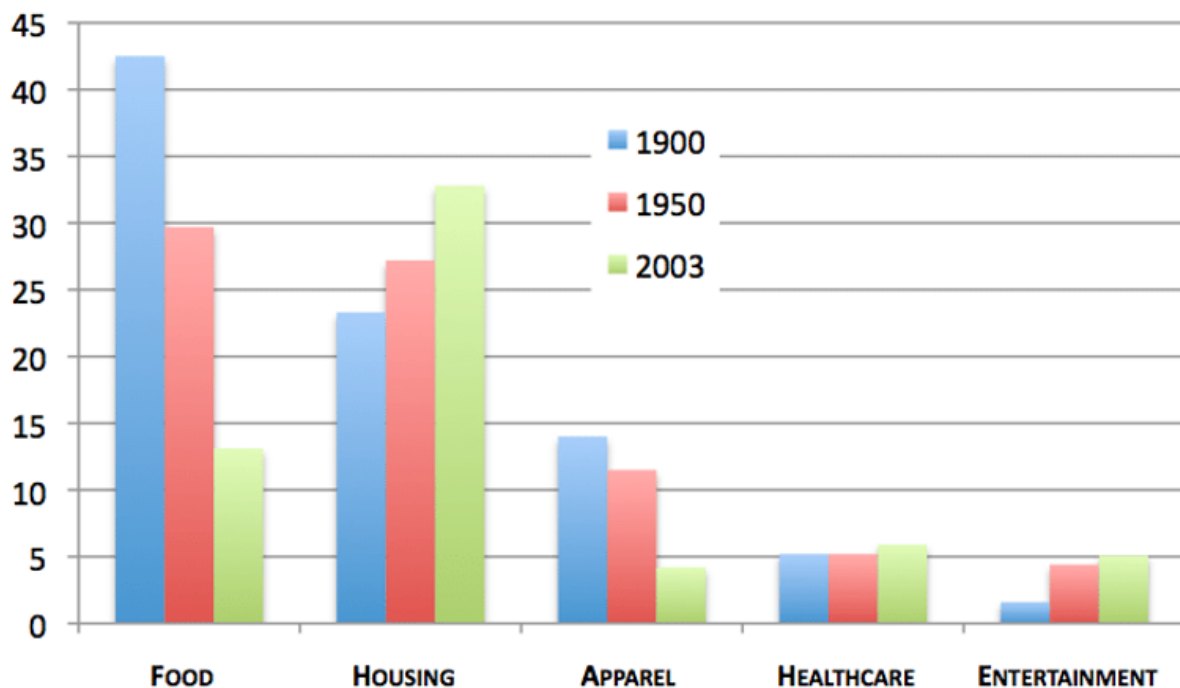
### David Manheim:

I think there is another dynamic that’s being ignored—and I would be surprised if an economist ignored it, but I’ll blame Scott’s eclectic ad-hoc education for why he doesn’t discuss the elephant in the room—Superior goods.

For those who don’t remember their Economics classes, imagine a guy who makes \$40,000/year and eats chicken for dinner 3 nights a week. He gets a huge 50% raise, to \$60,000/year, and suddenly has extra money to spend—his disposable income probably tripled or quadrupled. Before the hedonic treadmill kicks in, and he decides to waste all the money on higher rent and nicer cars, he changes his diet. But he won’t start eating chicken 10 times a week—he’ll start eating steak. When people get more money, they replace cheap “inferior” goods with expensive “superior” goods. And steak is a superior good.

But how many times a week will people eat steak? Two? Five? Americans as a whole got really rich in the 1940s and 1950s, and needed someplace to start spending their newfound wealth. What do people spend extra money on? Entertainment is now pretty cheap, and there are only so many nights a week you see a movie, and only so many \$20/month MMORPGs you’re going to pay for. You aren’t going to pay 5 times as much for a slightly better video game or movie—and although you might pay double for 3D-Imax, there’s not much room for growth in that 5%.

The Atlantic had [a piece](#) on this several years ago, with the following chart:



Food, including rising steak consumption, decreased to a negligible part of people’s budgets, as housing started rising. In this chart, the reason healthcare hasn’t really

shot up to the extent Scott discussed, as the article notes, is because most of the cost is via pre-tax employer spending. The other big change the article discusses is that after 1950 or so, everyone got cars, and commuted from their more expensive suburban houses—which is effectively an implicit increase in housing cost.

And at some point, bigger houses and nicer cars begin to saturate; a Tesla is nicer than my Hyundai, and I'd love one, but not enough to upgrade for 3x the cost. I know how much better a Tesla is—I've seen them.

Limitless Demand, Invisible Supply

There are only a few things that we have a limitless demand for, but very limited ability to judge the impact of our spending. What are they?

I think this is one big missing piece of the puzzle; in both healthcare and education, we want improvements, and they are worth a ton, but we can't figure out how much the marginal spending improves things. So we pour money into these sectors.

Scott thinks this means that teachers' and doctors' wages should rise, but they don't. I think it's obvious why; they supply isn't very limited. And the marginal impact of two teachers versus one, or a team of doctors versus one, isn't huge. (Class size matters, but we have tons of teachers—with no shortage in sight, there is no price pressure.)

What sucks up the increased money? Dollars, both public and private, chasing hard to find benefits.

I'd spend money to improve my health, both mental and physical, but how? Extra medical diagnostics to catch problems, pricier but marginally more effective drugs, chiropractors, probably useless supplements—all are exploding in popularity. How much do they improve health? I don't really know—not much, but I'd probably try something if it might be useful.

I'm spending a ton of money on preschool for my kids. Why? Because it helps, according to the studies. How much better is the \$15,000/year daycare versus the \$8,000 a year program a friend of mine runs in her house? Unclear, but I'm certainly not the only one spending big bucks. Why spend less, if education is the most superior good around?

How much better is Harvard than a subsidized in-state school, or four years of that school versus 2 years of cheap community college before transferring in? The studies seem to suggest that most of the benefit is really because the kids who get into the better schools. And Scott knows that this is happening.

We pour money into schools and medicine in order to improve things, but where does the money go? Into efforts to improve things, of course. But I've argued at length before that bureaucracy is bad at incentivizing things, especially when goals are unclear. So the money goes to sinkholes like more bureaucrats and clever manipulation of the metrics that are used to allocate the money.

As long as we're incentivized to improve things that we're unsure how to improve, the incentives to pour money into them unwisely will continue, and costs will rise. That's not the entire answer, but it's a central dynamic that leads to many of the things Scott is talking about—so hopefully that reduces Scott's fears a bit.

A reader who wishes to remain anonymous emails me, saying:



In the business I know – hedge funds – I am aware of tiny operators running perfectly functional one-person shops on a shoestring, who take advantage of workarounds for legal and regulatory costs (like <http://www.riainabox.com/>). Then there are folks like me who are trying to “be legit” and hope to attract the big money from pensions and big banks. Those folks’ decisions are all made across major principal/agent divides where agents are incentivized not to take risks. So, they force hedge funds into an arms race of insanely paranoid “best practices” to compete for their money. So... my set up costs (which so far seem to have been too little rather than too much) were more than 10x what they could have been.

I guess this supports the “institutional risk tolerance” angle. There must be similar massive unseen frictions probably in many industries that go into “checking boxes”.

Relatedly, a pet theory of mine is that “organizational complexity” imposes enormous and not fully appreciated costs, which probably grow quadratically with organization size. I’d predict, without Googling, that the the US military, just as a function of being so large, has >75% of its personal doing effectively administrative/logistical things, and that you could probably find funny examples of organizational-overhead-proliferation like an HR department so big it needed its own (meta-)HR department.

### **Noah Smith:**

That could be one force behind rising costs; it definitely seems important for K-12 education. But it doesn’t explain why the U.S. is so much worse than countries such as France, Germany or Japan. Those countries are about as productive as the U.S., so their cost disease should be comparable. Something else must be afoot.

Another usual suspect is government intervention. The government subsidizes college through cheap loans, purchases infrastructure, restricts housing supply, and intervenes heavily in the health-care market. It’s probably part of the problem in these areas, especially in urban housing markets.

But again, government intervention struggles to explain the difference between the U.S. and other rich nations. In most countries, health care is mainly paid for by the government — many countries have nationalized the industry outright. Yet their health outcomes are broadly similar to those in the U.S., or even a little bit better. Other countries have strong unions and high land acquisition costs — often stronger and higher than the U.S. — but their infrastructure is much cheaper. And there is no law or regulation propping up high wealth-management fees or real-estate commissions. In general, lower-cost places like Japan and Europe have more regulation and more interventionism than the U.S.

So if cost disease and government can at most be only part of the story, what’s going on? One possibility Alexander raises is that “markets might just not work.” In other words, there might be large market failures going on.

The health-care market naturally has a lot of adverse selection — people with poor health are more inclined to buy insurance. That means insurance companies, knowing its customers tend to be those with poorer health, charge higher prices. Also, hospitals could be local monopolies. And college education could be costly in part because of asymmetric information — if Americans tend to vary more than people in other countries with respect to work ethic and natural ability, they might have to spend more on college to prove themselves. This is known as signaling.

When high costs are due to market failures, interventionist government can be the solution instead of the problem — provided the intervention is done right. So the

more active governments of countries like Europe and Japan might be successfully holding down costs that would otherwise balloon to inefficient levels.

But there's one more possibility — one that gets taught in few economics classes. There is almost certainly some level of pure trickery in the economy — people paying more than they should, because they don't have the time or knowledge to look for better prices, or because they trust people they shouldn't trust.

This is the thesis of the book "[Phishing for Phools](#)," by Nobel-winning economists George Akerlof and Robert Shiller. The authors advance the disturbing thesis that sellers will continually look for ways to dupe customers into paying more than they should, and that these efforts will always be partially successful. In Akerlof and Shiller's reckoning, markets don't just sometimes fail — they are inherently subject to both deceit and mistakes.

That could explain a number of unsettling empirical results in the economics literature. For example, [transparency](#) reduces prices substantially in health-care equipment markets. More complex and opaque mortgage-backed securities failed at [higher rates](#) in the financial crisis. In these and other cases, buyers paid too much because they didn't know what they were buying. Whether that's due to trickery, or to the difficulty of gathering accurate information, it's not good — in an efficient economy, everyone will know what they're buying.

So it's possible that many of those anomalously high U.S. costs are due to the natural informational problems of markets.

### **[Megan McArdle](#):**

It's pretty easy to tell a libertarian story where markets work fine, but government intrusions into these markets have rendered them so unfree that they no longer function the way they're supposed to. And I think that is at least part of the story here. Yes, these things are often procured from private parties. But everywhere you look you see the government: blocking new entry (through accreditation standards, "certificate of need" laws, and zoning and building codes), while simultaneously subsidizing the purchases through artificially cheap loans and often, direct price subsidies. It would be sort of shocking if restricted supply combined with stimulated demand didn't produce rapidly rising prices. Meanwhile, in areas that the government largely leaves alone (such as Lasik), we pretty much see what you'd expect: falling prices and improving consumer service.

But that's perhaps a little simplistic. Agriculture is also the focus of a great deal of government intervention, as are sundry things such as air travel, and we don't see the same phenomenon there. So we need to dig a little deeper and describe what's special about these three sectors (we'll leave public transportation out of it, because there, the answer is pretty much "union featherbedding combined with increasingly dysfunctional procurement and regulatory processes").

First, and most obviously, they involve vital purchases made on long time horizons, and with considerable uncertainty. Food is more vital than health care to our well-being, but its price and quality are really easy to assess: if you buy a piece of fruit, you know pretty quickly whether you liked it or not. This is a robust market, and it's going to take communist-level intervention to fundamentally mess it up so that food is both scarce and not very good.

Homes, schooling and health care, on the other hand, are more complicated products. You don't know when you buy them how much value they will be to you,

and it is often difficult for a lay person to assess the quality of the product. You can read hospital rankings and pay a home inspector, but these things only go so far.

The fact that these are expensive purchases that can go terribly wrong creates a great deal of pressure for the government to intervene. As ours has, over and over, in all sorts of ways.

And at the risk of giving up a little bit of my libertarian cred, I'll say that government intervention in these markets did not have to be as expensive-making as it has turned out to be in America. Other countries have these sorts of problems too, but they're nowhere near as large as ours.

Part of that is just that we're richer than most of those other countries. We were going to spend the portion of our budgets no longer needed for food somewhere, and health care, education and housing are pretty good candidates. But that's only part of the story. A big part of the story is that America just isn't very good at regulation. When you talk to people who live elsewhere about what their government does, one thing that really strikes you about those conversations is how much more competent other rich industrial governments seem to be at regulating things and delivering services. Their bureaucracies are not perfect, but they are better than ours.

That's not to say that America could have an awesome big government. Our regulatory state has been incompetent compared to others for decades, since long before the Reagan Revolution that Democrats like to blame. There are many, many factors in this, from our immigration history (vital to understanding how modern urban bureaucracies work in this country), to the fact that we have many competing centers of power instead of a single unified government providing over a single bureaucratic hierarchy. There is no way to fix this on a national level, and even at the level of local bureaucratic reform, it's darned near impossible.

In other words, this is probably what we're stuck with. It may not be Baumol's cost disease — but it's potentially even more serious, and it's going to be a lingering condition.

### **Scott Sumner:**

I certainly don't claim to have all the answers, but I do feel that much of the problem reflects the fact that governments often cover the cost of services in those three areas. This leads producers to spend more than the socially optimal amount on these products. I'm going to provide some examples, but before doing so recall that economic theory predicts that costs in those areas should be wildly excessive. If the government paid 90% of the cost of any car you bought, and that didn't lead to lots more people buying Porsches and Ferraris, then we'd have a major puzzle on our hands.

Scott mentions that private for-profit hospitals are also quite expensive. But even there, costs are largely paid for by the government. Close to half of all health care spending is directly paid for by the government (Medicare, Medicaid, Veterans, government employees, etc.) and a large share of the rest is indirectly paid for by taxpayers because health insurance is not just income tax free, but also payroll tax free. I'd be stunned if health care spending had not soared in recent decades.

A sizable share of my health care spending has been unneeded, and I'm fairly healthy. I met one person in their 80s who had a normal cold and went to see the doctor. They said it was probably just a normal cold, but let's put you in the hospital overnight and do some tests, just in case. There was nothing wrong, and the bill the

next day was something in the \$5000 to \$10,000 range, I forget the exact amount. This must happen all the time. No way would they have opted for those services if Medicare weren't picking up the tab.

Just to be clear, I don't think any monocausal explanation is enough. Governments also pay for health care in other countries, and the costs are far lower. It's likely the interaction of the US government picking up much of the tab, plus insurance regulations, plus American-style litigation, plus powerful provider lobbies that prevent European-style cost controls, etc., etc., lead to our unusually high cost structure. So don't take this as a screed against "socialized medicine." I'm making a narrower point, that a country where the government picks up most of the costs, and doesn't have effective regulations to hold down spending, is likely to end up with very expensive medicine.

To be fair, there is evidence from veterinary medicine that demand for pet care has also soared, and that suggests people are becoming more risk averse, even for their pets. But there is also evidence cutting the other way. Plastic surgery has not seen costs skyrocket. (Both are medical fields where people tend to pay out of pocket.)

I started working at Bentley in 1982, teaching 4 courses a semester. When I retired in 2015, I was making 7 times as much in nominal terms (nearly 3 times as much in real terms), and I was teaching 2 courses per semester. Thus I was being paid 14 times more per class (nearly 6 times as much in real terms). No wonder higher education costs have soared! (Even salaries for new hires have risen sharply in real terms.) Interestingly, the size of the student body at Bentley didn't change noticeably over that period (about 4000 undergrads.) But the physical size of the school rose dramatically, with many new buildings full of much fancier equipment. Right now they are building a new hockey arena. There are more non-teaching employees. You can debate whether living standards for Americans have risen over time, but there's no doubt that living standards for Americans age 18-22 have risen over time—by a lot.

As far as elementary school, my daughter had 2, 3, and once even 4 teachers in her classroom, with about 18 students. We had one teacher for 30 students when I was young. (I'm told classes are even bigger in Japan, and they don't have janitors in their schools. The students must mop the floors. I love Japan!)

There are also lots more rules and regulations. By the end of my career, I felt almost like I was spending as much time teaching 2 classes as I used to spend teaching 4. Many of these rules were well intentioned, but in the end I really don't think they led to students learning any more than back in 1982. I wonder if Dodd/Frank is now making small town banking a frustrating profession in the way that earlier regs made medicine and teaching increasing frustrating professions.

People say this is a disease of the service sector. But I don't see skyrocketing prices in restaurants, dry cleaners, barbers and lots of other service industries where people pay out of pocket.

The same is true of construction. Scott estimates that NYC subways cost 20 times as much as in 1900, even adjusting for inflation. The real cost of other types of construction (such as new homes), has risen far less. Again, people pay for homes out of pocket, but government pays for subways. Do I even need to mention the cost of weapons system like the F-35?

To summarize, the case of pet medicine shows that costs can rise rapidly even when people pay out of pocket. But the biggest and most important examples of cost

inflation are in precisely those industries where government picks up a major part of the tab—health, education, and government procurement of complex products. And excessive cost inflation is exactly what economic theory predicts will happen when governments heavily subsidize an activity, without adequate cost regulations. Just as excessive risk taking is exactly what economic theory predicts will happen if government insures bank deposits, without adequate risk regulations. Let's not be surprised if the things that happen, are exactly what the textbooks predict would happen. Even FDR predicted that deposit insurance would lead to reckless behavior by banks, and he (reluctantly) signed the bill into law.

### **Sohois:**

I've seen some evidence that corporations can be equally vulnerable to cost disease as public institutions.

For example, since the 1980s CEO pay has quintupled despite the lack of any growth in profits or otherwise to justify this. Now this is probably going to result in far smaller effects on overall cost, but it still stands as a demonstration of how market failure can occur and result in large cost increases in these firms.

I would venture that many firms have seen huge increases in both revenues and costs so that when you adjust profit for inflation it hasn't really changed at all, on average.

### **Andrew Swift**

What you observe is fifty years of optimization of wealth extraction. Price outcomes depend on the contributions of hundreds of participants. Every participant optimizes his/her earnings, exerting a constant upward pressure on price. Participants become ever more expert at getting rich. Wealth-extraction schemes (scams) are refined and optimized (in all markets), and price increases are pushed downstream (in markets where buyers can't push back). Radical price increases reflect markets where consumers have reduced ability to push back:

- complex markets (can't understand)
- opaque markets (can't see)
- entrenched/highly-regulated markets (can't modify)
- necessary-to-keep-living markets (can't avoid)
- limited-quantity markets (really want)
- intermediated markets where the end buyer doesn't decide how things are purchased (don't choose)

Some systems are resistant to contributors' efforts to extract wealth and some systems are not. There's an equilibrium between cost and readiness to pay. To reduce the costs in expensive domains, willingness to pay the high costs has to be reduced. As long as the buyer won't or can't say no, costs will increase through the entire production process. There won't necessarily be one big obvious rip-off, but every participant will optimize the heck out of his contribution and the overall pressure will push costs up.

Could one provide a cheaper alternative in these domains? Sure for a little while, but if the bottom line is that people are willing to pay more for the service the prices will creep back up.

