Educational Reform

Wayne Wignes[*]

July 13th, 2021

Abstract

This paper describes the role education plays in society and what factors have shaped or hindered its evolution. Part I describes labor issues in America as they've evolved from the household economy of the early nineteenth century to today's information economy. Part II gives a historical overview of education in Europe, China, and America so as to make clear the purpose of education and what political and cultural forces are at work in shaping it. Part III compares and contrasts medieval guild systems to today's higher education system then gives an overview of modern quasi-guild professional networks. Part IV touches upon modern issues in education including higher educational lobbying efforts, accreditation, and privatization schemes as well mathematical modeling of and research on decision making in an attempt to argue that higher educational systems manipulate both individual and collective capacities of people to make decisions and to form a consensus. Part VI gives policy recommendations for k-12 and higher education. In general it is argued that higher education being modeled on a medieval European guild system is grossly inadequate to suite the needs of the emerging information economy. For k-12 systems, while they are a vital resource for generating shared culture, cooperation, and national stability, in order to continue to serve this purpose in an age of enhanced immigration and diversity they need to evolve in their functioning. As k-12 systems remain very inefficient at serving the individual purpose of learning, this too is a thing which can be dramatically improved upon.

Contents

I. Introduction: Labor Issues

Industrialization, Good-Ole-Boy Trades, and Extrinsically Motivated Jobs

As far as day laborers go, as I'd always known him Todd had been an exception in how he presented himself. Only a couple of years prior to our acquaintance he had been one of those trendy upper class San Franciscan's who probably would have gone out of his way to avoid a shabby appearances, let alone allowing people to mistake him for one of 'them' (if it can be said there is a war brewing between domestic folk and homeless [or nomads if you please] San Francisco can probably be considered ground zero for the United States). It had actually been about a year since I last saw Todd when I ran into him in a coffee shop one day. He told me he'd been out traveling since I'd last seen him. He had the look of a man who had been wandering the earth in hopes it might help him answer the question, "what now?"

I had seen this transformation a number of times in my years being around nomads in Oregon. The transition from domestication to nomadism as I've come to see it has a way of unleashing all of the personality traits domestic life teaches us to keep pent up. Paralleling the devolution of one's physical appearance is some strange cross between the mental liberation and defeat. It is liberating to abolish the care for what those in the domestic life you left behind think of you and to embrace a newfound since of mobility, and, for some, feeling like they've discovered some sort of underground community. But it is also defeating to realize that this liberation only comes at the cost of essentially removing oneself from all prospects of upward mobility which, in an increasingly professionalized work-force, typically equates to more than just hard work; it can also entail altering one's appearance, mannerisms, and associations. In a word it requires for someone like Todd to be someone other than who he is (or was in the process of becoming).

In either case, as the conversation wore on Todd had the look of a man who, having failed to find any good answers the question "what now?", was now contemplating defeat. He told me, "There is no more ladder today; you either find a boom lift or you stay on the ground floor". As a graduate student who had been clawing his way through school for years while either living outside or in one-hundred square ft. SRO's, I knew exactly what he was talking about.

I'd often tell myself that had I been born so much as twenty years earlier it is unlikely I'd have ever began college. But I had sensed from an early age that something(s) had changed for the worse in the manual labor trades. One of those things I'd gotten drift of was that construction had become somewhat of a 'good-ole-boy' club. Another was that trades – especially when working for a large company or union – today require a higher degree of tolerance for extrinsically motivated work. 'Extrinsically motivated' is loosely defined as doing a thing for the external rewards rather than because you actually *want* to do it, i.e. you are not doing it because you enjoy it. With this terminology I am of course referring to Ryan and Deci's well known theory of intrinsic motivation and self-determination in which it is postulated that a person needs three things in order to experience intrinsic motivation towards a task; 1) autonomy, 2) competence, and 3) relatedness[33]. This is to say that 1) people like to be free, 2) people like to feel like to feel they are good at what they do, and 3) people like being with their people.

Over the next ten years of doing day labor and residential construction to supplement my income from school my suspicion that there is some growing malignancy within the manual trades was largely confirmed.

In addition to the freedom it granted me to believe that I 'helped everyone, worked for now one', what I had always enjoyed about day-labor was that I had the freedom to choose challenging jobs, which to me was far preferable to the mental lethargy of 'soldiering' (the practice of looking busy without actually having a goal to achieve). So I'd end up doing some of the most physically demanding jobs I could find (e.g. digging, demo, landscaping, etc.) for what was $7.50/ hr. in 2011 but which had risen to $12/hr. by 2018. Of course being a day-laborer you end up working a variety of jobs so there would also be a number of instances in which I'd be unloading material on a big construction job site or worse – doing clean up which inevitably involved soldiering. It was here that I would often come into contact with big construction company employees and union workers. Over the years I developed an appreciation for a few things; 1) these workers often consider themselves a class apart from day-laborers, 2) the mere presence of a day-laborer can pose a threat to them, and 3) 'systemic soldiering' (keeping a boss [or customer] deliberately ignorant of how fast a job can be done) can constitute a surprisingly large portion of a given workers job.

There are of course reasons why such attitudes develop. Day laborers are often nomadic individuals who usually are willing to do a job for minimum wage (less were it legal), and though there may be no legitimate reason to do with skill or ability why such a worker cannot perform at least some aspects of more advanced tasks on a given job site, if one such as this were allowed access to the same jobs as 'skilled' laborers then it would have the effect of dropping the wage standard for the other employees. As one prominent writer on the labor movement in the 1920's put it,

> "But, of all ways of dealing with these unfortunate parasites, the most ruinous to the community is to allow them unrestrainedly to compete as wage-earners ... In the absence of any common rule, it will, as we have seen, often "pay" an employer to select a physical or moral invalid, who offers his services for a parasitic wage ... Thus, the disease perpetuates itself, and becomes by its very vastness incapable of being isolated and properly treated. A dim appreciation of the evil effects of any mixing of degenerates in daily life, joined, of course, with motives of humanity, has caused the sick and the infirm, the imbeciles and the lunatics, even the cripples and the epileptics, to be, in all civilized communities, increasingly removed from the competitive labor market, and scientifically dealt with according to their capacities and their needs ...."labor colonies" of Holland and Germany are, from this point of view, an extension of the same policy....
>
> The economist has therefore to point out to the statesman that the adoption of a legal minimum wage would in no way increase the amount of maintenance which has to be provided by the community, in one form or another, for persons incapable of producing their own keep. It would, on the contrary, tend steadily to reduce it, both by diminishing the number of weaklings or degenerates annually produced, and by definitely marking out such as exist, so that they may be isolated and properly treated."
>
> – Edgar S. Furniss, *Labor Problems*

In hindsight this would seem to explain how and why over the years between 2011-2018 (time interval

over which the minimum age nearly doubled) I had noticed a shift in the workforce of the day labor agency Todd and I worked for. Whereas in the beginning it was mostly nomadic people who seemed to take refuge in being allowed in the day room at 5 a.m. to get some coffee and 'bullshit with the boys', by 2018 a Large corporation by the name of True Blue Inc. had bought out this company, changed the name from 'Labor Ready' to 'People Ready', prohibited in person-dispatch system and replaced it with a phone app. Before all of this I might find myself talking to some long-bearded guy in his fifties who had claimed he had walked the PCT from the middle of California to Portland, now I found myself working with well-bred (or at least well groomed) middle class kids in their twenties. Though they looked decent enough, they had less stories to tell.

But I was making slightly better money, hence we might say that my social capital had been converted into monetary capital.

Such was the life of a nomadic day-laborer in Oregon just prior to 'gentrification' and progressive labor policies took their toll. Though the day-laborer is not entirely representative of the plight of the average middle class worker, we'd do well to remember that a little over a hundred years ago the idea of a middle class didn't even exist, and that sometimes finding a common and mutually beneficial interest – or of pursuing the 'principle of self-interest rightly understood' as Tocqueville considered the act of endeavoring to solve ones own problems by considering those of another – is more promising of a method to ameliorate labor issues than is reducing them to their barest constituencies so that they may be treated as independent and mutually exclusive issues – just as an age of industrialization weaned entire generations of Americans to believe.

Before industrialization the majority of people in the world were engaged in autonomous farm-work that created an isolated 'household' economy in which farmers would consume much of what was produced, would have minimal trading with the outside world, and would work according to rise and fall of the sun rather than some mechanized clock. In 1800 four out of five people were unfamiliar with the idea of having a 'boss'. As industrialization took root and America's population began to urbanize (this happened fairly rapidly beginning about 1815 with the onset of the 'transportation revolution'[1]) the ensuing trend is alarming; by 1870 one out of three people did not have a boss, by 1940 this had dropped to one out of five, and by 1970 to one out of ten[2], and I'd be surprised if this number has improved since then. While the boom of industry created a corresponding boom in inequality, in general wages began to rise along with the quality of life[1] of the average farmer. American families increasingly fancied themselves as members of a 'middling' class.

Industrialization came at the expense of both the independent household economy and the Artisan (or craft) system in which skilled craftsmen would independently produce a work from start to finish. As part of the transportation revolution farmers became more connected with nearby towns and so began to get the most out of their land by growing crops that the land was optimal for rather than using it to grow what their own household consumed, i.e. they began trading their produce rather than consuming it. As the social appeal and economic opportunities of city life grew, more and more men were sucked into factories which deprived them of both autonomy and the opportunity to produce a product from start to finish. Meanwhile, women were transformed from household producers to housebound consumers.

As the household was transformed from a unit of production into a unit of consumption separate

---

[1]Assuming we define quality of life strictly by material terms.

"spheres" developed between men and women. Increasingly a woman's place was perceived to be that of creating a comfortable home while the man's was to be a worker who specialized in some kind of trade outside of the home. Industrialists throughout the nineteenth and early twentieth century promoted the idea of home-life as it created the socially deprive and isolated social conditions which were prerequisite for creating a culture of mass consumerism – which of course was good for business. For women in the nineteenth century the resulting 'cult of domesticity' resulted in what was at times compared to slavery; house-hold work was underpaid, underappreciated, socially isolating, and in those days much more taxing than it is today.

Of coarse the comparison to slavery when compared to the plight of the African-American at the time was wholly inaccurate. But the concept of wage-labor (a foreign notion to most Americans prior to the 1830's) in general was inseparable from slavery and therefore the comparison *does* have a measure of legitimacy to it. The idea of wage-labor threatened to abolish the line between free whites and negro slaves as there was no clear delineation between the concept of working for another person for an hourly wage and being their slave. This same basic process (the rise of trade and commerce between cities inducing the breakdown of the household [or manorial] economy in favor of producing a labor force that is characterized by division of labor, wages, and rents) took root in Europe during the high middle ages, and for this case it has been argued that one of the primary reasons for which European serfs were granted their emancipation around the fifteenth century was only because nobles realized that, as commerce between towns developed, they could get a higher productivity out of their serfs and make more money off of them by converting their duties to wages and their 'holdings' (the dwelling designated to a serf) to property which needed to be paid for via a rent[3]. Of course the other side of this argument is that nobles were *forced* to do this as plagues, famines, and commerce together conspired to weaken their ability to both protect and to provide for serfs, and therefore incited rebellion among the them[2].

In either case there is a definite connection between the rise of wage-labor and abolition of slavery or serfdom; one is simply the evolution of the other. In nineteenth century America it is probably no coincidence that the most violent strike in American history was one against the rise of wage labor, and it happened to occur during the civil war. The primary point of contention which led up to the war was of course the state of the as of yet to be fully colonized western territories; would slavery be allowed to expand westward? New York's antislavery Whig leader William Henry Seward in the 1840s summed up the conundrum, ' "Slavery and free labor, said Seward in his most famous speech, were "antagonistic systems" between which raged an "irrepressible conflict" that must result in the destruction of slavery'[3].

Since the establishment of wage-labor as the norm in America, an age of industrialization began to strip away the skill and the challenge of jobs, and this is a thing which helps explain the rise of 'systemic soldiering'.

In 1974 Henry Braverman, a life-long metalsmith and self-taught Marxists, published *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century* which became an influential work on labor markets. Braverman attributed the deterioration of the social conditions within job markets in the later twentieth century to 'scientific planning' – a management system developed by Frederick Winslow Taylor in

---

[2]The need for both sustenance and protection was a large part of the reason why peasants submitted themselves to serfdom in the first place.

[3]Foner, Free Soil, 41 , 51 ; George E . Baker, éd., The Works of William H. Seward, 5 vols. (New York, 1853-84) , IV, 289-92 . as quoted in [1]

which workers, after being separated from the means of production[4] are then also divided from the planning aspects of work. This in turn justifies the rise of two distinct classes of workers; laborers and managers. According to Taylor, "The development of science of doing any kind of work always required the work of two men, one man who actually does the work which is to be studied and another man who observes closely the first man while he works and studies the time problems and the motion problems connected with this work."[2]. Followers of Taylor such as Frank Gilbreth embraced this ideology to the extreme, going so far as to develop the *therblig chart* in which the physical motions of workers were broken down to their barest constituent parts and timed to the millisecond.

It is in response to such demeaning reductionism that one can then begin to understand the development of systemic soldiering; stripped of the means of production and reduced to wage labor, keeping the employer or customer (in which case the boss promotes systemic soldiering) negligent of the true rate at which tasks can be performed might be a workers only means of leverage. The trade-off to such tactics is practically written on the face of many large construction and union workers today; the mental weight of replacing real goals with surrogate activity is in some ways much more difficult than 'hard work'. It is a basic truth to human suffering that it is not only what physical hardship a person experiences, but also how one feels about it which truly dictates the full amount of suffering.

Braverman offers an example of systemic soldiering from his own experience as a newly appointed shop-manager;

> "Now, that was the beginning of a piecework fight that lasted for nearly three years, as I remember it – two or three years – in which I was doing everything in my power to increase the output of the shop, while the men were absolutely determined that the output should not be increased. Anyone who has been through such a fight knows and dreads the meanness of it and the bitterness of it....
>
> I began, of course, by directing some one man to do more work than he had done before, and then I got on the lathe myself and showed him that it could be done. In spite of this, he went ahead and turned out exactly the same old output and refused to adopt better methods or to work quicker until finally I laid him off and got another man in his place. This new man – I could not blame him in the least under the circumstances – turned right around and joined the other fellows and refused to do any more work than the rest."
>
> – Henry Braverman, *Labor and Monopoly Capital*

Another means of increasing the amount of work available is by limiting competition among workers, and this is largely accomplished by labeling jobs as 'skilled' vs. 'unskilled'. In day-labor today, it is rare that workers are allowed to perform 'complex' tasks, though it is plainly evident that technology has taken much of the requisite skill and craftsmanship out of many tasks within construction, a common day-laborer is likely to be able to perform many things which are often withheld from them on large construction and union job-sites.

---

[4]E.g. the small farmer moves to the city to take up factory work and so no longer produces that which he consumes.

One notable exception to all of this was for me was a man named Victor. As the name implies, Victor was from Mexico. Unlike most other experiences I had working for Americans, without even asking me if I wanted a job Victor began to take me under his wing and teach me everything he could. After a couple of months working with him through the day labor agency I ended up deciding to take a part time position with him, both because I felt at ease working with him and because I didn't like the changes that had been occurring in the day-labor industry. Anthropologists typically define a traditional culture as one in which habits are transmitted from one generation to the next, and we might then [tentatively] expect that crafts secrets are likewise more willingly shared among such demographics. This is a thing my experience traveling up and down the west coast in the summer times and working odd-jobs led me to believe is often true among Mexicans, who of course come from a culture that is much more traditional than that of the progressive U.S. who long ago uprooted whatever traditional roots she had begun to form.

This all helps explain to some degree or another 'the growing malignancy in the trades' I had initially suspected; that construction had devolved into a 'good-ole-boy' club and was increasingly a matter of one's tolerance for extrinsic motivation rather than hard work. 'Clubsmanship' is a term that will be developed in part IV, and as it will be argued throughout this paper in general, it is one that is appropriately applied to more than just boxing gymnasiums; it suitably describes academic, labor, and professional networks. Though union membership may have declined in recent decades within the U.S., this alone does not mean that exclusivity has paralleled this trend as there are other ways of being exclusive than union membership. The fact is that technology has made construction significantly easier than it once was, and this has threatened the position of workers who have yet to develop a solution to this problem other than to go to school in hopes of getting a white-collar professional job. So too has technology and industrialization taken much of the craftsmanship out of the trades. Together, these things have helped produce an epidemic of extrinsically motivated and exclusive job-markets where there exists a perception of scarcity that we see in the trades today.

While such a system deprives the low-level worker of opportunities for advancement, it deprives mid-level workers of their psychological well-being. Meanwhile, though it can be said that the dramatically increased speed with which buildings can be constructed has acted to deprive workers of valuable time on the clock and leverage within the job market (as it lessens the reliance on competent workers), the lifetime of the investor's return remains the same or better; construction materials today are more resistant to weathering and more easily and cheaply replaced than they were a hundred years ago. Is it any wonder that inequity has risen to pre World War I levels since the 1980's?

Paralleling all of this has been the centralization of land and agriculture.

Crop Lien System; the Centralization of Land and Agriculture

At the onset of the twentieth century, it was not uncommon for the crop lien system for both white and black farmers of the south to also be compared to a new form of slavery. Merchants, having obtained goods on consignment (meaning they agree to pay for them *after* they turn around and sell them to someone else, i.e. they are middle men who literally make something from nothing) furnished farmers of the south on credit, lending at extremely usurious rates that could reach as high as 200%. Credit was granted with the home itself as collateral, so when the farmers harvest inevitably failed to produce enough to cover the cost of the

loan – a thing that was exacerbated by the fact that credit customers were charged nearly double that of cash customers –, the farmer found himself in bondage to the merchant who then had the power to approve or deny credit purchases of the farmer,

> "...Did his wife want some calico for her single "Sunday dress," or did his family need a slab of bacon? Whether he got them or not depended on the invisible scales on which the merchant across the counter weighed the central question – would the farmer's crop yield enough money to pay off the accumulating furnishing debt.
>
> In ways people outside the South had difficulty perceiving, the crop lien system became for millions of Southerners, white and black, little more than slavery. "When one of these mortgages has been recorded against the Southern farmer," wrote a contemporary, "he had usually passed into a state of helpless peonage...From this time until he has paid the last dollar of his indebtedness, he is subject to the constant oversight and direction of the merchant." "

> – Lawrence Goodwyn, *The Populist Moment*

All of this somewhat reaffirms the notion that slavery never really goes away so much as it simply changes form and degree.

The populist movement arose in response to all of this in the 1890's. Farmers formed alliances and began buying goods in bulk in a collective fashion. Largely driven by the art of stump oratory, the populist movement became a political force across the south. Under the leadership of Charles Macune, one of the primary objectives of the farmer's alliances was to transform America's credit system such that small farmers could obtain loans directly from the Federal government thereby bypassing the usury of the middle men. Instead, when reform did happen via the creation of the federal reserve system, it was done largely under the guidance and influence of central banks who had the panic of 1907 on their side to help sway government to overlook the interests of poorest farmers. According to Goodwyn, "The Act provided easier access to funds only for the nation's most affluent farming interests."

Later in the progressive era the new deal reforms extended credit to the upper-middle class but not to the poorest among them . Together, these developments had the effect of on-setting an age of centralization of farming in which affluent farmers capitalized on reforms to establish themselves as the dominate forces in agriculture. The irony of the populist movement then is that it helped transform the entire monetary and credit system of America, but only at the expense of the small farmer himself. Reform of farming credit systems of course had a number of powerful adversaries. Political opposition, in conjunction with the breakdown of the oratory system which had connected people in a system of mutually engaged deliberation, led to the quiet death of the populist movement, the inevitable dis-empowerment of the small farmer, and the resignation of an entire populace to being herded into urban centers where they passively accept what job opportunities industrial society grants them as they do their reliance on large-scale corporate producers to supply the bulk of the nations food supply.

> " ...Structural reform of American banking no longer existed as an issue in America. The ultimate cultural victory being not merely to win an argument but to remove the subject from the agenda of future contention...

...In much the same way that centralization of land was characteristic of feudalism, it has become increasingly characteristic of modern America...

The one agricultural adventure of the New Deal that most nearly approached Charles Macune's objective of benefiting "the whole class" ..., long under attack from large-unit farming interests within the Department of Agriculture, from large-unit farming interests in the Farm Bureau Federation, and from congressmen responsive to the lobbying power of large-unit farming interests, was killed. The process of land centralization across America has since accelerated, especially affecting black landowners in the South.