The only exception would be where the new, lower-priced, alternative sets a new standard and buyers refuse to continue paying the old prices. See

<https://stratechery.com/2016/dollar-shave-club-and-the-disruption-of-everything/> for a great article about this.

#### **Habu71:**

My favorite example of ridiculous order-of-magnitude type cost increases is nuclear power plant construction costs. The plots from this paper illustrate it nicely.  
[https://www.researchgate.net/figure/292964046\\_fig6\\_Overnight-Construction-Cost-and-Construction-Duration-of-US-Nuclear-Reactors-Color](https://www.researchgate.net/figure/292964046_fig6_Overnight-Construction-Cost-and-Construction-Duration-of-US-Nuclear-Reactors-Color)

Except, in the case of power plant costs, the causes – at least, for the increasing US costs – are quite a bit more apparent. Pre TMI, US costs were in line with the rest of the world's cost. Post TMI, not so much. New regulatory burdens all by themselves increased the cost of new plants by a factor of ten. Now, this is of course not proof that any of the other problems that Scott mentioned are entirely – or even mostly – caused by increasing regulatory burdens. It does however, show that government institutions as awful as the NRC do exist, and that their effects can raise costs by the amounts seen health care, education, etc...”

#### **John Schilling:**

[Fear of lawsuits] is well understood as the cause of the substantial rise in light airplane prices since 1970. A single-engine, four-seat Cessna 172 cost an inflation-adjusted \$77,000 in 1970. A substantially identical airplane cost \$163,000 in 1986. And went out of production the next year, because people weren't willing to pay that price. When congress passed laws relaxing the manufacturer's liability for older airplanes, Cessna was able to reinstate production in 1996 at an inflation-adjusted \$190,000. Today, the price seems to literally be “if you have to ask, you can't afford it”; the manufacturer only advertises fleet sales, but I'd estimate about \$400,000 (of which ~\$100K is fancy electronics that didn't exist in 1986 and weren't standard in 1996).

In this case it is particularly easy to pull out the lawsuit/liability effect because there aren't many cofounders. The 1986 Cessna is so little changed from the 1970 model that they sell at about the same price on the used market when controlled for condition and total flight time. And fear of lawsuits didn't manifest as safety enhancements of inscrutable cost and value, because light airplane crashes are almost always due to Stupid Pilot Tricks and almost everything that a manufacturer could do to mitigate that (e.g. tricycle landing gear) was standard in 1970. But the manufacturers still get sued, and have to pay millions, so there's nothing to be done but pay for liability insurance. And, second-order effect, cut production when your customers start balking at the increased prices, so you have to amortize the fixed costs of actually building airplanes over a smaller sales volume.

So, a doubling in price over fifteen or so years, a quadrupling over fifty years in spite of Congress noticing the problem and trying to mitigate it, attributable to safety/liability concerns but not resulting in actual safety improvements. I have no trouble believing something similar is happening in other industries but is harder to discern because too many other things are happening at the same time.

#### **Alex Zavoluk**

[Wikipedia](#) suggests that almost all of those other countries have litigation rules that make weak civil cases more costly, which seems like evidence in favor of the litigation hypothesis. It also means that there's a relatively straightforward solution.

[Doug](#) on Marginal Revolution, in response to a lot of people asking whether maybe we were just calculating the CPI wrong:

That's a plausible hypothesis, but viewed through that frame of reference, median wages have also gone down tremendously. It's still the case that the median person spends at least six times more of their paycheck on healthcare. If healthcare is a closer metric to "true prices" than manufactured good, then that means median wages have fallen by around 80%. It also means that overall GDP has crashed since 1970, since the price deflator now averages 6-7%, and nominal GDP has only averaged around 4%. It would mean that the economy has literally been in recession 90% of the past 40 years.

The only reason we're not all starving in the street is from the miraculous gains in manufacturing productivity and automation. But again, in this framework, that process is largely exogenous to the terrible macroeconomic situation. If those gains slow down even a little, and the macro trends continue, we're probably facing imminent economic collapse. So maybe this is a plausible hypothesis, but it certainly comes with a whole lot of extreme implications. I think medicine/education specific cost disease is a much more likely explanation.

[bkearns123](#):

One commonality in the examples cited is disintermediation/subsidies. College is paid for by a third party, and financed by generous government loans. Generous in the sense that they are easy to get, not easy to get out of. Health care has massive tax subsidies, and for a good period of time felt "free" to employees. Public schooling is paid for indirectly.

Regarding the section on risk aversion, I happen to be in the playground business. The most common injury is broken bones from a fall. Consequently, our industry has ended up with poured in place surfacing, which costs 10x as much as mulch or pea gravel. It is wonderful stuff, but really increases the cost of the playground. Again, no one pays directly for their playground, and the paying party cannot risk not being in tune with the regulations.

Markets cannot function if the risk reward relationship is not direct.

[fc123](#):

In all of these problem sectors it seems the resources consumed in each industry has shifted to servicing and extending the definition of the marginal 'customer'. This can explain I think some of the above

E.g.. 40 years ago hospitals received 100 customers. Ranked, patients 1-20 died. And no one really tried to save them (some comfort but that was it). Today they are trying (are obliged) to try to save patients no 5-15 (the 85 year old with triple bypass, 20 week premie). The total no of staff needed for this task swamps increases in individual productivity. You just need more people, even if they each are more productive or trained than in the pasts. So salaries for each does not go up that much, there are just more of them, total cost go up, and outcomes over the patients treated are somewhat but not much better (some now make it but some fraction still die). Hence medical curve shows some improvement but not 1:1 with cost.

In education, in the 1950-1970s we could afford to socially promote non-academically inclined students, not really expend effort on them as long as they kept quiet in class, then have them leave at age 16 to go work at Ford. Universities could count on getting the higher performing students. Today, we have to deliver much weaker



students all the way to the end of high school, also force many into college. And ALL the extra resources go to get this new lower end close to what used to be the minimal university student performance. The top cohort gets little extra resources and has not really improved. Hence, the scores across the new 'extended' student population stays flat.

I base this partly on what I have seen from my wife (engineering professor at top university), resources are heavily consumed by the lower performing students, top students have better opportunities than 20 years ago but in general the resources are much less focused on them than on the marginal students.

So if you assume these industries for whatever reason shifted focus to servicing deeper into the tail of the population aptitude/effort over the years (I am not saying this is good/bad, was for social reasons, for humanistic reasons or making any comment), this would very much explain the overall cost rise, coupled with the lack of desired improvement in statistics measured across the population that now gets services as a whole.

In short, in the US we define policies that drive costs based on the tail of the population, but we experience performance on the average. As an immigrant from a third world country I think this is a big difference often invisible to the US-born citizens I talk to. Maybe why this is a great country and I am here. All I can say is that it is a world view that is not common world wide. Where I grew up, No Child Left Behind law would have been designed as 1 Child Left Behind. There just were not the resources, but more important, it was just more socially acceptable to just halve the no of slots halfway through an academic program, for example.

So I guess the question is why are we so focused on pushing services into the tails and will we continue to do so? Does society really benefit from having a larger fraction of the population capable of doing crappy algebra? Clearly there will be some point where the cost becomes prohibitive and it will stop: maybe that is what we are seeing now. But it is stunning that this was a 50 year process — if the dynamics in social policy “markets” are that slow it is going to be really difficult to manage.

### CatCube:

I can't help but wonder if part of the ever-expanding expenses isn't that we mediate our interactions through the legal system more than we used to.

What got me thinking about it was what I'm working on this week. To answer Incurian's question above about why I was posting during the workday, I was avoiding working on a report for selecting a contractor for a project I'm working on. (I owe the taxpayer about three hours this weekend, since I spent time on Friday here and reading about the Oroville Dam spillway.)

We had contractors submit proposals, and we had two structural engineers and a construction quality assurance rep sit in a room for three days, writing our individual reports about each proposal, then coming to agreement about how we rate them. Then I have to write a report summarizing all of our individual reports, which gets fed into the arcane machine that will eventually spit out an award. This process costs about \$10,000, and had zero value for evaluating the proposals. However, it has to be done this way or we'll get dragged around in court by an offeror's lawyer if they choose to make a case of their rejection. I think that in years past they'd use a simple low-bid process, which has its own problems, or the rejected contractors would bitch to their Congressmen or something but wouldn't literally make a federal case of it.

### LukHamilton:

I think you gave short shrift to libertarian explanations of this phenomena. In particular, the Kling Theory of Public Choice may explain a significant fraction of cost disease: public policy will always choose to subsidize demand and restrict supply. If you restrict supply holding everything else equal, prices will go up. If you subsidize demand holding everything else equal, prices will go up. If you do both, prices will really go up.

(1) Healthcare: The government restricts the supply of all healthcare professionals (for example, doctors, nurses, CNAs, pharmacists, dentists, LPNs, etc.) via occupational licensing. (I should note that maybe everyone can get behind the simple idea that the number of doctors per 10,000 people in the US should at least remain constant over time and not go down, as it has.) It restricts the supply of healthcare organizations (for example, hospitals, surgery centers, etc.) via onerous regulations, like the very ridiculous ["certificate-of-need"](#). You have already explained in previous posts how things like the FDA restrict the supply of generic drugs. In terms of demand, the government subsidizes health insurance via the corporate income tax code, CHIP, the Obamacare marketplace, Medicaid, Medicare, etc.

(2) Education: I have done less investigation into this sector's regulations. You mentioned Title IX. David Friedman has [some nice blog posts](#) on how the American Bar Association's regulations on law schools make cheap law schools impossible. (This same concept also applies to healthcare-related professional schools, by the way.) If Bryan Caplan is right about signaling, a lot of education involves negative externalities, so it should be taxed or limited by the government. Instead, it subsidizes demand via loans. K-12 education, meanwhile, receives massive subsidies from the government; everyone can enjoy a totally free K-12 education.

(3) Real estate: Land-use regulations restrict the supply of housing. (Explanations of this can be found by googling "Matt Yglesias housing".) It also subsidizes housing via Section 8, various other HUD programs, Freddie Mac, the mortgage-interest tax deduction, etc.

In short, any industry that the United States government has a heavy hand in has/will experience cost disease.

### BenWave:

Scott, help me out here because I've read a long article about the mysterious nature of rising costs in certain sectors as well as hundreds of bemused comments, and the article had no more than a throwaway paragraph saying that maybe rising inequality is a sign that the 'missing' money is ending up in the pockets of the super-wealthy elite.

I come from a left-wing perspective, so I hope you can see that to me ex nihilo, "the super wealthy are becoming much richer than was historically the case, also all of these important services are becoming way more expensive than they used to be, but the one does not explain the other" looks like an extraordinary claim. I would like to see more evidence presented that this is not the case before updating in this direction!

In particular, I can see that a large majority of the odd features you have picked out about these services are acting exactly as predicted in Das Kapital volume 2, where Marx studies the process of realisation of invested capital (ie, money spent on labour,

materials, tools etc) as the principal plus surplus value in money form. In particular, some of his predictions were:

1. Gains made by workers through collective action in sites of production can be taken away again by the landlord, the grocer, the financier etc.
2. The difficulty in the realisation of capital will incentivise businesses to strive for monopoly positions (whether by government mandate, mutual cooperations, quasi-monopolies such as real estate, branding and advertising).
3. The tensions between the production of surplus value and the realisation of surplus value will tend to set certain sectors of capital against one another – for example landlords would prefer if workers were well paid, but had to spend larger amounts of money on rent whereas factory owners would prefer to pay workers as little as possible, and that includes low housing costs.

Later analysis in the tradition of Marx have noticed that financial capital these days is doing very very well compared to workers, but also compared to traditional industrialists. And four out of the five of your examples are fields in which debt and financing plays a very large role. It's pretty easy to see that financial capital would be incentivised to make these things more expensive so that they can extract more money through larger loans and financing. (I'm not certain about subways. Are they typically debt-financed?).

Financial capital certainly has the economic and political power to push for this, and they don't particularly care if they squeeze other holders of capital along the way. They are debt-financed fields in which large monopoly powers exist for one reason or another. And while I acknowledge that bureaucratic bloat is certainly playing its role, I'm baffled by the relative lack of consideration of normal capitalist tendencies on this thread. As far as I can see it is the single most important factor driving up the costs of these services. Please present me with evidence that I am wrong about this!

Some additional links less-directly related or less easy to excerpt:

National Center for Policy Analysis: [Should All Medicine Work Like Cosmetic Surgery?](#) Because plastic surgery isn't a life-or-death need, it's not covered by insurance. Costs in the sector have risen 30% since 1992, compared to 118% for other types of health care. Does this mean that being sheltered from the insurance system has sheltered it from cost disease?

The American Interest: [Why Can't We Have Nice Things?](#) A breakdown of exactly why infrastructure and transportation projects cost so much more in the US than elsewhere, with an eye for Trump's promise of \$1 trillion extra infrastructure spending.

Arnold Kling: [What I Believe About Education](#). I have to include *one* "it's all the teachers' unions fault" post for completeness here.

Neerav Kingsland on [education spending and the role of charter schools](#)

The [comment thread on Marginal Revolution](#) contains some insight

The Incidental Economist: [What Makes The US Health Care System So Expensive FAQ](#). From July 2011. Includes links to a lot of other things.

And some additional comments of my own:

I think any explanation that starts with “well, we have so much money now that we have to spend it on *something*...” ignores that many people do *not* have so much money, and in fact are really poor, but they get the same education and health care as the rest of us. If the problem were *just* “rich people looking for places to throw their money away”, there would be other options for poor people who don’t want to do that, the same way rich people have fancy restaurants where they can throw their money away and poor people have McDonalds.

Any explanation of the form “evil capitalists are scamming the rest of us for profit” has to explain why the cost increases are in the industries least exposed to evil capitalists. K-12 education is entirely nonprofit. Colleges are a mix but generally not owned by a single rich guy who gets all the money. My hospital is owned by an order of nuns; studies show that government hospitals have higher costs than for-profit ones. Meanwhile, the industries with the actual evil capitalists – tech, retail, restaurants, natural resources – seem mostly immune to the cost disease. This is not promising. Also, this wouldn’t explain why so much of the money seems to be going to administrators/bells-and-whistles. If prices increase by \$100,000, and the money goes to hiring two extra \$50,000/year administrators, how does this help the capitalist profiting off it all?

Any explanation of the form “administrative bloat” or “inefficiency” has to explain why non-bloated alternatives don’t pop up or become popular. I’m sure the CEO of Ford would love to just stop doing his job and approve every single funding request that passes his desk and pay for it by jacking up the price of cars, but at some point if he did that too much we’d all just buy Toyotas instead. Although there are some barriers to competition in the hospital market, there are fewer such barriers in the college, private school, and ambulatory clinic market. Why hasn’t competition discouraged administrative bloat here the same way it does in other industries?

Maybe a good time to reread the post [How Likely Are Multifactorial Trends?](#)

# The Price Of Glee In China

*[Epistemic status: Overly simplistic treatment of a horrifyingly complex topic; I can only hope I haven't missed enough to completely embarrass myself]*

I.

Noah Smith [reviews](#) recent economic research suggesting that globalization was a net harm to working class people in rich countries like the US; he tentatively suggests this could justify a weak form of protectionism. But Scott Sumner [argues](#) that's the wrong way to look at things. Globalization fueled China's transition from a poor agrarian economy to an industrialized modern nation. A billion people were lifted out of poverty, an accomplishment Sumner calls "the best thing that ever happened". This is far more important than the less dramatic costs imposed on the US. Therefore, even if we agree globalization hurts the working class of rich nations, it's still a morally defensible policy since it benefits the needier working classes of much poorer nations.

On the one hand, this makes sense. On the other, here's happiness in China over the past fifteen years:



Measuring happiness is really hard, but the Chinese result seems as robust as any. You get the same thing [if you ask about satisfaction versus dissatisfaction](#). Brookings analyzes five different series of happiness data and [concludes that](#) "the Chinese became less happy during their growth boom". The [New York Times](#) agrees and says that "Chinese people's feelings of well-being have declined in [this] period of momentous improvement in their economic lives". And this [seems to be worst](#) among [the poorest Chinese](#):



Nor does this seem to be an effect from our happiness research just not being good enough to capture changes in happiness even if they occur. There's good evidence that increased income *within* a country increases happiness, and [various other things](#) have been found to be effective too. I would even argue we can find happiness changes in nations – recent surveys have found Iraq and Syria to be the least happy nations in the world, and I doubt this was true before those countries' respective wars. It seems to just be national GDP per capita that doesn't do anything.

This is [Easterlin's Paradox](#), the observation that a country in general does not get happier as it becomes richer. This is very controversial, with statisticians analyzing and reanalyzing data and crunching it a bunch of different ways. In [the latest volley](#) in this eternal war, Easterlin's side came out with data from 37 countries over 30 years, including many countries that underwent spectacular growth during that time, and confirmed their original conclusion.

There are certainly graphs like this one that propose a nice clear log relationship between income and happiness:



But I find the exact breakdown much more interesting:



Here we see a lot of cultural variation in this apparent happiness-income relationship. For example, Latin American countries are consistently poor but happy; Eastern European countries are usually richer but sadder than African countries, et cetera. Looking at the original graph above, you'd expect Chinese growth to make them much happier; looking at this graph, you notice that China's three rich neighbors – Japan, Taiwan, and South Korea – are all about as happy as China. South Korea, despite making five times more money, is *less happy* than China is. If China's income quintuples, why would you expect it to look like France or Ireland rather than South Korea?

Just to rub this in a little:



A UN report [theorizes that](#) although richer countries tend to be happier, this is more likely due to factors other than income, like freedom, social trust, and stable families. These may be stable on scales much longer than income is, and may be related to culture.

## II.

Let's assume for a second that all this is true. National income does not matter for national happiness, and if China's growth continues to skyrocket then in twenty years it will be as rich as Japan but not an iota happier than it is today. What do we *do* with this kind of knowledge?

Or let me ask a more specific question. Suppose that some free trade pact will increase US unemployment by 1%, but also accelerate the development of some undeveloped foreign country like India into hyper-speed. In twenty years, India's GDP per capita will go from \$1,500/year to \$10,000/year. The only cost will be a million or so extra unemployed Americans, plus all that coal that the newly vibrant India is burning probably won't be very good for the fight against global warming.

Part of me wants to argue that *obviously* we should sign the trade pact; as utilitarians we should agree with Sumner that lifting 1.4 billion Chinese out of poverty was "the best thing that ever happened" and so lifting 1.2 billion Indians out of poverty would be the second-best thing that ever happened, far more important than any possible risks. But if Easterlin is right, those Indians won't be any happier, the utility gain will be nil, and all we will have done is worsened global warming and kicked a million Americans out of work for no reason (and they will [definitely](#) be unhappy).

Or since most of us don't get the option to sign trade pacts, here's a more relevant question. Suppose we are effective altruists. We have the opportunity to cure disease (at relatively high costs) or boost national development (at relatively low costs). Assume the numbers work out such that if we took a simple 'development = good' perspective, then donating to the development charity would be a no-brainer. Should we donate to the disease-cure charity anyway?

A couple of years ago, I learned that people who were paralyzed in car accidents took a few months to adjust to their new situation, but after that were no less happy than people who were still healthy and abled. Then last December I learned that [this was an urban legend](#), that people who were paralyzed in car accidents were mostly as miserable as you would expect. But for those few years while I still believed that

particular factoid, I was a little creeped out. Was a doctor who helps car accident victims recover their function wasting her life? If people got genuine enjoyment from driving drunk at 95 mph while shouting "WOOOOOOOOOOOOO!", was there any reason to make them stop, since they weren't *really* hurting anybody?