In absence of significant literature on the subject, land centralization is a process that remains obscure to most Americans, but one they feel no right to inquire into..."

– Lawrence Goodwyn, *The Populist Moment*

Since the 1970's the amassing of farmland by corporate elites has been further solidified by scientific advancements. Corporations have gone so far as to fund university research with the explicit intent of having researchers keep their results quiet until the funding corporation can find a way to patent the results. In this fashion, large scale food producers like Monsanto have patented a number of genetically modified organism (or GMO) seeds. Monsanto has been known to stalk its customers so as to ensure they do not violate the purchasing agreement which limits a farmers ability to make use of surplus seeds or use the seeds which result from the initial planting.

The hypocrisy (and the danger) of claiming a patent on scientific advancements, particularly those to do with food, is that such advancements are in numerous ways only the tip of the ice-burg which the public itself created. Any scientific advancement always bases itself on a wide body of knowledge that results from centuries of *public* investment in research. Such patented advancements in turn only solidify the monopoly of the large corporation who funds more research and garners more patents and accumulates more land. Moreover, such corporations have learned to affect international politics in the form of trade agreements. When their increasingly efficient methods produce more food than they can sell in America, beginning in the 1980's corporate lobbyists began seeking to affect trade agreements in a way that would open the flood gates for them to unload their products onto foreign markets. This in turn has led numerous Mexican farm workers being displaced since the early 90's[4]. This of course contributes to immigration and exacerbates racial tensions when, for example, displaced white farmers find themselves needing to compete for jobs with displaced immigrant farmers for jobs in the city.

It can hardly be said that people themselves - white, black, or brown – win in this situation. Just as technology has induced a malignancy within the construction trades which has acted to the ultimate detriment of low and even mid-level workers, technology and in general the hoarding of research knowledge have acted against the small farmer – foreign and domestic.

A natural exit option for workers is to seek white collar professional jobs by foregoing the trades and farm in favor of receiving an education. As the 'information economy' takes root, Universities are playing a role that is somewhat comparable to the furnishing merchants of the crop lien system; if one wants access to today's intellectual jobs which are increasingly the only jobs which grant one a sense of craftsmanship and accomplishment, one is compelled to go through what will be argued in part III to be the most powerful

among the last few remaining medieval European guild systems that operates on a national scale within America today.

Schooling & the Information Economy

Briefly returning to the nineteenth century, Industry required that farmers be weaned onto notions of living by the clock, receiving instructions from a superior, and a redefinition if not outright dismissal of notions of autonomy. Schools, it will be argued in part II, are the most powerful tools of national stabilization and acculturation in the history of the modern world. It is no coincidence then that the modern school system we are all accustomed to today took root in a time of American history which was characterized by mass migration, civil war, and instability.

Horace Mann (1796-1859) championed a free, standardized, and compulsory school system and he explicitly sought to foster the link between industry and education[5]. To equate his proposed system with the amelioration of the wage-labor issue, Mann spun it to the public as a means of 'picking oneself up by their own bootstraps[5]; wage labor was to be a temporary phase in the American workers life-cycle, one for which they were provided all of the tools necessary to pull themselves out of and become self-employed if only they are hard-working and sober.

Later in the early twentieth century labor movement leaders like Edgar S. Furniss would recommend raising school leaving age to sixteen, increasing scholarships, and shortening work hours of youth as yet another 'compassionate' means[6] of ameliorating the perceived problem that there is just not enough labor to go around. While this indeed may be considered a compassionate thing (depending on one's view of compulsory schooling), it is interesting to note that it was not actually motivated by the well-being of children. In either case, the 'lump-of-labor' argument – the idea that there is only so much labor to go around – is widely considered to be a fallacy today on the grounds that adding more people to an economy does not just result in the occupation of more jobs, but also the creation of more economy, and therefore of more jobs.

In the case of using wage labor as a means to segregate 'parasites', the prevailing notion is that the efforts of one 'type' of worker undermines that of the other by informing potential employers of the true 'bottom-value' price for which a job can be done. In the case of systemic soldiering, the prevailing notion is that employers need to be kept ignorant of the true amount of time within which a job may be done. In both

---

[5]This phrase is a misnomer; according to the laws of classical physics, because internal forces of an object cancel, no body can move its center of mass by simply pressing or pulling on one part of itself, rather it must evoke an *external* force to do so. Imagine an astronaut floating in space trying to get back to her ship; she can twirl herself around by pushing on her own body but her center of mass will remain stationary and she'll get no closer to the spaceship. If , however, she has some kind of booster or rope to pull on then she'll begin to move in the direction of the ship. Analogously, when we 'pick ourselves up by our bootstraps' what we are actually doing is creating a sort of torque about our center of mass which 'twirls' us in a vertical direction, but the only reason our center of mass goes upward in this awkward maneuver is because we are simultaneously directing the force generated from the torque into the ground; we push on the ground and [by the law of equal and opposite forces] the ground pushes back. Now force is proportional to both mass *and* acceleration, hence the earth, having a very large mass, has an imperceptibly small acceleration 'downward' while we, having a very small mass, have a noticeable acceleration 'upward'. It is and always has been the land which brings us up, hence the hypocrisy in the phrase 'pick yourself up by your own bootstraps' is that we *take* land from one another, but no one can claim to have 'earned' land itself.

cases we may say the goal is to create some kind of vertical information asymmetry between contractors and customers or between laborers and employers – one which is to the advantage of the laborer or contractor, respectively. The division between 'skilled' and 'unskilled' workers does more than just classify workers according to what skills they supposedly can or cannot perform, but it prevents workers from developing skills in the first place and therefore keeps them outside of a given trade. We might say this is a form of horizontal information asymmetry. To express organizational problems in terms of horizontal and vertical lines of information is roughly in line with the idea of lines of bureaucracy and power in modern day China whose government operates off of a 'tiao-kuai' system in which tiao represents vertical lines of authority and kuai represents horizontal lines of authority. As discussed in part II China has learned the hard way the repercussions of misinformation within what is the worlds largest bureaucracy.

In the case of schooling, modern schools in the U.S. still resemble what is [especially since Covid] an increasingly outdated industrialized model in which people need to be roped into designated localities where they are trained to operate like assembly line widgets whose guiding mechanism is some mechanized clock. In contrast to the labor market of the U.S., the information asymmetries in our schooling systems are somewhat reversed with respect to the their origins; students are not *allowed* to demonstrate how much more efficiently a job can be done. Likewise, though they may be more than willing to spread information (both academic and professional) among themselves, the structure of modern education inhibits this natural communication mechanism when it dictates the start and end times of a course, prolongs time to graduation beyond what is necessary by adding frivolous material, forces everyone within a discipline to go at the same pace and to study the same content, fragments their attempts to accumulate knowledge, and keeps them too busy to do much outside of this standardized routine.

In essence our educational system trains us to act like information hoarders as is for example, evident by the fact that it is such a rare thing anyone discusses openly their personal methodology in technical courses (e.g. math, physics, chemistry). This is a thing which leads to a large number of potential engineers and scientists being discouraged and dropping out or switching majors in the first couple of years of study. They may walk away from education with the stereotypical impression that subjects like mathematics are only for those in possession of some innate ability, when in fact most problems presented in academia require nothing more than a fairly mechanized style of thought. It is not intelligence that is required to study such disciplines (least not at the standardized levels of academia) so much as it is obsessiveness, pragmatism, and a high tolerance for subservience – all qualities the educational system favors.

Another aspect of education which goes amicably un-noted in this duplicitous hustle is that people have been deprived of basically all three of the most primary facets of intrinsic motivation; autonomy, competence, and relatedness.

- **Competence**: In four [successful] years of graduate study in Physics[6] and in all my undergraduate years I never once completed an entire book, and rarely have I ever done all of the problems in any given chapter. Rather than building on what has been learned, the educational system inhibits the

---

[6] At the time of writing I've become a likely drop-out on the grounds that I lost my father during Covid and this for me was only the last among a number of straws to do with the higher educational system and all of the strong-arming, deceit, parasitism, and shameless gang-banging involved in it. The school is trying to pull people back even before they establish the viability of people to relocate now that the usual time line for procuring housing has been severely disrupted, and they started this even before it was clear Covid was going to roll over by next fall. They did not ask, they instead projected the propaganda, "...this is what we ALL want". In general it will be argued they are endeavoring to hold the evolution of Higher education hostage to serve their own small minded and selfish ends.

natural tendency of a person to continue to build off of knowledge in one subject in an uninterrupted fashion. Physics curriculum embodies this principle perhaps better than others. In physics, one finds themselves studying the same thing as the previous year(s) and from the exact same starting point, only this time you get to give the topic a *somewhat* deeper treatment. The purported underlying ideology is that repetition solidifies this knowledge in your brain, but this does not preclude the fact that there are alternative and even more natural and effective means to achieving repetition. Any science is going to require one to continuously return to the basics – regardless of the level of difficulty of the problem being attempted. Furthermore, many I am sure can relate to the notion of being allowed to go into great detail in a personal project having the effect of solidifying the information in ones brain more effectively than simply treating it superficially multiple times over the course of a number of years. What we will see in part II is that among the first experiments in which this methodology was employed was in seventeenth century Germany, and it did not have the promised results in terms of learning outcomes, but it proved to be an effective means of acculturating large populations.

- **Autonomy**: By dictating the start and end dates of courses or time to completion of a degree and by making compulsory attendance of lectures, students are robbed of the autonomy which is required to adapt their learning to their own lifestyles. This is a fairly indisputable statement, but the primary point of contention that is likely to arise is whether the point of education ought to be altering students lifestyles for a time while they pursue their studies, e.g. what does it mean to 'make a sacrifice' and how and why did such a concept, once defined, come to be equated to merit? Students are further robbed of their autonomy by the standardization of curriculum. By 'standardized curriculum' I do not necessarily mean the content, but rather the order in which the content is digested. One thing may naturally lead to another, but what 'another' is will certainly vary according to the individual; many people have different ways of arriving at a set goal, and this is even more true the more complex the task is before them.