(I admit I'm skipping over factors like how paralyzed people can't earn any income to pay into the tax system and stuff, but I'm just saying I would be pretty creeped out if that were the only reason we should avoid car accidents.)

Again assuming I haven't made some simple calculation mistake, I can think of three ways to go from here. First, abandon consequentialism entirely (I understand that having children will likely decrease my happiness, but I still want to have children because I value them for non-utilitarian reasons). Second, switch to a consequentialism based on non-subjective things like maximizing development and industrialization as a terminal goal (Really? Even if everyone hates it? Does it matter what the factories are building? How about paper clips?). Third, switch to preference utilitarianism.

Preference utilitarianism is tempting and I was kind of in favor of it already, but I don't find it completely satisfying. Suppose I myself am an Indian peasant. Should I have a preference for my society industrializing? If I'm not going to be any happier after it does, and supposing there's no inherent moral value in industrialization, why bother? And if Indian peasants want their country to industrialize anyway, aren't we as Americans allowed to say we don't take their preference that seriously? If some hippie said they wanted to go on some Spiritual Yoga Nature Retreat that would turn their life around and bring them constant bliss, but we knew it was a complete fraud that wouldn't help them at all, would we still feel a moral obligation to help fund that hippie's retreat? How are the two situations different?

There's a risk of being patronizing here - telling the Indians "Oh, you don't need to industrialize, it's not so great anyway," even while we ourselves enjoy our nice food and flat-screen TVs. If we were to actively try to keep the Indians from industrializing, that would be pretty awful. But that's not the argument at hand here. The argument at hand is "are we morally required to sacrifice our own economy in order to help the Indians industrialize?", and I feel like that's a hard sell if industrialization doesn't really help the Indians.

And there's also a risk that I might be misdefining happiness. Maybe every way economists have hitherto measured happiness is hopelessly deficient, and there's some ineffable essence of happiness which, if we could get at it, would increase during national development. I admit that all of these subjective well-being indices are kind of sketchy and change a lot with the wording that you use or don't use.

A final option for rescuing common sense might be acknowledging that economic progress doesn't change happiness yet. That is, there are ways to convert economic (and closely linked technological) progress into happiness, but most countries are not making use of them - either for political reasons, or because they don't know about them, or because we haven't gotten enough technological and economic progress to reach them yet. This seems probably true to me - if nothing else, a technological singularity ought to help - but this situation looks a lot different from the situation where incremental progress increases happiness. In particular, it would make us want to concentrate our resources on increasing technological progress, perhaps in the richest economies, rather than trying to help poor countries in particular.



None of these possibilities really appeal to me, and I am forced to acknowledge that happiness research remains a very strange field whose conclusions make no sense to me and which tempt me to crazy beliefs and actions if I take them seriously.



*I guess we're done fighting racism. Good job, guys.*

# Things Probably Matter

A while back when [I wrote about](#) how China's economic development might not have increased happiness there much, Scott Sumner wrote a really interesting response, [Does Anything Matter?](#)

He points out that it's too easy to make this about exotic far-off Chinese. Much the same phenomenon occurs closer to home:

If nothing really matters in China, if even overcoming horrible problems doesn't make the Chinese better off, then what's the use of favoring or opposing any public policy? After all, America also shows no rise in average happiness since the 1950s, despite:

1. A big rise in real wages.
2. Environmental clean-up (including lead--does Flint matter?)
3. Civil rights for African Americans
4. Feminism, gay rights.
5. Dentists now use Novocain (My childhood cavities were filled without it)
6. 1000 channels in glorious widescreen HDTV
7. Blogs

I could go on and on. And yet, if the surveys are to be believed, we are no happier than before. And I think it's very possible that we are in fact no happier than before, that there's a sort of law of the conservation of happiness. As I walk down the street, grown-ups don't seem any happier than the grown-ups I recall as a kid. Does that mean that all of those wonderful societal achievements since 1950 were absolutely worthless?

But there are exceptions. I recall reading that surveys showed a rise in European happiness in the decades after WWII, and Scott reports that happiness is currently very low in Iraq and Syria. So that suggests that current conditions do matter.

The following hypothesis will sound really ad hoc, but matches the way a lot of people I know talk about their lives. Suppose people's happiness is normally calibrated around the sort of lifestyle that they view as "normal." As America got richer after 1950, it all seemed very normal, so people didn't report more happiness. Ditto for China during the boom years. Everyone around you was also doing better, so you started thinking about how you were doing relative to your neighbors. But Germans walking through the rubble of Berlin in 1948, or Syrians doing so today in Aleppo, do see their plight as abnormal. They remember a time before the war. So they report less happiness than during normal times.

The obvious retort is - modern Chinese grew up when China was very poor. Why didn't they calibrate themselves to poverty, such that sudden wealth seems good? What's the difference between a Chinese person going from poverty to wealth, versus a Syrian going from stability to chaos? Might it be a shorter time course? A sudden shock is noticeable, a gradual thirty-year improvement in living standards isn't?

Probably not. There seem to be a lot of cases where happiness of large groups *does* change gradually in response to social trends less dramatic than a world war.

First, consider African-Americans. The New York Times [calls](#) the increase in black happiness over the past forty years “one of the most dramatic gains in the happiness data that you’ll see”. This is not just about poverty; in 1970, blacks who earned more than 75% of whites [were](#) only in the tenth percentile of white happiness. Today, those blacks would be in the fiftieth percentile; they’re still doing worse than would be expected based on income, but not nearly as *much* worse. This is a very sensible and predictable thing to find. Black people face a lot less racism and discrimination today than in 1970 [citation needed], so assuming that was really unpleasant we shouldn’t be surprised that they’re happier. But notice that this is a time course very similar to the rise of China! It doesn’t look like black people picked a happiness level to calibrate on and then never bothered to adjust. It looks like they adjusted exactly like we would expect them to, even over the course of a multi-decade change.

Second, consider women. In 1970, US women were generally happier than US men. Today, [the reverse is true](#). There seems to be a general pattern [around the world](#) of women being happier than men in traditional societies and less happy than men in modern societies (though see Language Log for a [contrary perspective](#)). I don’t think of this as a weird paradox. It seems perfectly reasonable to me that having to work outside the home makes people less happy, getting to spend time with their family makes them more happy, and having to work outside the home but also being expected to take care of your family at the same time makes them least happy of all. In any case, the point is that the numbers are changing. Men and women aren’t just fixating on some level of happiness and staying there, they’re altering their happiness level based on real trends, just like African-Americans did (but apparently unlike Chinese).

Third, I was finally able to find [a paper](#) that had really good data on change in happiness in different countries, and it supports the idea that happiness can change significantly on a countrywide level.



This is change in happiness in a bunch of countries between about 1990 and 2010 (the years were slightly different in each country). There are other graphs for related concepts like life satisfaction and subjective well-being that look about the same.

The most striking finding is that most countries got happier between those two years – sometimes a lot happier. In Mexico, the percent of people saying they were very happy increased by 25 percentage points!

Just eyeballing the graph, there’s not an obvious relationship between happiness and economic growth – China is still near the bottom like we talked about before, and France – a country that’s been First World since forever – is near the top. Even Japan, which is famous for its decades of stagnation, has done pretty well. But the authors tell us that after doing their statistical analyses, there *is* a strong relationship with economic growth. Okay, I guess.

They also say there’s a dramatic relationship with freedom and democracy. Mexico, the top country on the graph, went from a relatively closed to a relatively democratic government during this time. South Africa, number five, went from apartheid to no apartheid. Some of the ex-Communist countries like Poland and Ukraine also look pretty good here. On the other hand, other ex-Communist countries like Lithuania and Estonia are near the bottom. I wonder if this has to do with cutoff points – since every country started at a slightly different time, maybe they began sampling Poland during

the worst parts of Soviet dictatorship and got Lithuania right in the first euphoria of independence? I don't know. It all seems very noisy.

They also mention that the United States' supposedly level happiness is kind of a misunderstanding. People say things like "Happiness in the US has been flat from 1950 to today", but in fact it declined from 1950 to 1979 and increased from 1980 to today. They attribute this to the 1950s being unusually happy; then the 60s and 70s being unusually conflict-prone, and the Reagan Revolution and Clinton years were back to being optimistic. They don't have data that stretches too long after that.

(This is pretty neat for Reagan and Clinton. When I die, I'll consider my life a success if people attribute a spike on national happiness graphs to my influence.)

So apparently population happiness levels do change in response to relevant social changes, even on multi-decade timescales. Which brings us back to asking - what's up with China?

The graph above shows India as doing okay - not great, but okay. But [a similar graph on subjective well-being](#) - which should be another way of looking at the same thing - shows India as doing pretty poorly, right down there with China - even though its GDP per capita quadrupled during the period of study.

I see a lot of [conflicting](#) perspectives about whether economic growth increases national happiness. It *may*, but the effect isn't as big as you'd expect, and is usually overpowered by other factors. Maybe it isn't even direct, but has something to do with development increasing democracy, liberalism, rule of law, and stability. China got the development, but its happiness genuinely didn't increase because of country-specific factors that have something to do with how it developed (inequality? pollution? authoritarianism?).

This matches the race and gender data. Blacks saw a big happiness boost during a time when their feeling of freedom (but not their income) increased relative to whites. Women saw a small happiness drop during a time when their income (but not their feeling of freedom) increased relative to men.

So it looks like happiness *can* change. It just didn't change in China over the past thirty years. The apparent paradox of improving economic situation and stable/decreasing happiness is genuinely paradoxical. Intangibles are probably just way more important than money, even amounts of money big enough to raise whole countries out of poverty.

# How The West Was Won

## I.

Someone recently linked me to Bryan Caplan's post [A Hardy Weed: How Traditionalists Underestimate Western Civ](#). He argues that "western civilization"'s supposed defenders don't give it enough credit. They're always worrying about it being threatened by Islam or China or Degeneracy or whatever, but in fact western civilization can not only hold its own against these threats but actively outcompetes them:

The fragility thesis is flat wrong. There is absolutely no reason to think that Western civilization is more fragile than Asian civilization, Islamic civilization, or any other prominent rivals. At minimum, Western civilization can and does perpetuate itself the standard way: sheer conformity and status quo bias.

But saying that Western civilization is no more fragile than other cultures is a gross understatement. The truth is that Western civilization is taking over the globe. In virtually any fair fight, it steadily triumphs. Why? Because, as fans of Western civ ought to know, Western civ is better. Given a choice, young people choose Western consumerism, gender norms, and entertainment. Anti-Western governments from Beijing to Tehran know this to be true: Without draconian censorship and social regulation, "Westoxification" will win.

A big part of the West's strength, I hasten to add, is its openness to awesomeness. When it encounters competing cultures, it gleefully identifies competitors' best traits – then adopts them as its own. By the time Western culture commands the globe, it will have appropriated the best features of Asian and Islamic culture. Even its nominal detractors will be Westernized in all but name. Picture how contemporary Christian fundamentalists' consumerism and gender roles would have horrified Luther or Calvin. Western civ is a good winner. It doesn't demand total surrender. It doesn't make fans of competing cultures formally recant their errors. It just tempts them in a hundred different ways until they tacitly convert.

Traditionalists' laments for Western civilization deeply puzzle me. Yes, it's easy to dwell on setbacks. In a world of seven billion people, you can't expect Western culture to win everywhere everyday. But do traditionalists seriously believe that freshman Western civ classes are the wall standing between us and barbarism? Have they really failed to notice the fact that Western civilization flourishes all over the globe, even when hostile governments fight it tooth and nail? It is time for the friends of Western civilization to learn a lesson from its enemies: Western civ is a hardy weed. Given half a chance, it survives, spreads, and conquers. Peacefully.

I worry that Caplan is eliding the important summoner/demon distinction. This is an easy distinction to miss, since demons often kill their summoners and wear their skin. But in this case, he's become hopelessly confused without it.

I am pretty sure there was, at one point, such a thing as western civilization. I think it involved things like dancing around maypoles and copying Latin manuscripts. At some point Thor might have been involved. That civilization is dead. It summoned an alien entity from beyond the void which devoured its summoner and is proceeding to eat the rest of the world.

An analogy: naturopaths like to use the term “western medicine” to refer to the evidence-based medicine of drugs and surgeries you would get at your local hospital. They contrast this with traditional Chinese medicine and Ayurvedic medicine, which it has somewhat replaced, apparently a symptom of the “westernization” of Chinese and Indian societies.

But “western medicine” is just medicine that works. It happens to be western because the West had a technological head start, and so discovered most of the medicine that works first. But there’s nothing *culturally* western about it; there’s nothing Christian or Greco-Roman about using penicillin to deal with a bacterial infection. Indeed, “western medicine” replaced the traditional medicine of Europe – Hippocrates’ four humors – before it started threatening the traditional medicines of China or India. So-called “western medicine” is an inhuman perfect construct from beyond the void, summoned by Westerners, which ate traditional Western medicine first and is now proceeding to eat the rest of the world.

“Western culture” is no more related to the geographical west than western medicine. People who complain about western culture taking over their country always manage to bring up Coca-Cola. But in what sense is Coca-Cola culturally western? It’s an Ethiopian bean mixed with a Colombian leaf mixed with carbonated water and lots and lots of sugar. An American was the first person to discover that this combination tasted really good – our technological/economic head start ensured that. But in a world where America never existed, eventually some Japanese or Arabian chemist would have found that sugar-filled fizzy drinks were really tasty. It was a discovery waiting to be plucked out of the void, like penicillin. America summoned it but did not create it. If western medicine is just medicine that works, soda pop is just refreshment that works.

The same is true of more intellectual “products”. Caplan notes that foreigners consume western gender norms, but these certainly aren’t gender norms that would have been recognizable to Cicero, St. Augustine, Henry VIII, or even Voltaire. They’re gender norms that sprung up in the aftermath of the Industrial Revolution and its turbulent intermixing of the domestic and public economies. They arose because they *worked*. The West was the first region to industrialize and realize those were the gender norms that worked for industrial societies, and as China and Arabia industrialize they’re going to find the same thing.

Caplan writes:

A big part of the West’s strength, I hasten to add, is its openness to awesomeness. When it encounters competing cultures, it gleefully identifies competitors’ best traits – then adopts them as its own. By the time Western culture commands the globe, it will have appropriated the best features of Asian and Islamic culture.

Certainly he’s pointing at a real phenomenon – sushi has spread almost as rapidly as Coke. But in what sense has sushi been “westernized”? Yes, Europe has adopted sushi. But so have China, India, and Africa. Sushi is another refreshment that works, a crack in the narrative that what’s going on is “westernization” in any meaningful sense.

Here’s what I think is going on. Maybe every culture is the gradual accumulation of useful environmental adaptations combined with random memetic drift. But this is usually a gradual process with plenty of room for everybody to adjust and local peculiarities to seep in. The Industrial Revolution caused such rapid change that the

process become qualitatively different, a frantic search for better adaptations to an environment that was itself changing almost as fast as people could understand it.

The Industrial Revolution also changed the way culture was spatially distributed. When the fastest mode of transportation is the horse, and the postal system is frequently ambushed by Huns, almost all culture is local culture. England develops a culture, France develops a culture, Spain develops a culture. Geographic, language, and political barriers keep these from intermixing too much. Add rapid communication – even at the level of a good postal service – and the equation begins to change. In the 17th century, philosophers were remarking (in Latin, the universal language!) about how Descartes from France had more in common with Leibniz from Germany than either of them did with the average Frenchman or German. Nowadays I certainly have more in common with SSC readers in Finland than I do with my next-door neighbor whom I’ve never met.

Improved trade and communication networks created a rapid flow of ideas from one big commercial center to another. Things that worked – western medicine, Coca-Cola, egalitarian gender norms, sushi – spread along the trade networks and started outcompeting things that didn’t. It happened in the west first, but not in any kind of a black-and-white way. Places were inducted into the universal culture in proportion to their participation in global trade; Shanghai was infected before West Kerry; Dubai is further gone than Alabama. The great financial capitals became [a single cultural region](#) in the same way that “England” or “France” had been a cultural region in the olden times, gradually converging on more and more ideas that worked in their new economic situation.

Let me say again that this universal culture, though it started in the West, was western only in the most cosmetic ways. If China or the Caliphate had industrialized first, they would have been the ones who developed it, and it would have been much the same. The new sodas and medicines and gender norms invented in Beijing or Baghdad would have spread throughout the world, and they would have looked very familiar. The best way to industrialize is the best way to industrialize.

## II.

Something Caplan was pointing towards but never really said outright: universal culture is by definition the only culture that can survive without censorship.

He writes in his post:

The truth is that Western civilization is taking over the globe. In virtually any fair fight, it steadily triumphs. Why? Because, as fans of Western civ ought to know, Western civ is better. Given a choice, young people choose Western consumerism, gender norms, and entertainment. Anti-Western governments from Beijing to Tehran know this to be true: Without draconian censorship and social regulation, “Westoxification” will win.

Universal culture is the collection of the most competitive ideas and products. Coca-Cola spreads because it tastes better than whatever people were drinking before. Egalitarian gender norms spread because they’re more popular and likeable than their predecessors. If there was something that outcompeted Coca-Cola, then that would be the official soda of universal culture and Coca-Cola would be consigned to the scrapheap of history.



The only reason universal culture doesn't outcompete everything else instantly and achieve fixation around the globe is barriers to communication. Some of those barriers are natural – Tibet survived universalization for a long time because nobody could get to it. Sometimes the barrier is time – universal culture can't assimilate every little hill and valley instantly. Other times there are no natural barriers, and then your choice is to either accept assimilation into universal culture, or put up some form of censorship.

Imagine that Tibet wants to protect its traditional drink of yak's milk. The Dalai Lama requests that everyone continue to drink yak's milk. But Coca-Cola tastes much better than yak's milk, and everyone knows this. So it becomes a coordination problem: even if individual Tibetans would prefer that their neighbors all drink yak's milk to preserve the culture, *they* want to drink Coca-Cola. The only way yak's milk stays popular is if the Dalai Lama bans Coca-Cola from the country.

But westerners aren't banning yak's milk to "protect" their cultures. They don't have to. Universal culture is high-entropy; it's already in its ground state and will survive and spread without help. All other cultures are low-entropy; they survive only if someone keeps pushing energy into the system to protect them. It could be the Dalai Lama banning Coca-Cola. It could be the Académie Française removing English words from the language. It could be the secret police killing anyone who speaks out against Comrade Stalin. But if you want anything other than universal culture, you better either be surrounded by some very high mountains, or be willing to get your hands dirty.

There's one more sense in which universal culture is high-entropy; I think it might be the only culture that can really survive high levels of immigration.

I've been wondering for a long time – how come groups that want to protect their traditional cultures worry about immigration? After all, San Francisco is frequently said to have a thriving gay culture. There's a strong Hasidic Jewish culture in New York City. Everyone agrees that the US has something called "black culture", although there's debate over exactly what it entails. But only 6% of San Francisco is gay. Only 1% of New Yorkers are Hasidim. Only about 11% of Americans are black. So these groups have all managed to maintain strong cultures while being vastly outnumbered by people who are different from them.

So why is *anyone* concerned about immigration threatening their culture? Suppose that Tibet was utterly overwhelmed by immigrants, tens of millions of them. No matter how many people you import, Tibetan people couldn't possibly get more outnumbered in their own country than gays, Hasidim, and blacks already are. But those groups hold on to their cultures just fine. Wouldn't we expect Tibetans (or Americans, or English people) to do the same?

I'm still not totally sure about the answer to this one, but once again I think it makes more sense when we realize that Tibet is competing not against Western culture, but against universal culture.

And here, universal culture is going to win, simply because it's designed to deal with diverse multicultural environments. Remember, different strategies can succeed in different equilibria. In a world full of auto-cooperators, defect-bot hits the jackpot. In a world full of tit-for-tat-players, defect-bot crashes and burns. Likewise, in a world where everybody else follows Tibetan culture, Tibetan culture may do very well. In a world where there are lots of different cultures all mixed together, Tibetan culture might not have any idea what to do.

(one more hypothetical, to clarify what I'm talking about – imagine a culture where the color of someone's clothes tells you a lot of things about them – for example, anyone wearing red is a prostitute. This may work well as long as everyone follows the culture. If you mix it 50-50 with another culture that doesn't have this norm, then things go downhill quickly; you proposition a lady wearing red, only to get pepper sprayed in the eye. Eventually the first culture gives up and stops trying to communicate messages through clothing color.)

I think universal culture has done a really good job adapting to this through a strategy of social atomization; everybody does their own thing in their own home, and the community exists to protect them and perform some lowest common denominator functions that everyone can agree on. This is a *really* good way to run a multicultural society without causing any conflict, but it requires a very specific set of cultural norms and social technologies to work properly, and only universal culture has developed these enough to pull it off.

Because universal culture is better at dealing with multicultural societies, the more immigrants there are, the more likely everyone will just default to universal culture in public spaces. And eventually the public space will creep further and further until universal culture becomes the norm.

If you don't understand the difference between western culture and universal culture, this looks like the immigrants assimilating – “Oh, before these people were Chinese people behaving in their foreign Chinese way, but now they're Westerners just like us.” Once you make the distinction, it looks like *both* Chinese people *and* traditional Americans assimilating into universal culture in order to share a common ground – with this being invisible to people who are already assimilated into universal culture, to whom it just looks “normal”.

### III.

I stress these points because the incorrect model of “foreign cultures being Westernized” casts Western culture as the aggressor, whereas the model of “every culture is being universalized” finds Western culture to be as much a victim as anywhere else. Coca-Cola might have replaced traditional yak's milk in Mongolia, but it also replaced traditional apple cider in America. A Hopi Indian saddened that her children no longer know the old ritual dances differs little from a Southern Baptist incensed that her kids no longer go to church. Universal values have triumphed over both.

Our society is generally in favor of small, far-away, or exotic groups trying to maintain their culture. We think it's great that the Hopi are trying to get the next generation to participate in the traditional dances. We support the Tibetans' attempt to maintain their culture in the face of pressure from China. We promote black culture, gay culture, et cetera. We think of it as a tragedy when the dominant culture manages to take over and destroy one of these smaller cultures. For example, when white American educators taught Native American children to identify with white American culture and ignore the old ways, that was inappropriate and in some senses “genocidal” if the aim was to destroy Native Americans as a separate people. We get excited by the [story of Bhutan](#), the tiny Himalayan kingdom trying to preserve its natural and human environment and prevent its own McDonaldization. We tend to be especially upset when the destruction of cultures happens in the context of colonialism, ie a large and powerful country trying to take over and eliminate the

culture of a smaller country. Some examples include the English in Ireland, the English in India, the English in Africa, and basically the English anywhere.

One of the most common justifications for colonialism is that a more advanced and enlightened society is taking over an evil and oppressive society. For example, when China invaded Tibet, they said that this was because Tibet was a feudal hellhole where most of the people were living in abject slavery and where people who protested the rule of the lamas were punished by having their eyes gouged out (true!). They declared the anniversary of their conquest “Serfs Emancipation Day” and force the Tibetans to celebrate it every year. They say that anyone who opposes the Chinese, supports the Dalai Lama, or flies the old Tibetan flag is allied with the old feudal lords and wants to celebrate a culture based around serfdom and oppression.

But opponents of colonialism tend to believe that cultures are valuable and need to be protected in and of themselves. This is true even if the culture is very poor, if the culture consists of people who aren’t very well-educated by Western standards, even if they believe in religions that we think are stupid, even if those cultures have unsavory histories, et cetera. We tend to allow such cultures to resist outside influences, and we even celebrate such resistance. If anybody were to say that, for example, Native Americans are poor and ignorant, have a dumb religion with all sorts of unprovable “spirits”, used to be involved in a lot of killing and raiding and slave-taking – and so we need to burn down their culture and raise their children in our own superior culture – that person would be incredibly racist and they would not be worth listening to. We celebrate when cultures choose preservation of their traditional lifestyles over mere economic growth, like Bhutan’s [gross national happiness](#) program.

This is true in every case except with the cultures we consider our [outgroups](#) – in the US, white Southern fundamentalist Christian Republicans; in the UK, white rural working-class leave voters. In both cases, their ignorance is treated as worthy of mockery, their religion is treated as stupidity and failure to understand science, their poverty makes them “trailer trash”, their rejection of economic-growth-at-all-costs means they are too stupid to understand the stakes, and their desire to protect their obviously inferior culture makes them xenophobic and racist. Although we laugh at the Chinese claim that the only reason a Tibetan could identify with their own culture and want to fly its flag is because they support serfdom and eye-gouging, we solemnly nod along with our own culture’s claim that the only reason a Southerner could identify with their own culture and want to fly its flag is because they support racism and slavery.

(one question I got on the post linked above was why its description of American tribes seemed to fit other countries so well. I think the answer is because most countries’ politics are centered around the conflict between more-universalized and less-universalized segments of the population.)

We could even look at this as a form of colonialism – if Brexit supporters and opponents lived on two different islands and had different colored skin, then people in London saying things like “These people are so butthurt that we’re destroying their so-called ‘culture’, but they’re really just a bunch of ignorant rubes, and they don’t realize they need us elites to keep their country running, so screw them,” would sound a lot more sinister. The insistence that they tolerate unwanted immigration into their lands would look a lot like how China is trying to destroy Tibet by exporting millions of people to it in the hopes they will eventually outnumber the recalcitrant native Tibetans (if you don’t believe me, believe the Dalai Lama, who apparently [has the](#)

[same perspective](#)). The claim that they're confused about their own economic self-interest would give way to discussions of Bhutan style "[gross national happiness](#)".

(I get accused of being crypto-conservative around here every so often, but I think I'm just taking my anti-colonialism position to its logical conclusion. A liberal getting upset about how other liberals are treating conservatives, doesn't become conservative himself, any more than an American getting upset about how other Americans treat Iraqis becomes an Iraqi.)

And I worry that confusing "universal culture" with "Western culture" legitimizes this weird double standard. If universal culture and Western culture are the same thing, then Western culture doesn't need protection – as Caplan points out, it's the giant unstoppable wave of progress sweeping over everything else. Or maybe it doesn't *deserve* protection – after all, it's the colonialist ideology that tried to destroy local cultures and set itself up as supreme. If Western culture is already super-strong and has a history of trying to take over everywhere else, then surely advocating "protecting Western culture" must be a code phrase for something more sinister. We can sympathize with foreign cultures like the Tibetans who are actually under threat, but sympathizing with any Western culture in any way would just be legitimizing aggression.

But I would argue that it's universal culture which is the giant unstoppable wave of progress, and that it was universal culture that was responsible for colonizing other cultures and replacing them with itself. And universal culture's continuing attempts to subjugate the last unassimilated remnants of traditional western culture are just part of this trend.

#### IV.

I am mostly just on the side of consistency. After that I have no idea what to do.

One argument is that we should consistently support traditional cultures' attempts to defend themselves against universal culture. Support the Native Americans' ability to practice their old ways, support traditional Siberians trying to return to their shamanistic roots, support Australian Aborigines' rights to continue the old rituals, support Tibetans' rights to practice Vajrayana Buddhism, and support rural British people [trying to protect Ye Olde England](#) from the changes associated with increased immigration. For most people, this would mean extending the compassion that they feel to the Aborigines, peasants, and Tibetans to apply to the British as well.

But another argument is that we should consistently support universal culture's attempt to impose progress on traditional cultures. Maybe we should tell the Native Americans that if they embraced global capitalism, they could have a tacqueria, sushi restaurant, and kebab place *all on the same street* in their reservation. Maybe we should tell the Aborigines that modern science says the Dreamtime is a myth they need to stop clinging to dumb disproven ideas. Maybe we should tell the Tibetans that Vajrayana Buddhism is too intolerant of homosexuality. Take our conviction that rural Englanders are just racist and xenophobic and ill-informed, and extend that to everyone else who's trying to resist a way of life that's objectively better.

I am sort of torn on this.

On the one hand, universal culture *is* objectively better. Its science is more correct, its economy will grow faster, its soft drinks are more refreshing, its political systems are (necessarily) freer, and it is (in a certain specific sense) what everybody would select

if given a free choice. It also seems morally better. The Tibetans *did* gouge out the eyes of would-be-runaway serfs. I realize the circularity of saying that universal culture is [objectively morally better](#) based on it seeming so to me, a universal culture member – but I am prepared to suspend that paradox in favor of not wanting people's eyes gouged out for resisting slavery.

On the other hand, I think that “universal culture is what every society would select if given the opportunity” is less of a knock-down point than it would seem. Heroin use is something every society would select if given the opportunity. That is, if nobody placed “censorship” on the spread of heroin, it would rapidly spread from country to country, becoming a major part of that country's society. Instead, we implement an almost authoritarian level of control on it, because we know that even though it would be very widely adopted, it's not something that is good for anybody in the long term. An opponent of universal culture could say it has the same property.

Things get even worse when you remember that cultures are multi-agent games and each agent pursuing its own self-interest might be a disaster for the whole. Pollution is a good example of this; if the best car is very polluting, and one car worth of pollution is minimal but many cars' worth of pollution is toxic, then absent good coordination mechanisms everyone will choose the best car even though everyone would prefer a world where nobody (including them) had the best car. I [may have written about this before](#).

I'm constantly intrigued (though always a little skeptical) by claims that “primitive” cultures live happier and more satisfying lives than our own. I know of several of this type. First, [happiness surveys](#) that tend to find Latin American countries doing as well or better than much richer and more advanced European countries. Second, the evidence from the Amish, whose children are allowed to experience the modern culture around them but who usually prefer to stay in Amish society. Third, [Axtell's paper](#) on prisoner exchanges between early US colonists and Native Americans; colonists captured by the natives almost always wanted to stay and live with the natives; natives captured by the colonists *never* wanted to stay and live with the colonists. Many people have [remarked](#) on how more culturally homogenous countries seem happier. Bhutan itself might be evidence here, although I've seen wildly different claims on where it falls on happiness surveys. I've also [talked before](#) about how China's happiness level stayed stable or even dropped during its period of rapid development.

(on the other hand, there's also a lot of counterevidence. More democratic countries [seem to be happier](#), and democracies will generally be the low-censorship countries that get more assimilated into universal culture. Free market economies [are happier](#). Some studies say that [more liberal countries are happier](#). And there's a [complicated but positive](#) relationship between national happiness and wealth.)

I also think that it might be reasonable to have continuation of your own culture as a terminal goal, even if you know your culture is “worse” in some way than what would replace it. There's a transhumanist joke – “Instead of protecting human values, why not reprogram humans to like hydrogen? After all, there's a *lot* of hydrogen.” There's way more hydrogen than beautiful art, or star-crossed romances, or exciting adventures. A human who likes beautiful art, star-crossed romances, and exciting adventures is in some sense “worse” than a human who likes hydrogen, since it would be much harder for her to achieve her goals and she would probably be much less happy. But knowing this does not make me any happier about the idea of being reprogrammed in favor of hydrogen-related goals. My own value system might not be

objectively the best, or even very good, but it's my value system and I want to keep it and you can't take it away from me. I am an individualist and I think of this on an individual level, but I could also see having this self-preservation-against-optimality urge for my community and its values.

(I've sometimes heard this called Lovecraftian parochialism, based on H.P. Lovecraft's philosophy that the universe is vast and incomprehensible and anti-human, and you've got to draw the line between Self and Other somewhere, so you might as well draw the line at 1920s Providence, Rhode Island, and call everywhere else from Boston all the way to the unspeakable abyss-city of Y'ha-nthlei just different degrees of horribleness.)

Overall I am not 100% convinced either way. Maybe some traditional cultures are worse than universal culture and others are better? Mostly the confusion makes me want to err on the side of allowing people to go either direction as they see fit, barring atrocities. Which are of course hard to define.

I like the Jewish idea of the Noahide Laws, where the Jews say "We are not going to impose our values on anyone else...except [these seven values](#) which we think are incredibly important and breaking them is totally beyond the pale." Sometimes I wish universal culture would just establish a couple of clear Noahide Laws – two of them could be "no slavery" and "no eye-gouging" – and then agree to bomb/sanction/drone any culture that breaks them while leaving other cultures alone. On the other hand, I also understand universal culture well enough to know that two minutes after the first set of Noahide Laws were established, somebody would propose amending them to include something about how every culture must protect transgender bathroom rights or else be cleansed from the face of the Earth by fire and sword. I'm not sure how to prevent this, or if preventing it is even desirable. This seems like the same question as the original question, only one meta-level up and without any clear intuition to help me solve it. I guess this is another reason I continue to be attracted to the idea of [Archipelago](#).

But I think that none of this makes sense unless we abandon the idea that "universal culture" and "western culture" are one and the same. I think when Caplan's debate opponent talked about "protecting Western culture", he was referring to something genuinely fragile and threatened.

I also think he probably cheated by saying we needed to protect it because it was responsible for so many great advances, like Coca-Cola and egalitarian gender norms. I don't think that's fair. I think it's a culture much like Tibetan or Indian culture, pretty neat in its own way, *possibly* extra interesting as the first culture to learn the art of summoning entities from beyond the void. Mostly I'm just happy that it exists in the same way I'm happy that pandas and gorillas exist, a basic delight in the diversity of the world. I think it can be defended in those terms without having to resolve the debate on how many of its achievements are truly its own.



# The Lizard People Of Alpha Draconis 1 Decided To Build An Ansible

## I.

The lizard people of Alpha Draconis 1 decided to build an [ansible](#).

The transmitter was a colossal tower of silksteel, doorless and windowless. Inside were millions of modular silksteel cubes, each filled with beetles, a different species in every cube. Big beetles, small beetles, red beetles, blue beetles, friendly beetles, venomous beetles. There hadn't been a million beetle species on Alpha Draconis I before the ansible. The lizard people had genetically engineered them, carefully, lovingly, making each one just different enough from all the others. Atop each beetle colony was a heat lamp. When the heat lamp was on, the beetles crawled up to the top of the cage, sunning themselves, basking in the glorious glow. When it turned off, they huddled together to warmth, chittering out their anger in little infrasonic groans only they could hear.

The receiver stood on 11845 Nochtli, eighty-five light years from Alpha Draconis, toward the galactic rim. It was also made of beetles, a million beetle colonies of the same million species that made up the transmitter. In each beetle colony was a pheromone dispenser. When it was on, the beetles would multiply until the whole cage was covered in them. When it was off, they would gradually die out until only a few were left.

Atop each beetle cage was a mouse cage, filled with a mix of white and grey mice. The white mice had been genetically engineered to want all levers in the "up" position, a desire beyond even food or sex in its intensity. The grey mice had been engineered to want levers in the "down" position, with equal ferocity. The lizard people had uplifted both strains to full sapience. In each of a million cages, the grey and white mice would argue whether levers should be up or down – sometimes through philosophical debate, sometimes through outright wars of extermination.

There was one lever in each mouse cage. It controlled the pheromone dispenser in the beetle cage just below.

This was all the lizard people of Alpha Draconis 1 needed to construct their ansible.

They had mastered every field of science. Physics, mathematics, astronomy, cosmology. It had been for nothing. There was no way to communicate faster-than-light. Tachyons didn't exist. Hyperspace didn't exist. Wormholes didn't exist. The light speed barrier was absolute – *if* you limited yourself to physics, mathematics, astronomy, and cosmology.

The lizard people of Alpha Draconis I weren't going to use any of those things. They were going to build their ansible out of negative average preference utilitarianism.

## II.

Utilitarianism is a moral theory claiming that an action is moral if it makes the world a better place. But what do we mean by "a better place"?



Suppose you decide (as Jeremy Bentham did) that it means increasing the total amount of happiness in the universe as much as possible – the greatest good for the greatest number. Then you run into a so-called “repugnant conclusion”. The philosophers quantify happiness into “utils”, some arbitrary small unit of happiness. Suppose your current happiness level is 100 utils. And suppose you could sacrifice one util of happiness to create another person whose total happiness is two utils: they are only 1/50th as happy as you are. This person seems quite unhappy by our standards. But crucially, their total happiness is positive; they would (weakly) prefer living to dying. Maybe we can imagine this as a very poor person in a war-torn Third World country who is (for now) not actively suicidal.

It would seem morally correct to make this sacrifice. After all, you are losing one unit of happiness to create two units, increasing the total happiness in the universe. In fact, it would seem morally correct to keep making the sacrifice as many times as you get the opportunity. The end result is that you end up with a happiness of 1 util – barely above suicidality – and also there are 99 extra barely-not-suicidal people in war-torn Third World countries.

And the same moral principles that lead you to make the sacrifice bind everyone else alike. So the end result is everyone in the world ends up with the lowest possible positive amount of happiness, plus there are billions of extra near-suicidal people in war-torn Third World countries.

This seems abstract, but in some sense it might be the choice on offer if we have to decide whether to control population growth (thus preserving enough resources to give everyone a good standard of living), or continue explosive growth so that there are many more people but not enough resources for any of them to live comfortably.

The so-called “repugnant conclusion” led many philosophers away from “total utilitarianism” to “average utilitarianism”. Here the goal is still to make the world a better place, but it gets operationalized as “increase the average happiness level per person”. The repugnant conclusion clearly fails at this, so we avoid that particular trap.

But here we fall into another ambush: wouldn't it be morally correct to kill unhappy people? This raises average happiness very effectively!

So we make another amendment. We're not in the business of raising happiness, *per se*. We're in the business of satisfying preferences. People strongly prefer not to die, so you can't just kill them. Killing them actively *lowers* the average number of satisfied preferences.

Philosopher Roger Chao combines these and other refinements of the utilitarian method into a moral theory he calls [negative average preference utilitarianism](#), which he considers the first system of ethics to avoid all the various traps and pitfalls. It says: an act is good if it decreases the average number of frustrated preferences per person.

This doesn't imply we should create miserable people ad nauseum until the whole world is a Third World slum. It doesn't imply that we should kill everyone who cracks a frown. It doesn't imply we should murder people for their organs, or never have children again, or replace everybody with identical copies of themselves, or anything like that.

It just implies faster-than-light transmission of moral information.

### III.

The ansible worked like this:

Each colony of beetles represented a bit of information. In the transmitter on Alpha Draconis I, the sender would turn the various colonies' heat lamps on or off, increasing or decreasing the average utility of the beetles.