  By stipulating time constraints the educational system does not necessarily select out the brightest or even the hardest working, rather it selects the most pragmatic, obsessive, and submissive. Pragmatic people allow time constraints to dictate their research endeavors. Obsessive and submissive people will twist their lifestyles around to achieve a task within a given window of time when such a stipulation is required for them to achieve their goal of doing obsessive tasks for a living. By dictating the order in which information is digested institutions select out the most obedient who possess a high tolerance for working under such conditions.

  The notion commonly used to justify requiring that students alter their lifestyle is that school is a 'sacrifice' and sacrifice is a central part of societies prevailing conception of meritocracy. But the more one thinks on this the less sense it makes; sacrifice is a fairly subjective idea, and it is one which not too long ago was applied to the act of murdering humans on a stone pillar in tribute to a religious figure. As will be shown in sections to come, the notion of sacrifice has been used to cover the fact that people have been duped into directing their labor power to an ends other than their own. Specifically, for just one example, we will see in Part III that imposing minimum or maximum stipulations on time to completion of an apprenticeship is the mark of guilds who intended to limit competition within a given line of work. So too is it the mark of guilds to make attendance compulsory as a means of strengthening the solidarity of the group, to identify dissenters, and to coordinate strategies of maintaining monopoly control.

- **Relatedness**: While schools are typically hailed as a means of generating social capital, the unspoken truth in all of this is that for some – perhaps many – these places represent *someone else's* idea of social capital. What we will see in parts II and IV is that for the last thousand years the implementation of educational systems have been a critical component of acculturating both native and immigrant

populations in the process of colonization and in the establishment of centralized (not necessarily democratic) governments. As will be shown, the primary purpose of education is not learning but is fostering a shared culture and national stability, but this purpose has been mutilated and reduced to mere tool for indoctrination which primarily is designed to serve the ends of opportunists'. It is not this proclaimed purpose of education which will be disputed so much as the implementation of it; consumers of education ought to be the ones to decide what that shared culture is, not industrial capitalists, governments, school administrators, or teachers.

Conclusion

It is often said and with good reason that too much change too fast is not a good thing. Nevertheless, the effects which technology has had on our job markets and lives has been allowed to progress virtually unchecked in its rate of advancement. Many if not most manual trades have little resemblance to what they did even fifty years ago. As the information economy takes root, turning to higher education is no longer a privilege but increasingly is a necessity. Yet rarely seems to enter the realm of public dialogue that a nations conception of work is a thing that consciously needs to be maintained, and periodically it needs to be completely redefined. What kind of precedent is being set for immigrants and future generations in general that they will face strong pressure to 'choose' between an extrinsically motivated manual workforce, catering to an increasingly alienated culture of blind consumerism (e.g. service industry), or 'sacrificing' a good part of their working lives to a medieval European guild system? When American corporations are allowed to flood foreign markets and uproot indigenous peoples way of life, I'd think America owes such people a little more than the opportunity to cross the border and work really hard at painting our walls.

If students cannot obtain self-determination in the ways that they digest information within the institutions they are required by law to attend in their youth and which they pay for as young adults, by what means could we possibly ensure they will be able to find it in tomorrows information economy?

Of course there is the stereotypical notion that schools prepare people for the job market rather than shape it. But this is dogma. Indeed, it will be shown that the notion of a professional emerged just after the formal death of guilds as a modern means to exclude the majority of people from participating in specialized fields thereby limiting the competition that self-interested actors faced. Coincidentally, through the practice of licensing, the very notion of a professional has relied heavily on the continued existence of the scholastic guild which survived when most all other guilds went out of business in the late nineteenth century because at the time knowledge and information were still esoteric concepts which did not stand in the way of the development of commerce. But in the information economy, they have managed now to positioned themselves as the very gatekeepers to our economy.

This quasi-guild system of professional job markets is upheld by the university system via a number of factors, some of which have already been mentioned. One factor which hasn't been mentioned thus far is the overly general nature of the certification system, e.g. bachelors, master's, and PhD degrees. We will see that limiting consumer options via restricting the number of gradations, both in quality content is a characteristic of guild systems, one which allows them to artificially manipulate markets in ways that serves their own interest.

The pinscreen is a mechanical toy which conforms to the shape of an object (usually a hand) when turned upside down and subjected to the gravitational force. It is able to conform in detail to many objects precisely because all of the metal pins which constitute it are of a very fine nature. But were this analogy applied to university system whose degree system has in most fields only two or three outcomes (BS, MS, or PhD) then we'd have a pinscreen with only three pins, and this would be unable to adapt itself to anything bigger than the size of a nail – and even that we'd only be able to deduce whether the nail came into contact with the pins or not, but we would be hard pressed to know its shape. Short of the PhD which grants the opportunity for specialization, this is a very poor system for conveying ones actual skill set or even the amount of hardship one had to endure to get a degree being as we all have unique characteristics, circumstances, and upbringings and therefore the experience and challenge of conforming to the university system to get a degree is not the same for us. Furthermore, the ability of today's system of overly generalized to adapt to job markets (not to mention individuals) is weak. But this has all been intentional; prolonging the time to and opportunity for specialization, transforming the certification process into more of a right of passage – a ticket to a selective club –, and controlling rather than adapting to job markets has long been the intentions of today's degree system.

A more finely graded system of degrees is one policy reform which will be argued in this paper. Finer gradations of a degree system would do more than improve the accuracy and honesty of information while undermining the ability of the most powerful guild system today to manipulate people and job markets. A more finely graded system creates flexibility, adaptability, and ingenuity – all of which are required for a person to make self-determined decisions. As we will see, European guild systems in the middle ages were notorious at stifling all of these things.

II. History of Education

Islamic Education in the Early Middle Ages

 Before there was an education system, there was education.

– Zander Sherman, *The Curiousity of school*, 2012

The system of licensing to teach via degrees had already been in place for centuries among Islamic cultures prior to the development of the concept of a university in Europe. In the Islamic case, higher education was not composed of corporations ('universitas' implied a corporation with some kind of right to self-governance), rather it was highly individualistic; there were no governing bodies other than the teachers themselves who controlled the granting of a license to teach (or *ijaza*). Anyone could teach, but to teach a specific doctrine and to be recognized as authoritative one needed to undergo a period of apprenticeship and obtain a license. Being as tradition and religion were highly valued in all teachings, the minimization of the number of generations through which a doctrine had been transmitted from the time of the prophet to the time of teaching was highly valued, hence an elder who taught a doctrine which was known to have been transmitted via a succession of elder teachers was considered the most prominent among teachers. Beyond this the ability to teach was largely based on ones innate abilities as a teacher to draw a crowd. Teaching occurred in whatever place was convenient; just outside of the teachers home, the market, a garden, etc., and it was sometimes the case that people of a wide range of ages and abilities attended these lectures[7, 34]

Scholars were well traveled as knowledge gained from books was considered only part of the knowledge that people valued in their teachers; much knowledge at the time was gained from interactions rather than texts.

> "This would be doing an injustice to what is perhaps the most profound reality of all education, i.e. indirect education. In ancient societies in particular, children and adolescents are mainly socialized by family and community structures. Education begins within the family circle, but it is also pursued through the influences which the individual experiences, under the effects of the meetings, readings, debates and controversies which animate the lives of the groups which surround him. This evidently includes a movement of circulation of ideas which come to him outside the channels of direct education"

– Johannes Pederson, *The Islamic Preacher Wāiz, Mudhakkir, Qāss*, as quoted in [7]

Simple life experience was considered a prerequisite to the accumulation of wisdom, but also it was a matter of oratory having a higher value than mere written words; one needed to hear not just what was being said, but *how* it was said in order to grasp the true meaning of a lesson. Dictation was nothing less

than an art in itself. Accordingly, vowel-signs which allowed recorders of lectures to convey this to some degree or another were developed[35]. Arabs were of course themselves often nomads, and this did not hinder their pursuit of knowledge which had been valued since at least the time of Mohamed, "The nomads of this region of the Sahara possess books, precisely as do the settlers; nor do they abandon them even in their wanderings; their migratory habits do not prevent their devoting themselves to intellectual activities, or allowing their children, even girls, to share in such studies."[7]

That it not so say, however, that the teacher was always respected. While references to the proliferation of elementary schools are to be found soon after the time of Muhammad, and citizens of a given town might go so far as to give a parade for the children who graduated, teachers themselves, at least in the beginning, came to be loathed. Perceived as a means to dodge the army, and especially as teachers began demanding money for their services of teaching the Q'ran, teaching garnered for itself a bad reputation,

> "...The prevailing attitude of Muslim society towards the teacher of children[7]... is represented in Arabic literature as one of extreme disrespect. His position is on a level with that of weavers, blood-letters, and other despised trades. Teachers were universally spoken of as stupid and brainless class. "Seek no advice from teachers, shepherds, or those who sit much among women" – an adage which, as applied to teachers and weavers, and with the addition of the explanatory clause, "for God has deprived them of reason and withheld His blessing from their trade," is quoted as a saying of the Prophet. The phrase 'ahmaq min mu'allim kuttāb ('stupider than a schoolmaster') – with variations in the working – has passed to a proverb.
>
> ...The teacher's occupation, in fact, works almost like a specific for generating stupidity....
>
> "The teachers of our children are the vilest among you; the most deficient in pity for the orphan, the most churlish towards the poor." "What thinkest though of teachers?' asked Abū Huraira of the Prophet, whose answer was: "Their *dirham* is forbidden property, their livelihood is unjust gain, their speech hypocrisy."
>
> – Ignaz Goldziher, *Muslim Education*, as quoted in [7]

As compulsory elementary schools took root in later centuries a conscious effort was made to inculcate into the minds of the public a different perception of the teacher. In 1272 for example, Al-Qurtub, a well known commentator of the Qur'an at the time, wrote, "The best of men, and best of all who walk the earth, are the teachers. When religion falls into decay, it is the teachers who restore it. Give unto them, therefore, their just recompense; yet use them not as hirelings, lest you wound their spirit. For, as often as the teacher bids the boy say, "In the name of Allih, the merciful, the compassionate," and the boy repeats the words after him, God writes for the teacher, and for the boy and his parents, and record which shall surely save them from the Fire."[7]

As for higher education, Arab cultures were influenced by the educational culture of the Greeks. Though they'd try to reinterpret much of it so as to avoid western influences, increasingly they found learning a necessity to rule over the empires that they conquered (and this in turn became added incentive to resent teachers). Islamic nations however made a number of highly original contributions which

---

[7]Though not clarified in the offered quotation, the work cited was explicitly focused on elementary education.

have proved to be foundational to a number of academic fields to this day. Indeed, many of the greatest centers of learning from the ninth to the twelfth century were Islamic, and – in what might be considered a European twist to the idea of higher education[8] – it was by European scholars visiting such places (e.g. those in Cairo or Spain) that, when combined with the European notion of a guild, the idea of a university began to germinate[8].

Europe

> "From these beginnings the university organization has persisted and grown and expanded, and to-day stands, the Synagogue and the Catholic Church alone excepted, as the oldest organized institution of human society."

> – Ellwood P. Cubberlay, *The History of Education*

> "Charlemagne sought to impose a new culture on his empire, a combination of Roman, German, and Christian elements. He thought to begin with general education; he found, as do the counselors of today's emergent nations, that he must first make teachers..."

> – Morris Bishop, *The Middle Ages*

Since the downfall of Rome Europe lacked centralized governments. Barbaric German tribes invaded territories and subjugated many. Save for the remnants of Roman education which lived on within the subjugated citizens, learning was nearly decimated until the time of Charlemagne who signaled the end of the darkest times of the 'dark ages' (AD 600-850). Charlemagne established a court school within his palace, he set scribes to preserving Latin classics, and revived the practice of literary aptitude a prerequisite for roles within government. Though in 802 he made it a law that laymen attend school and learn to read, by this he intended only for the freemen of the courts, and it is open to question whether this law applied to children of peasant laborers. By adopting the Germanic practice of granting his close associates large swathes of land in exchange for their loyalties, Charlemagne created a literate aristocracy who would see learning as a means of power[3]. It is here we see the beginnings of the modern practice of equivocating the relatively easy act of versing oneself in letters with merit. Education began taking precedence over hard earned experience or natural competencies; "Charlemagne having substituted merit for favoritism in his realm, promoting to be bishops and abbots the most learned men of his time, many of these became zealous workers in the cause of education and did much to keep up and advance learning after his death."[9] Though a period of anarchy followed Charlemagne death, this practice would live on as would the system of vassalage which evolved into feudalism.

Though during the high middle ages (1000 – 1250) travel between towns was considered a dangerous thing, traveling scholars were known to be under the protection of nobles and monarchs where they

---

[8]There is some debate as to the precise origins of the concept of a university, but most seem reasonably convinced it [a corporation of scholars] first took root in Europe sometime around after the year 1200

existed[8]. The German emperor Frederick Barbarossa (1122 – 1190) granted scholars more than mere protection; he went so far as to grant them special courts for what crimes they were charged with, and he exempted them from taxes and military service alike. As mentioned already, these scholars traveled beyond the realm of western influence into Spain and Cairo to observe Islamic teaching practices. In particular Islamic temples of learning or the tower of wisdom seemed to inseminate in them the idea for a centralized institute for learning[10]. With the guild system widely spread in Europe, as scholars and teachers became numerous in many places throughout Europe by the thirteenth century, they developed the concept of *universitas* – a corporation of scholars who endow a license to teach. In the beginnings the universitas was not associated with any building but only with the scholars themselves.

> "These associations of scholars, or teachers, or both, born of the need of companionship which men who cultivate their intelligence feel, sought to perform the same functions for those who studied and taught that the merchant and craft guilds were performing for their members. The ruling idea was association for protection, and to secure freedom for discussion and study; the obtaining of corporate rights and responsibilities; and the organization of a system of apprenticeship, based on study and developing through journeyman into mastership"

> – Ellwood P. Cubberley, *The History of Education*

Debate and oratory were as in Roman days a central part of education at that time. Popular centers of oratory would draw such crowds that when chairs were set to accommodate them a stadium was formed, hence the rise of the *Stadium Generale* – the precursor to what we now call a university. It was in Bologna that the term university was first used, and it was here that students ran the institution democratically; students elected the rector, employed the professor, and in general controlled the affairs of the school. In contrast, Paris and Oxford adopted a model in which teachers were in control. It is probably the case that the system of degrees originated with the student guild[10], and this is a thing we'll see is in line with the developing of medical licensing in which case it was the young and insecure graduates who felt the need to create labels of meritocracy which set them apart from others. The only degrees offered at the time were master or doctorate (at this point the two were just different names for the same thing). Bachelors designated a state of apprenticeship rather than a degree.

As universities legitimized their existence they began trading in the special privileges of the individual scholar for guild privileges such as that only universities are allowed to endow scholars with certifications which allowed them to teach, the liberty to guide their own studies (freedom of thought), and *cessatio* – the ability of the university to suspend lectures when disputes arose with the city or church. As noble lords and the church were both solidifying their powers universities became somewhat of a safe-haven from the two. According to Cubberly,

> "Virtually a new type of members of society – a new Estate – evolved, ranking with Church, State, and nobility, and this new Estate soon began to express itself in no uncertain tones on matters which concerned both Church and State. The universities were democratic in organization and became democratic in spirit, representing a heretofore unknown and unexpressed public opinion in western Europe. They did not wait to be asked; they gave their opinions unsolicited. "The authority of the

University of Paris" writes one contemporary, "has risen to such a height that it is necessary to satisfy it, no matter on what conditions." The university "wanted to meddle with the government of the Pope, the King, and everything else, " "

– Ellwood P. Cubberley, *The History of Education*

Though it is difficult to trace the spread of the university after its initial inception in the early thirteenth century, by 1400 there were approximately forty universities spread across Europe[8].

Of course universities at this time concerned a relatively small portion of the populace. It was instead the education and conditioning of the church which influenced the majority of people. Being as the powers of feudal lords and the church were small scale and still tentative things, there was incentive for the church to solidify its powers by indoctrinating its religious beliefs into citizens and to prevent their amalgamation into any opposing force by encouraging a philosophy of individual responsibility for salvation. The Lateran council for example, in 1215 made penance an individual and compulsory thing, but before this time penance had been a rare and public event[11]. The practice of indulgences in which the church would essentially sell spiritual favors to the faithful (e.g. to reduce the time of purgatory which a loved one endured) was common.

The church had already received a significant blow to its dogmatic ways in the twelfth century with the scholar Peter Abalard who developed a method of inquiry similar to Socrates in that he asked a lot of questions and facilitated a lot of debates but offered no answers himself. This, together with the fact that the crusades had brought many Christians into contact with the Islamic world which challenged their preconceptions of the spiritual world, gave rise to a spirit of inquiry. The church responded by arming itself with well-educated theologians who were thoroughly prepared to admit that there are two sides to any story yet still able to defend the doctrine[12].

Fed up with the usury of the church in the form of taxation and indulgences, a theology professor by the name of Martin Luther in the month of October of the year 1517 nailed a petition to the door of the Wittenberg's Castle Church. In the petition were 95 points which collectively asserted the churches practices were not justifiable. Thanks to the wonders of the printing press which had been invented about a half century earlier, probably to his surprise Luther's petition was reprinted and disbursed throughout Germany within a matter of weeks. This in turn gave rise to the protestant revolt in which the central issue was whether it was the church or the bible that held authority. Protestants believed it to be the latter, and they accordingly required that every person be endowed with an education which enabled them to read. Elementary schools proliferated as did attempts to make schools compulsory, but in a less overwhelming fashion than compulsory schooling is today with its six-hour long days. In Martin Luther's own words,

"A new world has dawned in which things go differently. My opinion is that we must send boys to school one or two hours a day, and have them learn a trade at home the rest of the time. It is desirable that these two occupations go side by side. At present children certainly spend twice as much time playing ball, running the streets, and playing truant. And so girls might equally well devote nearly the same time to school, without neglecting their homeduties; they waste more time than that in over- sleeping, and in dancing more than is proper."

– Martin Luther, as quoted in [8]

Puritans were a specific religious sect within Protestantism who held a firm belief in the idea of covenant ideology (e.g. god gave mankind a relative heaven on earth, but by Adam choosing to eat the apple the covenant was broken), and they would have a dominant influence on the beginnings of education in America during the seventeenth century[13].

Influenced by the ideas of Francois Bacon, an educator by the name of Wolfgang Ratke (1571 – 1635) at the age of forty addressed the highest members of the Imperial council of Germany. Ratke proposed an educational reform experiment, the results of which he promised would be the teaching of languages to children in a very short amount of time and the introduction of a peaceable means of uniform speech, a uniform government, and uniform religion throughout Germany. Impressed with his proposal, the princes gave Ratke an opportunity to put his ideas to the test in Köthen, Germany. Prince Lewis of Anhalt-Köthen organized a band of teachers to be trained by Ratke himself.

"They were sworn to secrecy regarding the new methods. Buildings were provided at Köthen and about five hundred children received into the schools. Ratke apparently lacked all power of administration and this experiment, like that of Augsburg, proved a failure. Furthermore, Ratke was thrown into prison by the enraged Prince Lewis, who believed he had been duped by an impostor. While in prison Ratke signed a paper to the effect that he had attempted more than he was able to accomplish. A later experiment in Magdeburg met with similar results."

– Patrick J. McCormick, *History of Education*

From Ratke's *Methodus Institutionis Nova*, published at Leipzig, 1617 a few of the primary points of his method are as follows,

- In everything we should follow the order of nature.

- The same thing should often be repeated.

- Uniformity in all things – in methods, books, and discipline.

- The thing itself should come first, then what-ever explains it, things before words.

Obviously Ratke's methods have the beginnings of today's common and compulsory curriculum. Of course by 'natural order' a number of interpretations are possible, but in light of other educational philosophies which prevailed at the time we might infer that by this Ratke means some kind of linearity. German historian of education Karl von Raumer classified a number of preeminent progressive educational reformers of the seventeenth century including Ratke as *Innovators*, and generalized some of the reforms they championed, two of which were "That education should proceed from the simple to the complex, and the concrete to the abstract" and "That the study of real things should precede the study of words about things."[12] We

might summarize these two points as linearity and objectivity – a paradigm shift in education which will be returned to in section III.II.

Though Ratke's experiment was a failure in terms of learning outcomes, it nevertheless proved extremely useful in the way of producing uniformity. Ratke's influence lived on in the likes of Johann Amos Comenius, Duke Ernest of Saxe-Gotha, and others. Though Johann Gottlieb Fichte (1762 – 1814) made no explicit mention of Ratke, the ideas he espoused were eerily parallel to his.