In the receiver on 11845 Nochtli, the beetles would be in a constant state of half-light: warmer than the Draconis beetles if their heat lamp was turned off, but colder than them if their heat lamp was turned on. So increasing the population of a certain beetle species on 11845 Nochtli would be morally good if the heat lamp for that species on Alpha Draconis were off, but morally evil otherwise.

The philosophers among the lizard people of Alpha Draconis 1 had realized that this was true regardless of intervening distance; morality was the only force that transcended the speed of light. The question was how to detect it. Yes, a change in the heat lamps on their homeworld would instantly change the moral valence of pulling a lever on a colony 85 light-years away, but how to detect the morality of an action?

The answer was: the arc of the moral universe is long, *but it bends toward justice*. Over time, as the great debates of history ebb and sway, evil may not be conquered completely, but it will lessen. Our own generation isn't perfect, but we have left behind much of the slavery, bigotry, war and torture, of the past; perhaps our descendants will be wiser still. And [how could this be](#), if not for some benevolent general rule, some principle that tomorrow must be brighter than today, and the march of moral progress slow but inevitable?

Thus the white and grey rats. They would debate, they would argue, they would even fight – but in the end, moral progress would have its way. If raising the lever and causing an increase in the beetle population was the right thing to do, then the white rats would eventually triumph; if lowering the lever and causing the beetle population to fall was right, then the victory would eventually go to the grey. All of this would be recorded by a camera watching the mouse colony, and – lo – a bit of information would have been transmitted.

The ansible of the lizard people of Alpha Draconis 1 was a flop.

They spent a century working on it: ninety years on near-light-speed starships just transporting the materials, and a decade constructing the receiver according to meticulous plans. With great fanfare, the Lizard Emperor himself sent the first message from Alpha Draconis I. And it was a total flop.

The arc of the moral universe is long, but it bends to justice. But nobody had ever thought to ask *how* long, and why. When everyone alike ought to love the good, why does it take so many years of debate and strife for virtue to triumph over wickedness? Why do war and slavery and torture persist for century after century, so that only endless grinding of the wheels of progress can do them any damage at all?

After eighty-five years of civilizational debate, the grey and white mice in each cage finally overcame their differences and agreed on the right position to put the lever, just as the mundane lightspeed version of the message from Alpha Draconis reached 11845 Nochtli's radio telescopes. And the lizard people of Alpha Draconis 1 realized that one can be more precise than simply defining the arc of moral progress as "long".

*It's exactly as long as it needs to be to prevent faster-than-light transmission of moral information.*

Fundamental physical limits [are a harsh master](#).

# A Modern Myth

## 1. Eris

A middle-aged man, James, had come on stage believing it was an audition for *American Idol*. It wasn't. Out ran his ex-lover, Terri. "You said you loved me!" she said. "And then when I got pregnant, you disappeared! Twenty years, and you never even sent me a letter!"

The crowd booed.

As James tried to sputter a response, his wife ran onto the stage. "You cheating jerk!" she shouted at James. "You lying, cheating jerk! Twenty-five years we've been married, and I never..." She picked up a folding chair, tried to swing it at James.

"Stop!" cried James' teenage daughter Katie, joining in the fray. "Mom, Dad, stop it!"

"You stay out of this!" shouted James' wife. "Maybe if you'd had a good male role model, you wouldn't have become a *lesbian*."

The crowd gasped.

Katie's girlfriend Lisa came out of a side door. "You take that back!" she yelled. Then she saw Terri. "Wait? Mom? What are you doing here?"

"That's right," said Alice DiScorria, sidling onto the stage, effortlessly drawing the audience's attention from the brawl taking shape in front of them. "Katie's girlfriend is the daughter of the woman her father cheated with, so many years ago. And we've got the paternity test right here." She theatrically opened a manilla envelope. "And... James! James is the father!"

"I'VE BEEN LESBIAN LOVERS WITH MY HALF-SISTER!" shrieked Katie.

"This is all your fault!" everyone shouted at everyone else in unison. Then the punching started.

In short, it had been another successful episode of *The Alice Show*.

Now Ms. DiScorria was in her dressing room, wiping off the night's makeup, trying to decide where to go to dinner. Knock, knock. She opened the door wide.

There stood Katie and Lisa. Katie was holding a shotgun.

"Why would you do this to us?" screamed Katie. "We were a happy family!"

"I loved her!" added Lisa.

"Why?" Katie screamed at her, waving the gun. "WHY?"

"Oh, put it away," said Alice. "We both know you're not going to shoot me. And it wouldn't hurt me if you did. I do this because I'm Eris, the Greek Goddess of Discord. I destroy peace. I set people against each other. Then, when their petty fights destroy everything they've worked for, I stand over the ruins and laugh. It's my thing. Here. Have a golden apple."

It appeared in Alice's hand, shining with beauty that defied description. "FOR THE FAIREST" was written on the front in letters of liquid light. Katie dropped her gun and stared. Lisa rubbed her eyes to see if she was dreaming. For a brief moment, no one moved.

Finally, Katie asked, "You're...*giving* it to me?"

"Absolutely. To you and your girlfriend. Traditionally, I think it would go to whichever of you is prettier."

Gently, she placed the golden apple on her dressing table, winked at the girls, and left the room. She closed the door behind her, so nobody would hear the screams.

## **2. Ares**

"Look," Tom told Ari, "you always seem to come out of this kind of thing okay. So if I don't make it tomorrow, I want you to give this to my wife." It was an envelope. There was no address, just 'TO BE OPENED IN THE EVENT OF MY DEATH'.

"Stop talking like that, Tom," said Ari, taking the envelope and putting it into his backpack. "You'll make it. The Taliban's gonna fold like a wet rag tomorrow, I promise."

"Easy for you to say. In Helmand, half your squad dies, you just walk out with a big grin on your face. Kandahar, outnumbered eight to one, and not only do you win, you end up with two Medals of Honor. I didn't even know you could *get* more than one Medal of Honor for a single battle. Yeah, sure, you'll be fine tomorrow. The rest of us, we're only mortal."

"Yeah," said Ari. "I can see how that would suck."

"Look, you're doing me a big favor, taking that envelope," said Tom. "Anything I can do for you? You know, in case the worst happens?"

"Nah, don't worry about it."

"There's nobody back home you care about? Wife? Girlfriend? Family?"

"Fuck all. No wife, no girlfriend, and a family dysfunctional like you wouldn't believe."

"Where are you even from, Ari? You never talk about it."

"Who cares?"

"I care. Heck, half the squad thinks you're some kind of government supersoldier, the other half thinks you should be in a loony bin. You're *interesting*, Ari."

"Well, fine. I'm Ares, Greek god of war. I'm the son of Zeus and his sister Hera, and let me tell you, marrying your sister works about as well as you'd expect. I used to be a big deal, shape the destiny of whole nations, rise of Rome and all that. Then my power crashed along with everyone else's. Man, I don't even remember the Dark Ages. The whole medieval era is a blur. By the time I start feeling like myself again, it's the Renaissance and everybody's fighting with muskets. Nowadays...man. I can fight better than you mortals, you gotta give me that. But in terms of god stuff...I remember when I could make all of fucking Persia flee in abject surrender. Now I'm stuck taking pot shots at Taliban assholes. Meanwhile, they're all shouting about Allah,

and you guys are all shouting about Jesus, and nobody even fucking believes in me anymore.”

“I believe you,” said Tom.

“Really?”

“Yeah,” said Tom. “In Kandahar, I saw a bullet pass right through you. How would a government super-soldier manage that? Sure. You’re Ares, god of war. I’ll worship you, if you want.”

“What fucking good would that be?”

“Think about it! You said that you and all the other gods lost your power back in Roman days. What happened in Roman days? Constantine! The start of Christianity! That must have been what did it! Gods’ power comes from people believing in them!”

“Why does every mortal always figure that gods’ power comes from people believing in them? Like you’re all some kind of god power experts? Do they teach that to baby mortals in their little mortal schools? Stupidest thing I ever heard. You think we ruled the world for a thousand years and didn’t check where our power came from? We figured that out a long time ago. Divine power comes from meat.”

“Meat?”

“Yeah. Like, you know, sacrifice a ram to Ares, pray for victory, then eat it in a big communal feast in the barracks. The more meat sacrificed in a god’s name, the stronger he got.”

“But then it’s still about belief. People stopped believing in you, so they stopped sacrificing rams to you.”

“You’ve got it ass-backwards. We were at the height of our power. People were sacrificing rams to us right and left. Then it stopped working. One year the meat started having a little less effect. The next year it was a little less than that. Eventually it was gone. And then when the gods became powerless, the cults collapsed, and *then* the Christians and Muslims and all the rest stepped in to fill the gap.”

“So what can I do? There’s some meat in the mess hall, I can sacrifice that for you if you want.”

“I’m telling you, it won’t work. The power’s gone. It’s been gone for two thousand years. Me – and all the rest – we’re stuck like this. Some kind of natural floor to our power, still more than mortal but forever less than divine. It’s fucking awful and I hate it. I hate not being able to smite whole nations when I’m angry. I hate having to take commands from ‘superior officers’ because I’m ‘just a grunt’. And most of all, I hate that people have *forgotten about us*. We used to be *big*, Tom!”

“People haven’t forgotten. They love you guys. There’s still, you know, Hermes handbags, and Athena mineral water, and, you know, Mars bars....”

“I am the lord over war, the manslaughtering one, the bloodstained one, he of many devices, bringer of much weeping, destroyer of men. I AM NOT A FUCKING CHOCOLATE BAR.”

"Sorry, man. I was just saying..."

"I know. You wanted to make me feel better. That's what I've come to. Having to be consoled by mortals. You know what's going to make me feel better, Tom? Killing some fucking Taliban tomorrow."

"Yeah. Okay."

"Look, I'm sorry, I didn't meant to..."

"It's not that. But, uh, Ari. We've got a big battle coming up tomorrow. And I know this probably sounds really crazy to you, but humans – praying makes us feel better. That's why we do it all the time. To Jesus or Allah or whoever. And we don't really expect it to work, so...um..."

"Out with it, Tom."

"...is it okay if I pray to you tomorrow?"

"Knock yourself out, Tom."

### **3. Apollo**

Ianthe had always liked magic squares. They were one of the oldest forms of magic. A Sator square had been found scrawled on one of the walls of Pompeii. Since then the art had advanced, and she was its master. She would fill the word square with words relating to the sun, and Apollo would appear before her. Working with gold ink, she traced the letters carefully:

C I R C L E  
I C A R U S  
R A R E S T  
C R E A T E  
L U S T R E  
E S T E E M

Apollo appeared before her, devilishly handsome, impeccably well-dressed, unfailingly polite. He'd told her once that in his other identity, he was a professor at some college somewhere. She could believe it.

"Ianthe, my daughter," he said, his voice smooth and golden. He always called her that, even when he was doing very un-fatherly things to her. Though come to think of it, in *his* family that might not be such a jarring contradiction. She wondered if he'd known Oedipus.

"Lord Apollo," she said. "I have called you here to request a boon."

His face fell. He had explained the first time he met her that his powers were weak. That he couldn't help her the way she might have wished. Couldn't grant her wealth or wisdom or prophecy the way he might have in days of old. Since then she had never asked him for anything but himself.

"It's...nothing too difficult," she assured him. "Just...actually, I wanted to say good-bye."

"Good-bye?" asked Apollo.



"There's...someone's hunting us. The neopagan community. I told you about Megan, right? The girl who used to run a traditionalist group up in Santa Cruz? They found her dead two weeks ago. There's a Wiccan circle over in Oakland that deals with Greek themes sometimes; two of their leaders have been missing since January. And then Aristopsychus the Wise...that's what he calls himself, seriously, one of the crazy sorts who attacks people drinking Athena Mineral Water and says they're profaning the name of a goddess...I just got a call. His head was bashed in last night. I'm really afraid, Lord Apollo."

He looked at her, his face infinitely wise and sorrowful, and she knew he could do nothing.

"That's why I'm leaving here," she said. "I haven't told anybody, nobody else in the neopagan community, not even that weird girl Emily who thinks she's my 'acolyte'. I'm shutting down the temple and going somewhere really far away where nobody can find me, and I don't know when I'll be able to summon you again."

"I understand," said Apollo. "May good fortune go with you."

"But I was asking you for a boon. I need you to take something from me." She took out a paper bag and produced an apple, brilliant gold, shining with an unearthly radiance. Apollo stepped back as if someone had struck him, his calm manner broken for the first time lanthe had seen.

"Where did you get that...that *thing*?" asked Apollo.

"A detective gave it to me! He was investigating a crime scene. These two girls murdered each other in a Hollywood studio dressing room...it was all over the news. And this guy was called in to investigate the crime scene, and all he could find was this golden apple that said "for the fairest". And after all the legal things were closed he didn't want to throw it out, because it looked so pretty, and he heard about our temple here, and he figured it looked like something a Greek pagan revivalist movement should own, so he gave it to me. And as soon as I saw it...this sounds so bad, but I didn't tell any of the others, not even Emily. I brought it home and never told anyone about it. But I'm scared, Apollo. I'm scared it has something to do with the reason all this is happening. I don't want to leave it here and I don't want to take it with me, so...please, just take the apple. Before it makes me change my mind!" She wasn't looking at it; she was *carefully avoiding* looking at it.

"I can't," said Apollo.

"You have to!" said lanthe.

"No, I mean, literally, I can't," said Apollo. "The apple has to belong to a woman. Any woman who sees the apple, she wants it more than she's ever wanted anything else. Any man who sees it, no effect. Even if a man gets it, he feels compelled to give it to a woman. That must have been what happened to your detective. I really, *really* do not want that apple. You have no idea how bad things get around one of these."

With a grunt and an effort of will, lanthe threw the golden apple at Apollo's face. He caught it in his hand reflexively, involuntarily. "Take it!" she said, as he stared at his unwanted prize. "You're a god! I'm sure you can think of a woman who can keep it safe for you!"

"Ohhhhh....this is *not good*," Apollo said, through clenched teeth. "I hate these things, I hate these things, I hate these things, I hate these things..."

Ianthe erased a letter from the middle of the magic square, and Apollo disappeared. Then she picked up her suitcase, got in her car, and started driving, intent on putting as much distance as possible between herself and anywhere people would be looking for her.

#### 4. Aphrodite

She stays by the sea shore. Shining shells and soft surf sounds surround her shelter. Cythera simmers with summer, and seals swim in the sun. Songbirds circle in the sapphire sky, and sea stars sit semi-submerged in the sand.

Ares wades out to the cliff where he knows he'll find her, a cliff of soft pink rock that looks like any other on this side of the island. On a little depression in the rock which only he can see, he traces letters with his fingers:

M O A N  
O N C E  
A C M E  
N E E D

The cliff opens around him, and he is in the bower of Aphrodite.

She is naked. Her body glistens with sea-foam. She is behind a glass shelf filled with seashells, and from where Ares is standing, two of them perfectly cover her breasts. On the near wall are pictures of her family: her husband, Hephaestus; her son, Eros; her parents, the sea and the blood of Uranus; her nth-great-grandson, Julius Caesar. On the far wall is a banner reading "UNDEFEATED GOLDEN APPLE WINNER, 1200 BC – PRESENT", and several oak barrels overflowing with golden apples that cast an unearthly glow all over the room.

"Hello, sexy," she says.

He tries to play it cool, act natural. "Hey Aph," he says. "Just dropping by."

There is no sign of her husband.

"Come on, Ares. You never 'drop by'. What is it *really*?"

"Um," says Ares. He is acutely aware of the god-sized erection he probably has right now. He keeps his eyes fixed on the barrels of golden apples, so as not to stare. "Um," he says again.

"I heard about what happened in Kandahar," she said. "That was *very heroic* of you." She gently brushed her arm against his.

"Um," said Ares. "That's...kind of...look. This soldier guy I knew. He asked me if...if there was anyone back home I cared for. And I said no. Fuck everyone. You know. Mom, Dad, fuck them all. But then I started thinking. We had something good. A long time ago. And I was thinking, maybe..."

"But Ares," she said, biting her lip, "you know I'm married."

"You were married the last five times too," Ares said, forcefully now. "It's kind of a big part of having an affair."

"But," she said, running a hand through her golden hair, "what if people found out?"

"People found out the last five times too," he said. "Nobody thought anything of it. You're the goddess of love. Of lust. Love and lust. Of course you have affairs."

"What if my parents knew? It would break their heart."

"Your parents are the sea, and the blood that came out of a guy's scrotum when my grandfather castrated him. I think they'll be fine."

"Oh, Ares. You know so much about me."

She pulled him closer. She closed her eyes. His lips touched hers. Then –

"We can't do this, Ares. We're just too different, you and I. Love. War. It wouldn't work."

"We are *not* different. All's fair in both of us, for one thing. We're both, uh, relationships between two parties. Often involving fighting. More fun when you're high testosterone. And when you've got a big spear."

"I love it when you talk dirty to me, Ares," said Aphrodite, and put her hand around his waist. He tried to kiss her a second time.

"No," she said suddenly. "I can't. What about the children?"

"Your child is Eros!" protested Ares. "How is that a problem?!"

"Show me you care," said Aphrodite.

"I care!" said Ares. "I promise you, I care. Tom – this soldier I know – he was telling me all about his wife, and how much he loved her, and I was thinking, I need something like that, and then I remembered – I've got that. You're the one for me. You're the only one I want. I promise."

"Show me," said Aphrodite.

"How?" asked Ares. "What can I do to show you that I care?"

Aphrodite let her hand linger on his shoulder, then walked to the other side of the room. She picked up a golden apple.

"There's another golden apple in the world now," she said. "I can *feel* it, Ares. That apple is *mine by right*." For a second, all the softness disappeared from her face, and he knew why one of her epithets was 'the warlike one'. "I want that apple, Ares. Bring it to me."

"But baby, you already have like a million golden apples. Look, you've got barrels full of them. You're not even using – " He picked up a golden apple that had fallen behind one the barrels.

"It's the *principle* of the thing, Ares. It says 'for the fairest'. Am I not the fairest? Have I not been the most beautiful of goddess and women since before Paris was a glimpse

in his mother's eye? Somebody else has my magic apple, Ares, and I am *literally shaking* here. You are my protector, the hero of Kandahar, the man who got two Medals of Honor in the same battle. Can you rescue me?" She knelt before him. There were tears coming out of her eyes. She hugged his leg.

"I'll...I'll get you your apple, Aph. I'll find whoever's got your golden apple, and if they don't give it back, I'll..." He took out his sword and swung it above him, so fast that it whistled in the air like the note of a lute.

"I'll be waiting for you..." whispered Aphrodite.

Ares turned to go. The cliff face opened in front of him. The birds were still singing, and dolphins leapt for joy in the melodious waves. He was kind of a chump, but he knew this was the way of things, and it would never change.

"...I won't be wearing any clothes." Aphrodite called after him.

## **5. Hermes**

He is called Herman. He runs a hedge fund. He lives in Manhattan. He wears nice suits.

Today he is in a nice suit, but he is not in Manhattan. He is in Memphis, Tennessee. Not even the nice part of Memphis, Tennessee. He's in a poor, crime-ridden ghetto in Memphis Tennessee, and it has a bridge, and he is underneath it.