With the Prussian army decisively defeated by Napolean's forces in the Battle of Jena (1806) Fichte found a receptive audience to the ideas presented in his book *Attempt at a Critique of All Revelation* (1792). Fitche professed to know why Prussia had been defeated as well as how to ameliorate things. In Fitche's view the problem was free-will itself; "The very recognition of, and reliance upon, free will in the pupil is the first mistake of the old system"[9]. Bertrand Russell summarized Fitche's ideas as "Education should aim at destroying free will, so that, after pupils have left school, they shall be incapable, throughout the rest of their lives, of thinking or acting otherwise than as their schoolmasters would have wished."[14]. Prussia adopted Fitche's methods and it did much to improve military matters.

As we will see, the system of education which Prussia adopted would go on to be the most influential model in the world today – especially America.

America: Seventeenth to the Ninteenth Century

> "Cannot we let people be themselves, and enjoy life in their own way? You are trying to make that man another *you*. One's enough."
>
> – Ralph Waldo Emerson on education

> "Let him be taught to love his family, but let him be taught, at the same time, that he must forsake, and even forget them, when the welfare of his country requires it."
>
> – Benjamin Rush on education

The U.S. is somewhat of a unique case in terms of its motivation for education. Being a newly colonized territory and having just won its independence from Britain, the unity and stability of the states were preeminent issues in the minds of leaders. There was by then an appreciable literature which had developed from experience in Europe on how institutions which were capable of affecting the ways in which people formed associations and the habits they adopted might be a means of avoiding the extremes involved in either local rule (e.g. feudalism) or rule by strong central governments (e.g. monarchies). Such theories of nationhood might be considered 'governance by indoctrination', or more amicably put 'cooperative governance'; how to condition the people such that they are fit to rule themselves in a democratic nation.

---

[9]Johann Gottlieb Fichte, as quote in [14].

There were at least two known ways to achieve institutional indoctrination beyond educational systems; private property and the implementation of credit systems. From interactions with the German tribesman in centuries past it was known that allowing such a concept as private property to take root in a populace had an effect which was as distinct as it was potent. In the words of J.G.A. Pockok, "..The sense of honour – of an exposed and vulnerable personal identity – which Gibbon tells us was all that the tribesman understood of liberty, would have been transformed into a sense of law and a capacity for military discipline by an awareness of responsibility for his material possessions and for the relations with others which possession involved."[15]. As for credit, it had a similar effect to that just discussed in closing part II,

> "The National Debt was a device permitting English society to maintain and expand its government, army and trade by mortgaging its revenues in the future. This was sufficient to make it the paradigm of a society now living to an increasing degree by speculation and by credit: that is to say, by men's expectations of one another's capacity for future action and performance. Since a credit mechanism was an expansive and dynamic social device, the beliefs men had to form and maintain concerning one another were more than simple expectations of another's capacity to pay what he had borrowed, to perform what he had promise; they were boomtime beliefs, obliging men to credit one another with capacity to expand and grow and become what they were not."

> ...not only was every man judged and governed, at every moment, by other men's opinion of the probability that not he alone, but generations yet unborn, would be able and willing to repay their debts at some future date which might never even arrive. Men, it seemed, were governed by opinion, and by opinion as to whether certain governing fantasies would ever become realized."

> – J.G.A. Pockok, *Virtue, Commerce, and History*

Predictably, a third means of affecting a large-scale change within a populace was recognized to be education. But the founding fathers were unsure as to what kind of system would be appropriate for the United States and what such a system might look like. Accordingly, the American Philosophical Society, members of which included the likes of Washington, Jefferson, Madison, and Rush, contrived 'The Great Contest' which was to be the first national contest among scholars in the U.S.. The essay prompt was to "[Write] an essay on a system of liberal education, and literary instruction, adapted to the genius of the government, and best calculated to promote the general welfare of the United States; comprehending, also, a plan for instituting and conducting public schools in this country on principles of the most extensive utility."[36]

Of the three selected top finishers, none failed to mention in some way the idea of a national university to which all others would defer – a notion which had gained some momentum under Jefferson's presidency. More than just a reading of the 'classics' in philosophy (e.g. Aristotle, Socrates, etc.) a liberal education at the time implied a moral one, i.e. a distinction was deliberately being made between liberal and a practical education or 'literary' education which at the time was only vaguely defined, but was intended to encompass subjects outside of classical moral philosophy such as Art, Math, History, etc.[36]. Leaders of the time therefore sought to make a liberal education a prerequisite to leadership.

Lancaster's Monitorial system

In what was probably the first large-scale attempt at a systematized education system, Joseph Lancaster's *Monitorial system* became the standard method of primary schooling in New York for a good portion of the first half of the nineteenth century. By the age of eight Joseph Lancaster had taken an interest in educating Jamaicans for charity work. Having observed some educational methods while traveling in India, at the young age of twenty, in 1798, he returned to London and opened a school for poor children in his fathers house. He was enthusiastic, passionate, and by all accounts somewhat gifted at his work,

> "He had many of the qualifications of a great teacher—zeal, self-confidence, ingenuity in devising methods, intuitive insight into the nature of children, an ardent love for them, and rare power of managing them. He threw himself into the work of his new school with characteristic enthusiasm. For the good or delight of his pupils no labour was too severe and no sacrifice too onerous. For them he spent body, mind, and estate (and as much of the estate of other people as they could be induced to part with); on holidays he led large parties of them for excursions into the suburbs; on Sundays, from forty to sixty of them, bringing their own bread and butter, used to take tea with him; and during the severe winter of 1799-1800 he fed and clothed some sixty or eighty of them....."Lancaster was a born organizer of children. He left nothing to chance or caprice. To him we owe the pregnant mottoes: 'A place for everything and everything in its place,' "

> – John Reigar, *The Lancasterian System of Instruction in the Schools of Newy York City*

By 1806 the Lancastrian, or monitorial system – a system originally developed in India which allowed for just one teacher to monitor hundreds of pupils by dividing them into groups that were to be led by 'monitors' – had spread to most all European countries and both South and North America. Students would often stand in a semi-circle and and repeat the monitors dictations; rote memory was the method of learning a thing at the time.

While Lancaster prided himself on the progressive practice of sparing children the rod, in its stead he implemented a system of shame and physical constraint. Students were given tickets for good behavior and achievement, and bad behavior came at a cost in tickets. If a student had no tickets remaining, they were punished; disobedient students might have a log placed on their back which would become too strenuous if they madE the slightest deviation from an upright position as it would throw the log out of equilibrium; students might be shackled to a desk or shackled at the feet – sometimes at the neck alongside other offenders – and made to walk around the school until tired, and in extreme cases they might be placed into a basket or sack and hung from the roof. Interestingly, it was found the best way to tame the most unruly was to make them monitors themselves[16, 13]. While such methods may seem cruel, by comparison to the use of a rod or a lash, to many at the time they were deemed acceptable.

Being as schools at the time typically were lacking a significant and steady source of funds, this method which allowed for hundreds – no more than a thousand by Lancasters' recommendation – of students to be led by one teacher had obvious appeal. Further advantages were that it granted students significant

experience in teaching – indeed, the monitorial system was the primary means of educating teachers until the establishment of the normal college in 1870. One other notable advantage to the method was the extreme flexibility of grading and progression; students were assessed by monitors and they advanced when they had mastered a given task. This is in contrast with today's methods which regularly passes students onto another task before complete mastery is achieved.

What ultimately contributed to the monitorial systems downfall was the superficiality of the monitors knowledge compared to a teacher who's role had been relegated to what was really nothing more than a glorified monitor-of-monitors. The school board of New York professed it was "increasingly suspicious" of the monitorial systems ability to handle what they had intended to become a more advanced curriculum. The board soon implemented ward schools and restricted by law the further growth of monitorial schools, of which would disappear within ten years[16].

Though Lancaster's model was bound to be supplanted by Horace Mann's common school which placed the teacher at the center of education and students on an even footing, it did not fail to have a tremendous impact on today's school systems,

> "Its consequences, direct and indirect, are still felt in the schools with respect to the ideals of the community and the standards of the teacher. Conformity to system and uniformity in school administration and method became a fetish. The faithful adherence to the manuals or the syllabi prepared by the school authorities rather than adaptation to the interests of the pupils and the community became the prime duty of the teacher. This traditional allegiance, the result of many years of an unquestioning routine, remains a serious obstacle to the success of progressive administrations.
>
> Upon the theory that the principal is not a teacher but an administrative officer, schools have become far larger than even the limit set by Lancaster, which was a thousand; and the principal remains what he was in the Lancasterian school, the director of the school organization, not the teacher and guide of each pupil."
>
> – John Reigar, *The Lancasterian System of Instruction in the Schools of Newy York City*

Mann's Common school

The changes in New York drastically reduced the teacher to student ratio, and so there ensued a near continual need for teachers. Being as this was typically an underpaid position, and women at the time were willing to accept lower pay in exchange for escaping the drudgeries of housework, many women began to take to teaching.

Lancaster had been among the first to suggest to members of the federal government that schools be utilized to resolve the 'Indian problem', but when he suggested it he had in mind more of a unification than a one-sided assimilation; he suggested Indians be used as teachers, and that agricultural schools be set up to educate them on sedentary farming methods. While it is true there were a number of people who were

outright hostile to Indians, and some simply feared their undomesticated ways going unchecked, others simply recognized that the changes sweeping over the nation were irreversible, hence education was the Indians best hope; they would assimilate or perish.

As the Commissioner of Indian Affairs noted in 1851, "Indians are too wild to be of much utility; a proper program through concentration, domestication, and incorporation would ultimately force the Indians into the great body of our citizen population." Over the next few decades boarding schools which separated children from their mothers and tribal heritage were imposed on children in an attempt to acculturate them according to western ideals. The Carlisle Indian School opened in 1879; here Indian kids were sent to live and work on white farms so as to separate them entirely from their tribal heritage. By 1891 $2,500,000/ yr. was being spent on educating Indian children, and a total of 225 day schools and 148 boarding schools had been established with 20,000 Indian children in attendance[13].

Established settlers faced another problem which threatened their way of life; European immigrants. As one concerned citizen at the time put it,

> "It is astonishing to witness the vast tide of immigration, yearly flowing in upon us, from all nations. The whole number...can hardly be less than one hundred thousand annually,...
>
> I have indeed sometimes thought it was necessary that our naturalization laws should be altered and modified, so as to exclude the foreigner from the polls. But the time for this action is now past, and in fact morally, it would be of no avail. So long as they remain a distinct social race, their children will grow up to years of maturity, and come to the polls, with the same notions, prejudices, and peculiar views, which their fathers entertained
>
> what remains, but the method proposed by this society? In my opinion there is none so effectual. Let us take their children then, and educate them in the same schools with our own, and thus *amalgamate them* with our community"
>
> – From *Transactions of the College of Teachers* (Cincinnati), 1836[10].

We have seen the impact that the implementation of a nationally standardized system had in the case of Prussia. Prussia had in fact become an example to which much of the modernizing world now looked to; in the opinion of Zander Sherman, most of the modern world today has essentially adopted the Prussian system of education which was utilized to turn a nation of citizens into reserve soldiers[14]. A number of reports on the Prussian system of education began to flood into the U.S. throughout the nineteenth century; John Griscom in 1819, Victor Cousin in 1831, Henry Barnard in 1835, and Calvin Stowe in 1837. And we may add to that list the godfather of the common school movement; Horace Mann, who championed the Prussian system before ever visiting the place.

Mann championed a standardized (or 'common') school curriculum being implemented on a national scale to serve the needs of industry. In his own words, "The commercial tone prevalent in the city...tends to develop, in its schools, quick, alert habits and readiness to combine with others in their tasks. Military

---

[10]As quoted in Allen O. Hansen, *Early Educational Leadership in the Ohio Valley* (Bloomington. Ill., 1923), as quoted in [13]

precision is required in the maneurvering of classes. Great stress is laid upon 1) punctuality, 2) regularity, 3) attention, and 4) silence, as habits necessary through life for successful combination with one's fellow man in an industrial and commercial civilization."[5].

While people, especially immigrants, often resisted the idea of giving up their children to an institution which did not perpetuate their own cultural values, national instability and the Civil War gave Mann and his supporters the necessary firepower to overcome all resistance. The unifying power of educational institutions was depicted as being simply too necessary at a time when the unity of the United states was still a very tentative thing. As one visiting French bureaucrat noted,

> "Suppose the immigrants were left to their own inspirations, and instead of public schools should find only private institution; everything would be different: each person would keep up his own customs or preferences; each group would constitute itself separately, preserve its own language, traditions, religious customs, its old national spirit, and its prejudices. In denominational schools the distinction between rich and poor, paying and non-paying pupils, would necessarily be perpetuated and emphasized. And without fusion of races, without a uniform language, without equality of social classes, without reciprocal toleration among the different denominations, and, above all, without an ardent love for the new country and its institutions, would the United States still be united?"

> – Ferdinand E. Buisson, *Report on the French Commission on American Education*, 1879[11]

The establishment of common schools led to a somewhat dramatic increase in the demand for teachers. This in turn predictably led to issues of 'quackery' in which individuals who were not qualified for the task advertised themselves as being competent to perform it. Normal schools began to be established in the 1870's in order to legitimize education by training teachers for common schools. Common schools, though standardized and staffed by competent teachers, still relied on the methods of recitation and rote memorization rather than critical inquiry. By the turn of the century it became a wide-spread sentiment that these schools did not prepare children for society or meet the individuals interests or developmental needs, and they allowed much talent to go to waste.

The Quincy Method

> "Those who seek for some special and peculiar method or device in the Quincy movement will never find it....The systematic cultivation of selfishness by bribery – per cents., material rewards, and prizes – was banished. The dark clouds were cleared away, and a higher motive, a nobler ideal, came into view. The human treatment of children cannot be brought about by any particular method. It must spring from a deep sympathy, backed by courage and skill. The old fashioned, stiff, unnatural order was broken up. The torture of sitting perfectly still with nothing to

---

[11]As quoted in U.S. Bureau of Education. *Circulars of Information, no. 5* (Washington, D.C. 1879). PP. 9-16. 36-37

do was ruled out, and in came an order of work, with all the whispering and noise compatible with the best results. The child began to feel that he had something to do for himself, that he was a member of society, with the responsibilities that accompany such an important position.... we did not banish text-books, we added to them; change, not banishment, was the order..."

– A co-worker of Francis W. Parker[37]

Immigration, the introduction of the railroad, and industrialization of mining operations had, since the 1840's begun to swell the population of Quincy Massachusetts. Poor management of an unplanned growth spurt had led the town into debt. When coupled with educational reforms and increasing salary demands of teachers, the cost of educating children more than doubled between 1863 and 1873. As a school committee was formed and they began to investigate the prospects of educating an increasing number of school-aged children in Quincy under strained finances, what they quickly found was a pervasive problem of poor performance and scarce attendance. Yet the political meetings of Quincy had witnessed a breakdown in the processes of productive debate and there was a perceived general decline in the collective intelligence of meetings (a process which somewhat naturally accompanies growth of a town) which rendered the passing of legislation difficult. In response, Quincy's governing officials adopted a committee system which would consider proposed articles then report their recommendations to the town and put the matter to a vote. The committee system in turn allowed for the creation of a coordinated policy and largely disengaged the public from the political process, which in turn made passing legislation much easier.[38].

Among the first propositions of the school committee was to establish a truant school and hire a super-intendent – propositions which had previously be resisted by people[37]. After a disappointing interview process which attracted a number of quacks, at the last minute a teacher who had recently returned from studying pedagogy in Germany by the name of Francis W. Parker showed up and pitched his ideas on educational reform. Parker found the committee to be mostly dissatisfied with the state of the town and receptive to his ideas.

Parker believed that curriculum should follow from the interest of the child, and this called for a complete transformation of the role of a teacher. On their end, some teachers were of the mind that traditional education took the skill out of their profession, and for these teachers Parker's methods must have been a welcome reprieve. Parker's method also called for a high degree of autonomy for the student. There was a shift in focus from quantity to quality; the number of subjects were reduced from seven to about three. Rather than relying on rote memorization, students were instead encouraged to have "incessant practice...in writing from their heads. Thus by constant practice they rapidly acquired the art of composition and could write almost as easily as they could speak."[17]

"The set program was first dropped, then the speller, the reader, the grammar, and the copybook. The alphabet, too, was treated with slight deference; it was not introduced to the children by name, but they were set at once to work making words and sentences. The teachers woke up, and had to depend upon lively wits for success. No longer could they comfortably hear recitations from convenient textbooks. Other books there were in plenty, and magazines and newspapers. Teachers and pupils had to learn first of all to think and observe. Then bye and bye they put these

powers to work on the required subjects. From Charles Francis Adams' enthusiastic essay, The New Departure In The Common Schools of Quincy, came impressive testimony that Parker had succeeded and that at Quincy, teachers and pupils worked together joyously and harmoniously.

Public schools in Quincy were renowned when parker left in 1883..."

– David Cohen, *Education in The United States: A Documented History, Volume 2*

While such methods were not unheard of before Parker, what set him apart from other progressive reformers was his belief in the freedom of physical mobility and play. With repression of a childs natural inclinations no longer a concern, schools became a place where children really wanted to be. As one observer put it, the pupils "immediately manifested an increased interest in their school-work; they were impelled by motives within themselves; they worked from the gratification felt in the attainments they were making... ." As for the teacher, he "ceased to be a task-master, and became a co-worker with the children; he was at once transformed from a mechanic or machine to an artist, and his work, before drudgery, became a fine art"[38]

But was Parkers method – what came to be known instead as the Quincy method – effective? We know that after Parker's reforms enrollment in Quincy schools doubled while other schools in the county still struggled with attendance. An agent of the Massachusetts Board of Education by the name of George Walton surveyed all schools within Norfolk County, examining students on reading, writing, and math, geography, and history. Though the methods were not disclosed and therefore open to question, Quincy students led in everything but math, and even this might be explained by the fact that Parker had only begun to implement his methods on mathematics at the time of the survey[12].

Despite the success of Parker's methods or the fact they resulted in a decreased per student spending throughout the 1870's, the board voted to cut teacher salaries, and they denied Parker any raise. In turn, Parker left for a more attractive offer in Boston, and he began to siphon off teachers from Quincy as a sort of revenge. The role of school superintendent in the town of Quincy was then filled by John Dudley Philbrick who two years earlier had been voted off the Boston school board and had been replaced by a Quincy reformer who undid much of his work. In turn, Philbrick undid much of Parker's work at Quincy. To him, a decrease in per-pupil spending was somehow correlated with a lower standard of education – despite the superior performance of Quincy students.

There is no convincing reason why such innovative reforms like the Quincy method died off – least not to do with the efficacy of education, rather personal agendas of school administrators and industrial capitalists, when coupled with the narrow mindedness of governments in how it went about achieving its own agenda in education, the passivity of the masses which renders them prone to conditioning, usury and ego of educators, etc. help explain the death of these attempts at reform. In the words of Michael B. Katz,

"... Mann and his associates created a situation in which it would be professional

---

[12]It should also be accounted for that math takes a long time to master, and if the specific order and content which students study it is not rigidly dictated, then – even though overall progress towards proficiency and intellectual capacity for math might have improved at a rate faster than a standardized curriculum might produce – standardized exams will likely not reflect the progress being made. In general, standardized tests are good for measuring standardized methods. But again, Walton's methods were not disclosed.

suicide for a teacher to criticize the reformist line, and public attacks, at any rate, stopped. From the late 1840's onwards the organized teachers identified themselves with the cause of reform ... As the charismatic phase of reform waned, its results were left partly in a more organized teaching force and in fledgling educational bureau ... Urbanization, population growth, and the consequently increasing size of city school systems combined with dwindling lay interest in education to nourish the growth of these fledgling bureaucracies into the rigid and powerful machines...

Educators characteristically justified their increasing command of community resources by pointing to their own importance, their critical role in the salvation of mankind. Because they were eager to convince the community of their own worth, educators often stressed their own accomplishments and ignored their own faults; they became almost intolerant of basic criticism, incapable of generating reform..."