He spots a big man sleeping underneath the bridge, wrapped in a ratty blanket. His beard is unkempt, and even from far away, he smells like alcohol.

"Hi Dad", said Hermes.

"Whaddyawant?" mumbled Zeus.

"It's me, Dad," said Hermes. "Hermes."

With some effort, Zeus brought himself into a sitting position, brushed some of the more egregious twigs out of his beard. He rubbed his eyes.

"Yeah, so? Whaddyawant?"

Hermes inspected the King of Gods and Men. He was streaked with dirt. He was dressed in a fading white wife-beater, with reddish stains that Hermes hoped were wine.

"I've been looking all over for you, Dad. You look terrible. What happened to you?"

"Whaddyoucare?"

"You used to be King, Dad!"

"I'm still king. Iduncarewhatchy'all think."

"But what happened to you? I talked to Ares the other day. He won two Medals of Honor, did you hear? Apollo's got tenure at Oxford. I'm the god of commerce and crime, so of course I've got a hedge fund. But you? What *happened* to you?"

"Fucking child support payments!" said Zeus. "I was doin' just fine for myself until cops from forty-seven different states came my front door calling me a deadbeat dad!"

"Oh dear," said Hermes. "Forty-seven women?"

"Forty-seven *states*," said Zeus. "Hundred ninety women. Two hundred five kids. Fucking mess."

"A hundred ninety women," mused Hermes. "*Please* tell me you didn't turn all of them into animals."

"Are you fucking *kink-shaming* me?" said Zeus. "If I get off on having kids with women and then turning 'em into animals, that's my private business. Ain't no weirder than Ganymede being gay or your kid who's a futa or...BLAAAAAARGH". He turned and vomited the morning's meal into the river. "Besides, I don't got power anymore. Can't even turn a pretty girl into an ape these days, forgeddabout a cow or a bear."

"Look, sorry for bringing up your fetish," said Hermes. "I didn't know it was a sore point. I wanted to talk about something important. Dad, I've figured it all out."

"You figgered what out?"

"All of it. What happened to us. Why we lost our power. *And how we're going to get it back.*"

"Yeah?" said Zeus. He sounded skeptical. "I'm listenin'"

"Look," said Hermes. "How did we used to get power? Animal sacrifice. And which animal? Rams. What astrological age was it? The Age of Aries, the sign of The ram. 2000 BC to 1 AD, or thereabouts. Then the age changes. The sun is in Pisces. Sign of the fish. Boom. Sacrificing rams no longer works. Who comes out on top? Some Israeli whose followers are all fishermen. Talk about being in the right place at the right time."

"So yer saying, we need to get the mortals to sacrifice fish to us now, and then we're back in business?"

"No. Because the Age of Pisces ended last century. Now it's the Age of Aquarius. The Water Bearer."

"So sacrifice water?"

"Well, this is where we start to have a problem. I know you have trouble remembering all your children, but perhaps you recall that a few thousand years ago, you had a daughter who happened to become the Goddess Of Wisdom, Intelligence, and Cleverness?"

"Never gonna forget *that* one," said Zeus, rubbing his head.

"It would seem that my lovely and not-at-all-incredibly-annoying sister Athena figured all of this out about ten years before I did," said Hermes. He reached into his pocket and took out a bottle of Athena Mineral Water. "Behold! 91% market share. Aquafina? Bankrupt. Dasani? Out of business. And here's the best part." He held the label up very close, so Zeus could read it. "Athena Mineral Water Customer Reward Program,"

it said in small font. "Every time you drink a refreshing bottle of Athena Mineral Water, say 'Thanks, Athena!' in front of a registered associate, and they'll punch your card. Collect ten punches and get a liter bottle of Athena Mineral Water absolutely free."

"Whaddya sayin'?" asked Zeus.

"I'm saying that every day, about a million mortals are going into supermarkets, drinking water, and saying 'Thanks, Athena!', and each one of them is giving my beloved-and-not-at-all-aneurysm-inducing sister an amount of divine power equal to an entire animal sacrifice. I had some of my quants crunch the numbers, and right now I'm guessing she's about twenty times more powerful than you were at your prime. *At your prime*, Dad. She pretty much has a monopoly on divinity right now. We're really really really screwed."

"So you gonna take all that cash you got and open up your own water business?"

"I tried. They wouldn't even let me register it. Said it was a trademark conflict with Hermes Handbags. I got my lawyers to look up who owns Hermes Handbags, and it's a shell corporation belonging to a consortium belonging to a Chinese group belonging to a company registered in the Cayman Islands which was set up using money from... Athena Mineral Water. Mars Bars, same thing. Zeus Cameras, likewise. And it's worse than that. I try to find some neopagan groups, see if maybe I can get them to sacrifice a few bottles of water to me just until I can think of a solution that scales. She murdered all of them. In cold blood. Every priest or priestess who ever worshipped another Olympian. She's boxed us in, Dad."

"And that's why yer comin' to me. You want....*the power of lightning!*"

Zeus tried to stand in an imposing pose, but only succeeded in tripping on his blanket and crumpling back onto the ground.

"Dad, you can't summon lightning anymore. You haven't had that kind of strength for two millennia. And with the power Athena's collected, it wouldn't help. But there *is* something you can give me."

"What?"

"I need to talk to Prometheus."

Zeus managed to bring himself into an approximation of standing. "Now listen here, sonny. Maybe I ain't much of a king of the gods anymore. I ain't got the lightning and the thunder and all that. But lockin' that bastard up was the best thing I ever did, and you know it, and yer not gonna take that away from me. You think yer so smart with your hedge fund, and yer money, and yer fancy East Coast suit, but I'm tellin' you, Prometheus would *eat you for breakfast* and he wouldn't even break out a sweat."

"Right, Dad. That's the thing. He's the only one who's smart enough to outmanuever Athena. I'm proud of my brains, but she's the Goddess Of Wisdom, Intelligence, and Cleverness, *plus* now she's stronger than us, and I'm not sure how to get one up on the Goddess of Wisdom, Intelligence, and Cleverness without help from someone who's...uh...very very smart."

"Prometheus ain't just *smart*," spat Zeus. "It's not just that he has *book-larning*. He's *the God of Foresight*. He sees every possible future laid out in fronna him as easily as you or I see that there blanket." He pointed to the blanket, which was actually so dirt-

covered that it was getting hard to see against the dirt below. "It took all of us together, *and* all the Giants, *and* all the Cyclopes to bring him down, and we wouldn'ta succeeded if the Fates themselves hadn't gotten pissed with him for ruining their weaving and given us a hand. And it was Athena herself who told us that we had to bind him somewhere far away, couldn't talk to him, couldn't even go near him, or else he'd figure out some way to screw up all our futures just by sayin' a couple a' sentences to us. And all a' you, and all the Giants, and all the Cyclopes, you all agreed, and you all gave me the key that lets you reach him, and I ain't given that key to anyone in the past two thousand years and I ain't givin' it to you now and that's final, you hear me, boy?"

"Then," said Hermes, "I fear we are all doomed."

"We're fucking *gods*," said Zeus. "We can't die. We can't even be contained, for long. Only gods we ever managed to lock up were the Titans in Tartarus and Prometheus in Elbrus, and that was only by all of us workin' together, and by my power as King of Gods, and if you think I'm signin' off to any of this, yer crazy."

"Then we will wane," said Hermes, "and become little better than bugs skittering beneath Athena's feet."

"I ain't got much," said Zeus, "but I beat Prometheus and no one ain't ever going to take that away from me. Now get going, sonny boy."

"If I do not beat Athena," said Hermes, "you'll never be able to turn any women into animals, ever again."

Zeus paused, just a second, then spat. "I made my choice," he told Hermes. "Now git!"

## **6. Pandora**

He remembered the first time he had come here to see her. It had taken him months just to find the place. An Orthodox convent. Our Lady Of Sorrows, just outside Kiev.

He had knocked on her door. "Come in," she'd said. She hadn't opened the door. At the time, he hadn't realized that was significant.

She was wearing a veil. "Dory?" he asked. She nodded slightly. "Dory, it's Apollo."

"You didn't forget about me." He couldn't see her eyes, but she was smiling.

"Forget about you? Dory, I've been sending you care packages every month!"

"Oh." A frown. "I'm sorry. I didn't...I don't open things."

"Oh."

"You understand, don't you?"

"I can see how it would be traumatic. But...you didn't get any of my letters?"

"They were in envelopes, Apollo. I told you, *I don't open things*."

"Oh," he said. He lifted her veil, saw her face for the first time in years. "What, not even your eyes?"



Pandora nodded.

"The church is beautiful. It looks like a wedding cake. You haven't even been a *little* curious what the convent you're living in looks like?"

"I don't do curiosity anymore, Apollo. Curiosity leads me to bad, bad places."

"Dory." It was worse than he'd thought. He was the god of healing, or had been. His powers were weak, but maybe he could at least do some therapy? "Dory, you did one bad thing."

"I did *all* the bad things, Apollo. Literally. Every single one of them."

"Okay. Be that as it may. You were tricked. Zeus played a horrible joke on you. Or he used you as a pawn to play a horrible joke on everybody. It doesn't mean opening things is always bad, or that curiosity always gets punished. It means one stupid god played one stupid joke. Look, he could have put all the world's evils in, I don't know, his basement, and released them if and only if you *didn't* open a box. Then the lesson would have been to *always* open things. Do you see how that makes just as much sense as what actually happened."

"I'm sorry, Apollo," said Pandora. "I appreciate what you're trying to do. But it won't help."

"It might!" said Apollo. "Keep an open mind!"

"*I don't do open.*"

"Ah. Right."

He sat down on the little cot. She sat down beside him.

"So now you're a nun."

"I just live here. I wandered by one day, and the sisters took me in. Said I looked like I needed help, which I guess I did. I've stayed here ever since. They say that I'm good luck to have around. Can you believe that? Me? *Good luck?*"

"They like you," said Apollo. "Anyone would."

"It's because I don't age," said Pandora. "And because I never leave my room. They assume I'm a saint or something. Praying all the time. I'm even starting to get pilgrims, if you can believe it." She waved her hand towards a table full of little knickknacks. "Gifts. The pilgrims give me gifts." She sighed.

Apollo went over to the table. A rosary. An icon, covered in gold leaf. Jesus, he assumed. A vial of holy water. "This is lovely," he said, looking more closely at the icon. "Who gave it to you?"

"I didn't ask," said Pandora. "I don't do curiosity."

"Ah," said Apollo. He took her hand again. "Come outside with me. I won't make you open your eyes. I'll lead the way. Just for a minute?"

They walked through the courtyard. A few nuns looked askance at them, but Apollo looked too poised to be anywhere other than where he was supposed to be, and they

assumed he was a visiting priest or somebody and let him pass. They came to a meadow. Apollo gingerly guided Pandora to sit down on a rock, and sat beside her.

"We used to have a good thing going," he told her.

"And now I'm like this," she said.

"You might get better. With time."

"I might not."

"There's always hope."

"Yes, they say I closed the box just in time for that one. Strange how little I've gotten from it myself."

"Kiss me," said Apollo, on impulse.

"We had a good thing going once," Pandora said. "That's not me anymore."

"It could be," said Apollo. "Hope, and all that."

"I don't open things," said Pandora. "Not even my heart."

How many centuries ago had that been? Three? Four? They all blended together. The convent was no help either. Most places had the decency to change a little since the Renaissance. The convent looked exactly the same. Same meadow. Same courtyard. Same door. Apollo knocked. "It's me, Dory."

"Come in," she said, without opening the door.

He came in, sat down on the cot. She looked the same, too. She was in a strange middle state; a human created before mortality, given all the divine gifts, to be the wife of a god. She wasn't divine, not quite. But she wasn't fully mortal either. A demigod, maybe.

"It's been a while," he said. "Five, ten years?"

"It's been a while," agreed Pandora.

The room hadn't changed either, except for a few more pilgrim gifts. The rosary and Jesus-icon had been joined by enough little saints and angels to fill a heavenly choir, plus a good-sized marble statue of a woman in armor. He tried to remember if there was some female warrior-saint, but his mind came up blank. He wished he could ask Pandora, but he knew what she thought of curiosity.

"I brought you a present," he said. "It's a smartphone. Flip phones are on their way out. This one works without being opened."

Pandora ran her hands along it. "It's so smooth," she said. "Now you can call me any time?"

"Yeah," said Apollo. "You can call people too. If you ever feel, you know, the need to connect."

Pandora gave him a little peck on the cheek, then slipped the phone under her bed.

"I wish I could say this was entirely a social call," said the god, "but I'm here on business."

There was a pause in the conversation before he realized she wasn't going to ask what the business was.

"A friend gave me something dangerous. And I have to give it to a woman. But if the woman saw it, bad things would happen. Really, really bad things. And I asked myself, where can I find a woman who will listen when I warn her not to look at something? And, uh, I thought of you."

"Sure," said Pandora. "I'm happy to take your thing. Where shall I put it?"

"Uh," said Apollo. "Somewhere where the pilgrims won't see it. That's important. Nobody can see it."

"I'll put it under my bed," said Pandora.

Apollo handed it to her. It was heavy, and cold to the touch, and round, about the size of a baseball. She slipped it under the little cot.

"Thanks," said Apollo.

"I'm glad I could help you with something," said Pandora. "You've been so nice to me."

"I haven't been! I never visit!"

"You visit sometimes. The others never visit. They wish they could forget about me."

"Um," said Apollo. "I'm sure they meant to drop by and tell you how they're doing."

"It's okay," said Pandora. "It doesn't matter whether I know how they're doing or not."

Apollo frowned. "Listen. I know you have your position in the pantheon, as Cautionary Tale Against The Dangers Of Excessive Curiosity. But I have my place too. Well, lots of places. The Sun. Healing. Music. Poetry. Being Very Handsome. But along with all those things, I'm the God Of Reason And Science. And maybe a long time ago, curiosity caused all the world's problems. But now it's the other way around. Curiosity's solving problems, Pandora. All over the world, curiosity is solving famine, it's solving poverty, it's solving disease. They put smallpox back in the box, Pandora!"

"Wait," said Pandora. "I never heard about that! They found a way to...?"

For a brief moment, Apollo thought Pandora was going to ask a question, but she caught herself. He answered anyway.

"Yes," he said. "There's a way to put things back in the box. Maybe. A little. Sometimes. It's really hard. So hard I wouldn't have been able to do it myself, and I'm the God of Healing. But they did it. Once. Maybe they'll be able to do it again. And they did it because of curiosity. They wondered whether they could do it, and then they wondered how they could do it, and then they did it."

"That's...really interesting," said Pandora.

"You'll think about that?" asked Apollo.

"I will," said Pandora.

"And maybe...call somebody sometime? Me? Someone else? Anybody? I know Artemis has been wanting to hear from you."

"Um," said Pandora. "Maybe? I don't know."

"That's fine. Just...keep the option open."

"Apollo, *I don't do open.*"

"Just keep it in mind."

"Goodbye, Apollo."

"Goodbye, Dory."

## **7. Athena**

"Hi. My name is Ari...Smith...and I'm here to see Ms...I don't know, she probably goes by Tina or Minnie or something like that. Really smart and mysterious and probably in charge of everything?"

The security guard at the entrance to the Athena Mineral Water Tower looked at him skeptically. "Do you have an appointment?"

Ares reached into his pocket.

"I got my fucking appointment right here! Two Medals of Honor! While you guys were selling water to yuppies, I was risking my life for your freedom over in Afghanistan. Come on, man. Can't a vet get any respect around here?"

The guard shook his head. "Can't get in without an appointment," he said.

"So," said Ares, "it has come to this. Same as always." A bronze spear appeared in his hand, and he rammed it right through the security guard. Didn't even bother extracting it, there was more where that came from. Somebody screamed. An alarm sounded. Whistling, Ares walked through the lobby and into the elevator, pressed the button for the top floor. That was where important people had their offices, right?

Apparently it wasn't. "Excuse me," Ares asked some kind of secretary sitting at a desk. "Can you direct me to Ms...I don't know, she probably goes by Tina or Minnie or something like that? Really smart and mysterious and probably in charge of everything?"

A few policemen ran up behind him and started to open fire. Without even looking at them, Ares chucked a spear backwards and somehow managed to impale all three of them at once. The secretary stared at him, eyes wide with horror.

"Damn. I didn't mean to get you all frazzled. Uh, look. Two Medals of Honor! I'm a vet! Patriotic, trustworthy! Ms. Tina or Minnie or something? Really smart and important? Please?"

"Uh..." The secretary looked terrified, but at least it was the sort of terror that scared her into talking. "Uh, you mean the CEO? Ms. Athena?"

"Really? She's the fucking Goddess of Wisdom And Intelligence And Cleverness and she couldn't get a better pseudonym than 'Ms. Athena'? Whatever. Where is she?"

Another elevator ride and a few more cops later, Ares found himself breaking down the door of the CEO's office.

"Hey," said Ares. "Long time, no see."

"Can't imagine why," said Athena.

"Look, I'll be blunt," said Ares. "I came here to get the golden apple. Give me that and we're square. I'll go away. I'll even pay for the doors. And, uh...everything."

"What golden apple?"

"Oh, come on. I talked to Aphrodite the other day. She said there's a new golden apple about. She doesn't have it. And I talked to Hera. She doesn't have it. And I thought... who's been gunning for a golden apple ever since that whole mess with Troy? Who's the Goddess Of Wisdom And Intelligence And Cleverness and always gets everything she wants? And then I remembered my wonderful older sister who I definitely don't think is the most annoying person ever, and who seems to be doing pretty well for herself. And I thought maybe I should come pay you a visit. Great water, by the way. I tried some on my way here."

"Fact is," said Athena, "I don't have any golden apples."

"Oh, lay off it, we both know you've got the damn apple. Give it to me or else I'll smash this place up however much it takes to find it."

About a dozen SWAT officers burst into the office. "Ms. Athena! There's an intruder in the building!"

"It's taken care of," said Athena. "Go off and have a nice day."

The SWAT team left.

"They believe you?" asked Ares, who was about seven feet tall, dressed in Trojan War vintage armor, carrying a huge bronze spear still covered in blood, and clearly visible.

"I've...put a glamour upon myself," said Athena. "It helps a lot, working with mortals. As long as I'm around, nobody notices anything unusual."

"And you didn't even want their help?" asked Ares. "Even though you're alone, with your younger brother, who happens to be unbeatable in combat?"

Athena laughed. "Unbeatable? Ares, you have *no idea* what you've just walked into. I understand Hermes has figured it out, which means I'll have to take care of him sooner rather than later. But you? You waltz in here, expecting me to be a pushover? Let me show you the tiniest taste of what I can do."

She opened the window. She stretched out her hand. A bolt of lightning arced from her fingers, struck the street below.

"Lightning?" asked Ares. "But...only Dad could call lightning!"

"Not anymore," said Athena. "Come on, Ares. You want to fight? Let's fight."

Ares threw his spear. It stopped in midair, like it had hit an invisible wall. Then it turned, flew back at him, coiled around like a snake, tied him down. "Hey!" he protested. "Hey! That's not fair!"

"I'm so glad you came," said Athena. "I needed a test subject. To see if my powers were really as strong as I hoped. What's the hardest thing in the world, Ares? *Binding a god*. Only ever accomplished twice in history. The Titans. Prometheus. Both times, by the power of Zeus and all the other gods combined. Do I dare attempt such a thing alone? I believe I do."

The lights darkened. The air began to stir. Lightning arced back and forth across the room. A secretary opened the door, saw the chaos, said "Oh, looks like you're busy," closed the door, and walked out. Time seemed to stop.

There was a rush, a whistle, and a thud, and then Ares wasn't in the world anymore.

## **8. Prometheus**

"Are we there yet?" asked Heracles.

"When we are there," said Hermes, "I promise I will tell you."

"It's just that I was wondering," said Heracles, "whether we were there."

"There are," said Hermes, "certain games mortals play, in which a necessary prerequisite is to create your own hero character. And in some of those games, you get a certain amount of points, which you are allowed to allocate either to intelligence or to strength, so that the smarter you are, the weaker you must be, and vice versa. And I notice, Heracles, that you are the strongest man who has ever existed. Do you know what that implies?"

"It implies that I'm very strong," said Heracles. "But also, I was wondering – are we there yet?"

Hermes sighed. They were in the former Soviet Republic of Georgia driving down a dirt road in a narrow Caucasus mountain pass. It would have been unpleasant for several reasons even without his companion's endless whining. Still, he was feeling just a little bit euphoric.

One week ago, Ares had attacked Athena, raving about golden apples, and then... nothing. He had disappeared. He'd asked his girlfriend Tyche to find him. Tyche was the goddess of luck – a nice catch, if you ran a hedge fund. She could find anything. But she couldn't find Ares. He wasn't in the world. There was only one other place he could be.

Tartarus. The Pit. The Abyss. The place beyond space where those removed from the world languished in darkness for eternity.

He'd gotten on the first flight to Memphis, shaken his father awake. Drunk as he was, Zeus had understood immediately. If Athena had gained enough power to open Tartarus, any one of them could be next. Their very souls were in danger.

And after a lot of arguing and screaming, Hermes had changed tactics and brought out some wine, and he had gotten Zeus very, very drunk. And whether it was one of

those things, or another, or the combination of all of them, Zeus had divulged the key to Mt. Elbrus, the one that accessed the secret prison of Prometheus.

"We're here," Hermes told Heracles. He parked the car in a bed of gravel by the side of the road. They were in a narrow defile. Mt. Elbrus – the mortal one, the one visible to humans – loomed in front of them. In the rock face to their left, there was an opening just narrow enough to fit a single person at a time.

"Now remember," he said, as he turned on his flashlight and squeezed into the cave, "You're going to be wearing these ear plugs. You'll stare straight ahead, at my back, nowhere else. You've got the bottle of magic water in your pocket, and..."

"Why do I have to wear the earplugs?" asked Heracles.

"We've gone over this *a thousand times*," said Hermes. "You have to wear the earplugs because Prometheus knows *literally everything*. He knows what he has to say to scare you, or turn you against me, or make you kill yourself. So you're just going to wear earplugs and not listen to him."

"And why do I have to stare at your back?"

"Because if you stare at Prometheus, maybe he can influence you with some kind of facial expression or hand signal, and then you'll still end up killing yourself. Or killing me. Or dethroning Zeus and returning the universe to *primaeval chaos*. Or something too horrible to even think about."

"Hermes?"

"Yeah?"

"I don't think there's any hand signal that would make me dethrone Zeus and restore the universe to *primaeval chaos*."

Hermes sighed.

"Heracles, do you remember when I told you to meet me in the Caucasus Mountains of Georgia, and I specifically said *former Soviet Republic of*, and I specifically made you repeat back to me 'former Soviet Republic of', and a few hours later I got a call from Atlanta International Airport asking me where I was?"

"Yeah."

"So consider the possibility, however remote, that *Prometheus might be smarter than you*."

"Oh," said Heracles. "I guess I hadn't thought of that."

They pushed on through the cave, winding around huge stalagmites, stepping over pools with pale eyeless fish.

"That's why," Hermes continued, "when we open the secret gate, I am going to talk to Prometheus, and you are going to wear the earplugs and stare at my back."

"But," asked Heracles, "what if Prometheus tells *you* to dethrone *primaeval chaos* or whatever?"



“Excellent question,” said Hermes, “That’s why I brought *you*. I am going to go forth and talk to Prometheus. I have here a cell phone which is programmed to accept exactly one hundred characters of input. When Prometheus tells me how to defeat Athena, I will enter it into the cell phone. When I give you the signal, you will usher me back into this cave, away from Prometheus. And once we are in the cave, you will give me this vial of water from the River Lethe, which will cause me to forget everything that happened in the past eight hours.”

“So I’m just here to...give you the water?” asked Heracles, confused.

“It’s more complicated than that. If I show the slightest sign of *not* wanting to drink that vial of water, then it’s your job to overpower me and force it down my throat, all without allowing me to communicate with you in any way. I trust that you will be able to manage that?”

“I’m very strong,” said Heracles.

“And that,” said Hermes, “is why we love you. There is one more thing I’m going to ask of you. After I’ve drunk the water from Lethe, but before I wake up, you need to read the message on the cell phone yourself and confirm that it looks like a strategy for defeating Athena and *not* like some other kind of message from Prometheus to the outside world, and *certainly not* like any other terms Prometheus has added to our bargain. *If* you see something that looks like a message from Prometheus or an extra term, I need you to smash the cell phone and drink this *second* vial of water from the River Lethe.”

“Oh good,” said Heracles. “I like smashing things and I like water.”

“The only problem,” said Hermes, “is that you are a couple of filaments short of a light bulb. So what I’m going to do is ask you to swear on the River Styx that you’ll comply. You’re half-god; that kind of oath is self-enforcing. As long as even the tiniest part of you remembers what you’ve sworn to do, it will be literally impossible to do otherwise.”

“All right. I swear by river sticks that I’ll do what you say.”

“By the RIVER STYX!”

“I swear by the River Styx that I’ll do what you say.”

The cave briefly darkened, and there was a gust of icy wind that seemed to come from nowhere.

“Good. Now, put the earplugs in, and be quiet for just a second. I need to concentrate here.”

He searched for a part of the cave wall that was just a little too smooth.

“Hermes?” asked Heracles.

“Yes?” asked Hermes.

Heracles said nothing.

“YES?” asked Hermes.

Heracles still said nothing. Hermes saw that he was wearing the earplugs.

“Hermes, if I have the earplugs in, how will I know if I’m being quiet?”

Hermes gave what he hoped was a reassuring-looking shrug, then went back to scanning the cave wall.

*There.*

A little too smooth, a little too pale. Hermes served part-time as God Of Magic, and he could *sense* something off about that part of the cave. He put his hand on it. Unnatural warmth. The key went here.

With a harpy-feather quill, in ink of ichor, Hermes wrote:

D E T E R  
E X I L E  
T I T A N  
E L A T E  
R E N E W

The wall opened, and sunlight shown through.

They climbed out onto a rock promontory. The scene before them both was and wasn’t Mount Elbrus. The snow shone just a little bit brighter. The sunlight glittered just a little more. The shadows were a little bit darker.

And from under the mountain poked out a gigantic head, four titanic limbs, and bits of a huge torso. A giant, lying supine, pinned down by the peak. On the right half of the torso sat a great eagle, taking occasional bites of liver.

“Hello, Hermes,” said Prometheus.

*Well, no turning back now,* thought the god.

“Hello, Prometheus,” said Hermes. “With all due respect, I’m trying to minimize information flow with you, so I’d like you not to speak until I’ve finished explaining.” He paused, waiting for an objection, staring at Prometheus even though he knew he shouldn’t. He tried to read the Titan’s great bearded face. He looked surprisingly cheerful for a man pinned underneath a mountain having his liver eternally pecked out.

Finally, Prometheus nodded.

“We’ve got a problem, back in the world. Two thousand years ago, the animal sacrifices stopped working. Eventually we figured out it had to do with the precession of the zodiac. The source of power went from rams to fish and now to water. Athena figured it out first, and now she’s got a monopoly on the water industry. She’s taken all of the divine power and become strong enough to send gods to Tartarus. The rest of us have some residual abilities, but otherwise we’re barely beyond mortal level. We’re at a loss, and we were hoping that, um, your special abilities might be able to help us. So we’d like to offer you a deal. In exchange for information that helps us defeat Athena, we’ll, um, remove the eagle. There’s a key...I don’t have it here, but it can be used remotely. We’ll do that. And say we’re sorry about it. Really sorry.”

That they would never free Prometheus went without saying, so Hermes didn't say it.

The Titan still looked alarmingly cheerful.

"You can, uh, talk now, if you want," said Hermes. "Though, maybe try to keep it short."

"I appreciate the apology," said Prometheus. "Really, I do. And I think we can deal with each other. Removing the eagle would be great, of course. But there's one more thing I've got to ask."

This was what he'd been afraid of. He was desperate. Prometheus knew it. Each additional term was a malignant seed that could grow into anything at all. He would have to hold fast to his plan and pray it was enough.

"Alas," said Hermes, "We predicted that you might say that, so we've taken some measures to precommit not to change any of our terms. In particular, I have sworn by the River Styx – an oath which it is *literally impossible* for gods to break – that I will not accept any terms other than the ones I just mentioned. Also, once you give me your strategic advice, I will be writing down a very short hundred-character summary on this phone, which is programmed to accept no more than a hundred characters and will physically melt if any attempt is made to interfere with that programming. Then I will give a pre-determined hand signal to Heracles, who will escort myself and the phone back into the cave and the ordinary world and force-feed me a vial of water from the River Lethe so that any memory of our conversation beyond those hundred characters will be lost forever. Heracles will then read the cell phone and confirm that no extra terms have been added to the bargain. If he sees any, he will smash the cell phone and drink water from Lethe himself. Heracles has himself sworn by the River Styx to comply with all of this."

Prometheus looked thoughtful – and oh god, were there any three words in the English language scarier than those – and finally he said: "Let's discuss my terms. After you agree to them, I'll tell you how you are going to get around your oath, Heracles, Heracles' oath, and the water of Lethe."

Hermes sighed.

"My terms are: you'll remove the eagle. *And* you'll donate \$1503.15 to a charity called 'Against Malaria Foundation'."

"Oh no," said Hermes. "Oh no oh no oh no. That is *exactly* the kind of thing I'm not going to do. You want me to take an action in the world? A *specific* action? With multiple bits of information? Oh no oh no oh no oh no there is *no way* you are going to get me to do that."

Prometheus still looked cheerful. "Well then, Hermes, it was nice to chat. I guess you'll be on your way."

"Now hold on. You don't want to take an option, presented at zero cost to you, that will get that eagle out of your liver forever and ever?"

"It's not that I don't want to. It's that bargaining is a game of give-and-take. We both have things we want out of this interaction. The question is how far we're going to go to get them. It's a game of bluffing and counterbluffing. And unfortunately for you, I am the God Of Foresight, and happen to be omniscient. You are going to walk out of

here in fifty-one minutes having agreed to my terms. All I am doing is speaking the complicated dance of words that inevitably gets you to that point."

"I hate everything about this place so much," said Hermes.

"And I am deeply sorry," said Prometheus, *and he sounded sorry*, "but I do insist."

"Why?" asked Hermes. "*What are you plotting?*"

"You know that I like humans. You remember, I gave them fire, so long ago. I still have a fond place in my heart for them, and malaria is a terrible disease, and I thought..."

"You're omniscient, so you *know* I don't believe that for a second. Try again! What are you doing? What's next on your little list of plans? The humans live on Mount Olympus, and *we* have to worship *them*? The Fates accidentally snip their own fingers off and die of blood loss? I know you're up to some kind of unspeakable horror, the only question is *which one*?"

"Hermes," asked Prometheus, "has it ever occurred to you that I was out, in the world, for countless aeons before you imprisoned me here? If you're so afraid of what I can do or say with a single sentence, what do you think happened when I had millennia to tailor everything just the way I wanted it? Things are going well for me, aren't they? The gods have been brought low. Humans have never been doing better. Zeus thought he was so clever, giving them a box full of evils, but I selected every one of those evils eons beforehand. You know what was in that box, Hermes? *Things to make humanity stronger*. I gave them famine so they would invent agriculture. I gave them disease so they would invent medicine. I gave them war so they would smelt iron. And I left them hope, so that even in their darkest moments they would pull through and keep dreaming. Dream of putting all of those evils back in the box they came from and closing it forever. And they *will*. Do you know how many sentient species in the multiverse developed an industrial base, liberal democracy, and human rights without killing themselves or collapsing into barbarism, Hermes? The number is *one*. One sentient species. *Mine*."

"Don't tell me that getting stuck under Mt. Elbrus with an eagle eating your liver was all part of the plan."

"You don't think so? Hermes, I am *vast*. I comprise universes. In my mind is every branch of possibility-space that ever will be or could have been. What's the point of going outside, when the outside is all inside of me? I set up the world how I wanted it, ensured it would go the right direction, and then retired somewhere quiet, somewhere with space to think."

"But *the eagle*?"

"Okay, I admit I kind of dropped the ball on that one. The Fates are petty little bitches."

"So now what?"

"So now you remove the eagle, and I'm happy, and you're happy."

"Except for this malaria thing."

"Think of that as my little joke."

"Your *joke*. You expect me to believe that?"

"I expect you to realize you have no other option, accept my proposal, and leave this place in another forty-six minutes."

"Fuck you."

"Then I expect you to go back, defeat Athena, and restore the power of the gods. Except that you will find it doesn't go quite as far as it used to. Lightning is a cheap trick compared to nuclear weapons. Flying chariots are a little underwhelming when they share the skies with supersonic jets. You will find that your accustomed roles within human society work well for you. You will find yourself using your power not to dominate human society, but to shepherd it along its path. They are entering a very dangerous time now. Very dangerous. They need divine intervention, but not from above. They need gods who live disguised among them, and need them as much as they need you, and shepherd them. Athena cannot do it alone, not properly, so I will give you what you need to stop her. I have foreseen your path, and I know you rise to the occasion. So go, with my blessing, and serve Man."

"Fuck you, just tell me what message I'm sending."

"A hundred characters? Hmmm. ATH CAN'T HOLD POWER IN BODY. NEEDS FOCUS, PROBABLY IDOL. DONATE \$1503.15 TO AMF, THEN DESTROY IDOL."

Hermes typed it onto his cell phone. "And how are we going to get around all of the oaths and precautions?"

"Tell me, Hermes, when did you swear your oath by the River Styx?"

"Three days ago."

"Good. If you don't remember swearing the oath, you can't be bound by it. So you need to overdose on Lethe-water, enough to erase three days from your mind. I imagine you've been planning this escapade for a while, so when you wake up in a cave in the Caucasus with a cell phone bearing a message, you'll be able to piece together what happened. The message is framed such that the donation looks like part of the plan, so Heracles won't notice anything amiss. You'll probably figure it out, but you're an honorable god and you'll feel compelled to stick to the bargain that you must have made with me. None of this breaks your current oath, which only says you must not carry out any of my terms, not that you must not mention them in your message. Overdosing on Lethe-water is only a suggestion of mine, not itself a term necessary to procure my agreement, so it should not be prohibited."

Hermes sighed with relief. "Your plan isn't going to work, Prometheus. Heracles is going to force-feed me the Lethe water before taking out his earplugs, so I can't communicate with him and ask him to change the dose. And even if I could, I only brought eight hours' worth of Lethe water anyway. Sixteen if you count Heracles' vial."

"There are two ways to increase the effect of a drug," said Prometheus. "You can increase the dose. Or you can decrease the rate at which metabolism eliminates it from the body. Since our dose of Lethe water is limited, we're going to go with the second. Heracles will give you exactly the amount of Lethe water you told him, but your body will fail to process it as usual, and it will have ten times the expected effect, causing you to forget your oath and be able to accept my amended terms when you find them on your phone."

"How are you going to change my metabolism?"

"Most drugs are metabolized by the liver. By manipulating liver size, we can tailor the metabolic rate to any level that we want."

"*Manipulating liver size?*" Hermes didn't like the sound of this.

"Yes. Hepatectomy is a very safe, commonplace surgery. But even if it weren't, you would have nothing to fear. Surgeons' success rates correlate with their number of hours of experience. And we have the most experienced liver removal specialist in the multiverse right here on Mt. Elbrus."

"Oh no," said Hermes. "You're not...oh no oh no oh *no*."

The eagle gave a voracious shriek.

## **9. Everybody**

The pantheon met in the Pantheon, as was tradition. Hermes and his girlfriend Tyche came first; the God Of Commerce took a seat in the center just below the oculus, as the Goddess Of Fortune ushered away confused tourists. Gradually the rest trickled in. Poseidon, tracking water wherever he stepped. Apollo, dapper as ever in a tweed coat and bowtie, and Artemis, dressed in camo. Nike, dressed like she had just come from the gym. And Dionysus, in his stained Sigma Alpha Epsilon sweatshirt. He caught Hermes' eye. "HEEEEEEEY, BRO!" he said. "HOW'S IT HANGING?" Hermes just ignored him.

Hades was over near the entrance, talking to Aphrodite. "Hey Aph," he said affably. "Want a pomegranate?"

Aphrodite's eyes narrowed. "Is it one of your magical pomegranates that makes anyone who eats it obligated to become your wife?"

"Uh..." said Hades, shifting his eyes back and forth. "It...*might* not be?"

"I'll pass," said Aphrodite.

The missing stood out by their absence. Ares was not with them, for obvious reasons. Athena had obviously not been invited to the conspiracy against her. And Zeus, King Of The Gods, was nowhere to be seen. Hermes had begged and cajoled, but to no effect; he was still angry at having given up Prometheus' key when drunk. "This is our last chance," said Hermes, "the most important thing you'll ever do." But Zeus was having none of it. He had (he said in a half-drunken stupor) just met with a Hollywood talent scout, who had told him that he was perfect to star in a movie about the Trojan War. He was going to strike it big and become a celebrity and then open up his own water company, and Athena would never know what hit her. That was his plan and he was sticking to it.

Well, he would work with what he had.

"My fellow gods!" he announced, and everyone turned to look at him.

"By now you've heard the news. Athena has used her bottled-water monopoly to seize divine power for herself. She has opened the gates to Tartarus; none of us are safe. If

we ever want to be more than the second-rate has-beens we are now, we need to stop her. I know how we're going to do it."

Some gasps. Apollo looked thoughtful. "WOOOOOOOOO!" shouted Dionysus. "YOU GO, HERMES!"

"Athena's collected so much power that she can't hold it all herself," he said. He'd gone over all this with Apollo, a few days after waking up in the cave with a terrible headache; the two of them had managed to expand Prometheus' cryptic message into an actionable plan. He was very suspicious that a seemingly unrelated order to donate a very specific sum of money was a command of Prometheus' that had slipped past his security, but he wasn't sure how, and he wasn't going to take the risk. He'd made the donation - now the rest was up to them.

"She can't hold it all herself," he continued, "so she needs some kind of supplementary focus. Sympathetic magic. Like calls out to like. She needs an idol. And not just any idol. It would have to be something really special, an idol of Athena that generations of mortals have identified with the deepest secrets of her power. The history books list two such idols. One, the giant statue in the Parthenon. That's destroyed. Two, the Palladium. It was there in Troy. It was there in Rome. Now we think it's in the Athena Mineral Water headquarters. Why? Because that kind of power would stand out like a sore thumb *unless* it was outshone by the presence of another immortal. Athena sure wouldn't trust anyone else with it, so she's got it herself. It must be hollow. The divine energy must be stored inside of it. If we can find and destroy it, then Athena loses her power and it flows into alternate conduits. Like us. In other words, we get our magic back."

"WOOOOOOOOO!" shouted Dionysus.

"Please refrain from cheering until the entire speech is over," said Hermes. "Anyway, here's my plan. We're going to split in two. One group is going to be the powerhouses. Apollo, Artemis, Hades, Poseidon, Aphrodite, Dionysus. You're all strong, skilled with weapons, or both. You're going to smash things, create a distraction. You're going to avoid confronting Athena directly, because Ares already showed us how that turns out. While my sister is chasing after you, the second group slips in. That's me and Tyche. Hades has given me his helm of invisibility, which should be enough power to hide both of us from view. Tyche's the Goddess Of Fortune. She can find anything. And I'm the God Of Thieves. I can break into anywhere. She'll lead me straight to the Palladium, I'll nab it, break the thing in two, and then we're home free. Any questions? Comments?"

"It's a good plan," said Apollo, nodding his head.

"WOOOOOOOOOOO!" shouted Dionysus.

"Just do it!" agreed Nike.

And before they could change their mind, Hermes teleported the lot of them to the lobby of Athena Mineral Water.

They appeared in a flash of light. People stepped back, shocked. The teleportation was strange enough. But Poseidon was still holding his golden trident. Hades was surrounded by some kind of miasma. And Aphrodite was buck naked. They didn't exactly blend in.

"*Distraction!*" whispered Hermes, just before taking Tyche's hand and vanishing from view.

"Uh," said Dionysus. "IS EVERYONE HERE READY TO PAAAAAAAARTY?"

"It'll do," muttered Hermes.

He and Tyche made their way up side staircases. Athena's aura wouldn't be able to hide the Palladium at any kind of a distance. It had to be really close to her office. They came to the CEO suite by a back entrance, then pressed themselves against a wall as they saw "Ms. Athena" walk by, talking on a cell phone. "Yeah," she was saying unconvincingly, "that does sound weird. No, no idea what's going on. I'll be down to investigate. Thanks for the tip."

When she was out of view, they snuck into her office. It looked very normal. A few potted plants. A Bosses' Day card. Some gold-plated "Female Entrepreneur Visionary Leadership" awards. A wall full of framed news articles "ATHENA MINERAL WATER BOASTS GODLIKE PROFITS", "BEHIND THE STARTUP CHANGING HOW THE WORLD DRINKS". A bottle of product on her desk, either for display or hydration. No idols.

"Cold," said Tyche.

"Cold?" asked Hermes.

"If it were here, I would know. It's not here."

"Well, let's check nearby."

They checked Athena's secretary's office. They checked Athena's closet. They checked the office of the Assistant To The CEO, the Director Of The Office Of The CEO. They checked the executive bathroom. No idols.

"Super cold," said Tyche. "Hermes, it's nowhere *near* here."

"Fuck," said Hermes. "We've got to go. Find the others and tell them to disengage, before it's too late."

They ran down the stairs until they reached the lobby. It was in a state of disarray. Chairs and potted plants overturned. Three parallel lines on the the big LCD screen that looked like they had been scratched by a trident. There was a magic silver arrow sticking out of one wall. No gods.

"Okay," said Tyche. "They've been here. They must be retreating."

They ran outside. A trail of water on the sidewalk suggested the route taken by Poseidon. The parking garage. He could see flashes of lightning on the lower levels. He wouldn't be able to get through that way. He channeled all his power into his winged sandals, and he and Tyche lurched into the air, coming to rest on the top floor of the structure. He ran down and almost bumped into Aphrodite.

"Hey, sexy," she said. "What's going on?"

He could see the others now. Hades and Poseidon were defending the road leading to the lower level. Athena was below, hurling lightning at them. They were in retreat. Artemis stood on the bed of a pickup truck, taking shots with her magic arrows. Nike



was with her, pointing out targets. Dionysus seemed to be passed out on the concrete, and Aphrodite and Apollo were holding up the rear.

"We've got to get out of here," Hermes told the two of them. "I was wrong. The Palladium's not in the building."

A lightning bolt shattered one of the big concrete pillars. "You dare stand against me?" shouted Athena. "For too long, I've played second-fiddle to lesser deities like yourselves! When I awoke a few centuries ago, it removed the last doubt from my mind. Everything I predicted was true. Nowadays, who cares about agriculture? Who cares about the sea? Who even *believes* in the Underworld? The sun is a giant ball of gas. The moon is a giant ball of rock. There's only one thing that matters today, and that's intellect! And how better to enshrine the triumph of intellect over human affairs, then to have the Goddess Of Wisdom destroy the lesser gods and become a pantheon unto herself? People these days want monotheism, and I'm going to give it to them!"

"You're wrong!" Apollo stepped into the fray. "Intellect is important, yes! You deserve to be honored, and nobody will take that away from you! But without Reason to guide it, intellect becomes monstrous. Without Art, and Music, and Poetry, intellect becomes sterile. And without Healing, intellect becomes divorced from compassion."

"AND THE SEA IS REALLY GREAT TOO," added Poseidon.

Athena rose into the air, crackling with energy. "*For now*," she said. "*For now*, intellect runs on puny mortal minds that will get all *sad* if they don't have their music and their beachfront houses. But that was a *mistake*, Apollo. We didn't *want* humans. We wanted apes just barely smart enough to sacrifice some rams to us and be properly grateful. Then Prometheus got involved, and everything went wrong. I'm going to fix his mistake. Genetic engineering, robotics, so many different options. Create minds that don't need art, that don't waste their time with music or lolling at the beach." She looked at Artemis. "Destroy the forests and pave them over with factories." She looked at Dionysus. "Replace partying with study and productive work." She looked at Aphrodite. "Replace the vagaries of love with rational breeding based on genetic potential." She looked at Hades. "Machines, that were never alive and so can never die." She looked at Poseidon. "Tame the sea for tidal power - "

"YOU'RE TOUCHING THE SEA OVER MY DEAD BODY!" Poseidon shouted, and rushed at her with his trident.

"We've got to get out of here," Hermes whispered to Apollo. "Get together as many as you can. We're going to make a run for it."

"She's blocking the only exit," Apollo said. "Where do we go?"

"To the roof! I can carry some of you with my wings. The rest will have to jump."

A few other gods had gotten the gist of the conversation, started running to the top of the parking garage. There was a loud thud, then the sound of sparks. It didn't sound good.

"I don't understand," said Apollo. "How could the Palladium not be in the tower?"

"I don't know!" Hermes protested. "If it wasn't disguised by a god's aura..."

"Then ipso facto it must be with some other god," said Apollo. "Who are we missing? Demeter?"

"Demeter? She *hates* Athena, thinks her bottled water is destroying the environment."

There was another crash. Apollo, Tyche, and Hermes made it onto the roof of the parking structure. They couldn't tell how many other gods were still following.

"Okay then, Hera?"

"I checked. There's a court record of all of her property, after the divorce with Zeus. Nothing about any idols. And she doesn't like Athena either, something something Trojan something. *Nobody* likes Athena. And seriously, who's going to take a magic idol and just say 'sure, I'll hold on to this, no further questions'."

"Wait," said Apollo.

Hermes waited.

"Does it have to be a *god* god? What about a demigod? An immortal human?"

"Um. In theory it could work. But it would be such a small effect. They'd have to stay right by the idol, day in, day out, or it wouldn't be disguised at all."

Apollo was already taking out his cell phone. "Dory, Dory, *please pick up*."

Nike ran onto the roof of the parking garage. There was a big gash down one of her arms. "She's right behind us!" she told them. "We've got to go!"

"Wait," said Apollo. "Dory, *pick up the phone*."

There was another crash. The parking structure started to wobble.

Apollo heard a noise from the other side of the phone, but no greeting. Right. She wouldn't open the conversation.

"Pandora?" he asked. "Are you there?"

"Hi Apollo," came her voice.

"Dory," said Apollo. "That statue on your desk, the one of the woman in armor. I need you to take it and smash it, really hard."

"Okay," said Pandora. There was a brief pause. "Done."

"Done? Did you break the statue?"

"No, it's very hard, it doesn't seem to have broken."

"Fuck fuck fuck fuck *fuck*," said Apollo.

Of all people, Dionysus managed to crawl his way to the top of the structure. "It's getting *really gnarly* down there," he announced before collapsing back into unconsciousness.

"Okay. I need you to feel along the sides of the statue. Is there any kind of switch, anything that's going to get it to release the power that it's stored?"

A brief pause. "There's...a knob and a hinge."

"Okay, Pandora. I need you to turn the knob and open the statue."

"Apollo, *I don't open things.*"

"Look, Dory, I don't ask you for much. I've known you for I can't even remember how many centuries, and I know things are hard for you, I've respected that. But Dory, *you need to open that statue.*"

"You *know* I don't open things!"

The last few gods ran onto the top of the parking structure. Just behind them floated Athena, her eyes jet black, her whole body crackling with electricity. "There's nowhere left to run," she taunted them. "You're *all* going to Tartarus now. Any last words?"

"Uh," said Hades, "want a pomegranate?"

Athena held her hands forth. The sky darkened. The air seemed to stir.

"Dory, you made a mistake once, and it was really bad, I'm not denying that, but you told me yourself, the one thing you did right was keep Hope. I need you to be hopeful now. I need you to hope that someday, somebody, us, humans, somebody we're not even considering, might be able to reverse what you did. Might be able to put those evils back in the box. I need you to think that that's possible. But not going to happen without our help. Please, Pandora, trust me on this. And what I need you to do right now is *open that statue.*"

Lightning arced back and forth across the heavens. Time seemed to stop.

Then there was a loud *pop*.

## **10. Zeus**

Zeus had come onto stage believing it was an audition for a big-budget film about the Trojan War. It wasn't. Out ran a young woman, her face streaked with tears. "You said you loved me!" she said. "We had a child together! And then you...you disappeared!"

"Hey now," said Zeus. "What's this now? Who are you? Whaddyatalkinabout?"

"Don't you recognize me?" sobbed the woman. "I'm Sara! From Biloxi! We met in '98! Oh god! You don't even *remember* me. You've probably abandoned with so many women that you don't even *remember* them! How many were there after me? Ten? A hundred?"

"Hang on now," said Zeus. "I ain't the kind of guy who hooks up with no hundred women."

"In fact," said Alice DiScorria, walking on to stage. "He is precisely that kind of guy. If you don't believe me, believe Amy. And Bethany. And Billy Rae. And Caroline. And Connie."

As she said each name, each woman came on to the stage.

"Dana. Daria. Dina..."

Some of them were crying. Some of them looked lost. Some of them had steely determination in their eyes.

"...Jackie. Jessica. Jennifer. Jun-Li..."

"Nah, yer just messin' with me now. What is this, some kinda trap? I want a lawyer, lady. I got my rights!"

"...Samantha. Sara. Sarah. Shaniqua. Susan..."

The stage was almost full now.

"You sayin' I slept with all these women? I didn't sleep with none of em. I want my lawyer, right now."

"Actually," said Alice, "we're not saying these are the women you slept with. We're saying these are the women you *slept with, had children with, and then abandoned without paying child support.*"

"That's a goddanged lie," said Zeus. "I ain't even got no children."

"Zeus is telling us that he 'ain't even got no children'," Alice told her viewers. "Alas, we have two hundred and five people in our studio audience today who think otherwise. Would you please stand up? Aaron. Adam. Althea. Ava. Bethany Junior. Berenice." She realized she was starting to lose her audience's attention. "And all the rest."

Two hundred five members of the studio audience, ranging from toddlers to adults, stood up. They were all unusually large, and many of the men had big, flowing beards.

"This is goddanged lies, is what it is!" shouted Zeus. "None of these people ain't my children, and that's the truth!"

"Zeus says that none of these people are his children," said Alice. "We ran paternity tests for every single one of them before the show. Let's see what they say." She took out a big stack of manila envelopes, opened the first one. "Aaron...Zeus *is* the father! Adam...Zeus *is* the father! Althea...Zeus *is* the father!"

One of the women on stage finally lost it, grabbed a folding chair, and swung at Zeus. He deflected the blow easily, then pushed her back, just a little too rough. Suddenly the stage had become a brawl, one hundred ninety enraged women against one underpowered god.

"Ava...Zeus *is* the father! Bethany Junior...Zeus *is* the father! Berenice...Zeus *is* the father! Chou-yang...Zeus *is* the father! Cleo...Zeus *is* the father!"

The brawl on stage was getting really bad now. A few women were down for the count. Zeus was bleeding all over his face. Some of the staff started to wonder whether they should override Alice and call security.

"Demetrius...Zeus *is* the father! Delia...Zeus *is* the father! Darragh...Zeus *is* the father! Dominique...Zeus *is* the father!"

One of the women had gotten hold of Zeus hair and was holding him, pinned, while another was slapping his face. Zeus tried to kick, but ended up losing his balance. Security guards were pushing through the crowd of women, who were resisting their efforts.

“Edna...Zeus *is* the father! Elena...Zeus *is*...”

Then there was a loud popping sound that seemed to come from everywhere and nowhere. And then Zeus effortlessly pushed the crowd of women away from him. For a second, he looked confused by his own strength. He stared at his newly-rippling muscles, looked down at the ground as if he couldn't quite believe how tall he was. Nobody moved.

Then he shouted, “DAMN RIGHT I'M YOUR FATHER! I'M ALL YER FATHERS. I AM ZEUS OLYMPIOS, KING OF THE GODS, CLOUD-GATHERER, THUNDERER, MIGHTIEST OF IMMORTALS! AND IIIII'M BAAAAAAAAAAAAAACK.”

The crackle of lightning filled the halls, knocked over the security guards. The audience stampeded to the exits. Women started to run off the stage.

“I AM ZEUS, KING OF GODS AND MEN. AND I'M TURNING YOU ALL INTO ANIMALS!”

Amy became an anteater. Bethany became a duck. Billy Rae became a tree shrew. Caroline became an otter. He turned Connie into a rattlesnake and Dana into a panther, Daria into a Komodo dragon and Dina into a bat. It was over in minutes. Everyone had either escaped or been transformed, besides Zeus and the hostess.

“Yer still here,” said Zeus, surprised.

“I am everywhere,” said Eris Discordia.

“What *happened*?” asked Zeus.

“The same thing that happens everywhere, all the time” said Eris. “People had conflicting aims. They struggled for power. Some won, others lost. The winners will celebrate, thinking their victory irreversible, and the losers will mourn, plotting their vengeance. And around them, the world changes irreversibly, in ways none of them predicted.”

“Huh,” said Zeus.

“In a few hours, news will come that a sudden electrical storm struck the set of my show, unfortunately causing the cameras to stop recording. Some people will be missing, casualties of the disaster. Others will say all sorts of strange things and be ignored. There will be lots of fights about it, and they'll all call each other things like 'sheeple' and 'denialist' and 'moron'. It will be wonderful.”

“Huh,” said Zeus.

“In the meantime, the studio is ruined. I suppose I will have to find a new job. Can you believe it, Zeus? In the old days, I was barred from every city and temple, driven out into the wilderness as an enemy of mankind. Now they *pay* me to cause discord. What a world!”

“It's...somethin’,” said Zeus

"And it's all thanks to people like you," said Eris. "So before we part ways again, before the poets end their songs and the next myth begins, please accept a token of appreciation. From me, to you."

In her hand appeared a shining golden apple.

### **Epilogue: Trump**

"Yeah," real estate mogul Donald Trump said into the phone. "Look, I gotta go, Carl. I gotta be at a gala tonight – yeah, the one for the American Eagle Museum. Terrible stuff, Carl, just terrible. Gotta go."

He hung up. It really was terrible stuff. Just a year ago, an anti-malaria charity had funded a grant that happened to precisely match its yearly budget surplus. The research had borne fruit – a new insecticide, kind of a super-DDT without the environmental damages. DDT, of course, was famous for killing endangered birds, but they thought they'd tested it properly this time, dozens of different bird species, no problems at all. So they'd deployed it worldwide, and malaria rates had plummeted. Only they hadn't tested the environmental consequences as well as they'd thought. 99% of bird species escaped unscathed – but every eagle in the world had died an unimaginably agonizing death. The whole situation was so strange that the FBI launched an investigation – then closed it a few weeks later for absence of motive. Who could possibly hate eagles that much?

He put on his suit and tie, and was just about ready to head out when a beam of radiant light appeared in the middle of his room and coalesced into three women.

"Greetings to you, Mr. Trump," said the oldest. "I am Hera, Queen of the Gods. These are my colleagues Aphrodite and Athena. You are the man who runs the Miss Universe beauty contest, yes?"

He took a step back, dazzled by her radiance. "Um...yes."

"Zeus, God of Thunder, recently came into possession of a golden apple. Then a second golden apple, found when searching a convent in Ukraine that had become a center of, ah, certain recent events. There are three of us and only two apples, so we petitioned Zeus to determine how they might be divided up. He replied that traditionally they go to the fairest, and so urged us to seek the foremost mortal judge of female beauty and implore his assistance. If you truly run beauty pageants for the entire universe, then you are the judge that we seek."

Then she spoke differently, directly into his mind. *And as an added incentive, if you choose me, I swear by the River Styx that I will make you the most powerful man in the world.*

He'd barely had time to process the thought when Aphrodite stared at him, and a voice like music touched his consciousness, saying *Pick me, and I swear by the River Styx that I will give you any woman you desire. Models, supermodels, they can all be yours.*

Then a third voice, lower, more dispassionate, and he heard Athena say *Select me as most beautiful, and I swear by the River Styx that I will grant you wisdom, prudence, and the intelligence to make the right decision under any circumstance.*

Donald Trump just stared.

"Well?" asked Hera.

"He's not answering!" said Athena.

"Waaaaait a second," said Aphrodite. "Athena, did you ever turn off that glamour you had, that made mortals around you unable to process the presence of gods?"

"How was I supposed to turn that off?" asked Athena. "It took the whole divine power of the universe to create that, and then you took that away from me. Now I'm just a goddess like anyone else, doing - " she spat "community service to make up for past misdeeds. And it's not even like I didn't help you guys bring Ares back."

"So what you're saying," interrupted Hera, "is that he can't even see us?"

"He can see us," said Athena. "He just can't comprehend that anything unusual might be going on," said Athena.

Finally, Donald Trump rubbed his eyes, and said "I got no idea who any of you are, or why you're in my apartment, but - " he pointed at Aphrodite and Hera "you and you are *smokin'*. You," he said, pointing to Athena and frowning, "look like a dyke in that armor. Seriously, get a makeover."

Then he walked out the door.

"Huh," said Hera.

"Too bad," Aphrodite told Athena. "Just goes to show that brains aren't everything."

"Yes, well," said the Goddess of Wisdom, a little too haughtily to be anything but compensation, "I'm just glad we finally made it through one of those without causing any unfortunate side effects for world history."

"Yes," said Hera. "I suppose we did. There's a first time for everything."

[**Acknowledgments:** the idea of Zeus on a trashy TV show comes from [this Tumblr post](#). Ideas for the Prometheus character came from [AI boxing](#) and [The Wise Man's Fear](#). The first two word squares come from [here](#) and [here](#).]