– Michael B. Katz, *The "New Departure" in Quincy, 1837-1881: The Nature of Nineteenth-century Educational Reform*

The Dalton Plan and Dewey's Project-Based Methods

"In a certain musical comedy, one scene portrayed a gentleman with several of his friends about to dine. All the friends were of different nationalities. The first course was served, but before they could even taste it the orchestra played the host's national anthem. Everyone stood, but when they were again seated they found the course had been removed. Another anthem was played with the coming of the second course, and in like fashion they were denied four courses. The host was presented with a bill for a meal which had been perfectly served, but which they had not been permitted to enjoy. I beg that this characteristic musical comedy procedure which plays too important a part in our schools, be removed from education."

– Helen Parkhurst, as quoted in [39]

"The thing needful is improvement of education, not simply by turning out teachers who can do better the things that are not necessary to do, but rather by changing the conception of what constitutes education."

– John Dewey, as quoted in [40]

Helen Parkhurst was only seventeen when, in 1904, she accepted her first teaching position in Waterville, WI – a small settlement seven miles away from where she had grown up. She was the only teacher in the school of 45 people aged 6-16 years old. In her days of schooling as a child Parkurst professed to being "bored to tears at school and she felt that she was not taken seriously"[39]. Perhaps out of her own professed loathing of the dogmatic and overly rigid curriculum of schools, or perhaps out of her inexperience as a teacher who suddenly found herself charged with leading a class of dozens of people – some of which were no more than a year younger than she was –, she began to develop what would later come to be known as the *Dalton plan*[13] in which students were granted autonomy in both their utilization of the

---

[13]Presumably named with respect to the town of Dalton, GA where the method would eventually be demonstrated.

classroom space as well as with respect to the order and time to completion of their tasks; there were no set due dates associated with a given task, and students were not compelled to work either in groups or at the same pace. Students had near complete autonomy in accomplishing their work.

Parkhurst moved on from the Waterville settlement after a year to attend teachers college in River Falls, WI. Four years later (1909) she accepted a teaching position at Edison school in Tacoma, WA where she introduced the subject of folk-dancing, to which the administration was intrigued. They requested she put on a show, the results of which were so successful that they granted her the opportunity to conduct the experiments which she had begun in Waterville.

Parkhurst paid special attention to freedom of physical movement and the environment, going so far as to unscrew benches and arrange a given room by 'subject corners', which in Tacoma became 'subject rooms' where students would go at their own bidding to work on a particular subject. As for teachers, they occupied 'laboratories' – a term borrowed from the psychologist E.J. Swift's book, *Mind in the Making. A Study in Mental Development*, 1908 – where they would await students to inquire of them for guidance or feedback on their endeavors. As summarized by Piet van der Ploeg[39] in general Parkhurst found that,

> "First, when children are given , (a) freedom to move, (b) freedom to plan their own time, (c) freedom to confer with one another in a soft voice and (d) freedom to consult the teacher if they get stuck, then (i) the activity and commitment of the pupils towards and during the work increase, (ii) they are more motivated to work, (iii) they have more pleasure working and (iv) learning results improve."

> – Piet van der Ploe, *Montessori and Parkhurst*

In contrast to John Dewey – a highly influential progressive reformer in the 1800's – Parkhurst did not strive to change the curriculum itself, only the structure of education. Her method granted autonomy in terms of time and sequence, but did not compel a change in the content, of which she keenly perceived was inevitably going to be influenced by ever-fluctuating political conditions. Both reformers believed in the concept of learning via experience, but they differed in how they defined experience. Parkhurst saw the random interactions of an amalgamated group of self-determined individuals to be a mechanism for generating life experiences.

> "When pupils are allowed to interact and work together and with teachers, in an unhindered an unconstrained fashion, in variable groups, in various places, with varied means and materials, they come into contact with each other in different ways and at more opportune moments, the teachers, the subject matter, teaching materials and so forth. That brings about more frequent, more intensive, more varied, more motivated and more effective experiencing, sensing, investigating, perceiving, discussing and trying things out than in the old structure with its rigid order and rules, fixed relations and groups, one-sided and tedious communication, uniformity, social isolation and so forth. Hence, there is more experiencing and consequently more learning"

> - Helen Parkhurst, as quoted in [39]

Dewey on the other hand believed books and subject matter in themselves *were* experience as they constituted the cumulative experience of the human race. While he advocated for the transformation of the teacher from a dictator of the classroom to more of a guide, he still held the teacher to be the center of the classroom who leads activities, hence their would have likely been less autonomy under Dewey's scheme, the trade-off being more individualized curriculum that would come in more of a project-based and individualized form that was specifically tailored to the experiences of the individual. Dewey himself recognized this to be difficult if not impossible to obtain at the time when technology limited the extent to which students could network with teachers across the state and nation so as to match their interests with their needs, but one which was nonetheless worth striving for at the time. From Dewey's perspective, schools were to be community centered; they were small cities in themselves, and curriculum he believed should conform to the individual. From Parkhurst's, schools were to be individual centered; beyond providing a productive place to study, one which was also conducive to socialization, schools – but not curriculum – conformed to the individual.

Both reformers recognized the importance of democratic education; an education in which students learned to participate in a democracy and to develop their sociality (Dewey, for example, believed that students became more social as a result of social experience). Either method would have been a dramatic improvement from the traditional method of standardized and timed curriculum, compulsory attendance, and learning by rote memorization.

In contrast to traditional education, Parkhurst believed that a democratic education and sociality could be accomplished via "interaction of group life"[39] rather than unidirectional and obedient lecturing. While the granting of temporal and sequential autonomy constituted a dramatic shift, Parkhurst did not dismiss the fact that a critical function of schools was to provide a stabilizing force; perhaps mistakenly, she quoted Dewey on the idea of democratic education, "There is a passage in Dr. John Dewey's *Democracy and Education* which admirably defines this idea. 'The object of a democratic education,' he writes, 'is not merely to make an individual an intelligent participator in the life of his immediate group, but to bring the various groups into such constant interaction that no individual, no economic group, could presume to live independently of others'."[39].

In the long run of things, neither Dewey nor Parkhurst would prevail through the progressive age which gave rise to a wave of reformers who sought to once again orient education to the needs of industry, only this time, in parallel with scientific advancements of the time, it was the idea of specialization which granted them much power. Guided by the theories of psychologist Edward Thorndike whose theories claimed that skills in one learning area did not readily translate to another, 'administrative progressives' as David F. Labaree categorizes them, won out over the 'pedagogic progressives' like Dewey and Parkhurst. According to Labaree, "...one cannot understand the history of education in the United States during the twentieth century unless one realizes that Edward L.Thorndike won and John Dewey lost."[41] While there is no clear line of reasoning which justifies the idea that competent specialization can only come at the exclusion of autonomy or the opportunity to choose ones own curriculum, administrative progressives had 'boots on the ground' type lobbying while progressives got carried away with theory and rhetoric[41].

Parkhursts method – the Dalton plan – became very popular in America during the 1920's, and it took root in a number of other countries such as England, Germany, and the Netherlands which utilizes the method to this day. For reasons that seem to be most obscure beyond the onset of the great depression and some targeted propaganda against them in the 1930's, the Dalton plan rapidly fell out of the public's

psyche[14]. Today the only remaining Dalton school within the U.S. is in New York. As is in line with the alarming trend that only private school students usually enjoy autonomy in their learning, the Dalton school in New York is the second most expensive private school in the country. To this day, the Dalton plan remains horrendously understudied.

China: 1900-1990

> "Every June, the *gaokao* inspires a barrage of media photos, which indicate the fiercest of academic pressure cookers: Hangar-size warehouses with row upon row of black-haired heads bowed over exam papers. Students hooked up to IV drips for energy during test prep. Busloads of students on their way to exam sites, revving past thousands of pedestrians who raise arms in salute. Throngs of anxious parents camped outside the exam hall gates..."
>
> – Lenora Chu, *Little Soldiers*

Since the time of Confucius education in China has been a means of determining eligibility for working in government. Mencius, a disciple of Confucius, held that only those who work with their minds were fit to rule. While it was theoretically possible that anyone who could master the ideology could rule, in practice only the affluent could afford the time to devote themselves to studies. Education methods revolved largely around rote memorization, and this was good for preserving a sense of tradition. This system persisted until just after the twentieth century at which time, having been defeated in the Sino-Japanese war 1894-95, China could no longer hide that her ancient methods were outmoded. The threat of colonization by western imperialist only added to the incentive for China to modernize. In 1905 the national examination system which had been in operation as a weeding out mechanism for over a millennia was abolished. Nativists' began to stress unification via education, and students were sent to Japan and America to learn 'western ways' under the notion that they'd return and devise a means by which China could take everything that was essential and useful from western educational systems, and somehow implement in such a way that China's cultural heritage remained in tact.

'Return students' – those who had gone to America or Japan to learn western methods – came back with a distinctly modern, intellectual, and condescending attitude. They promoted uniform and standardized methods, education as a means to segregate those performing manual labor from intellectual work, and an elitist system that only the rich could afford – one which favored those in urban centers over peasants in the countryside. The growing division between urban and country citizens would in fact become a central issue throughout the twentieth century. The cultural situation is summarized by Suzanne Pepper's description of cultural conservative Liang Shuming's take on what was transpiring in China in the 1920's,

> "By the early 1920s he had begun to explore the causes of China's demoralization and concluded that it was due to Western influence. Previous reform efforts had been led by intellectuals in imitation of the West, to gain wealth and power. They

---

[14]Also see quote in the concluding part V.

failed to achieve their objective and were extracting China's cultural roots in the process. Wealth and education were concentrating in the cities, and the countryside was being destroyed. In particular, Liang blamed the new Western-style education, which was "educating people for another society" but inadequate to meet China's own needs.

In Liang's view, the new system actually contained the worst of both worlds. The defects of traditional education were still present, whereas its good points had been jettisoned and those of the West lost somewhere in between. The authority of the old educated class, argued Liang, had derived from its dual role as political leader and transmitter of moral standards. The new education ignored the old values, and intellectuals had become self-serving, luxury loving, and profit seeking as a result. They retained their privileged elite status without any sense of moral responsibility. In addition, he anticipated that Chinese society, like societies in the West, would soon divide into permanent hereditary classes since the new education was so costly that only the rich could afford it. Unlike Western intellectuals, on the other hand, their Chinese counterparts still generally aspired to become officials and retained the traditional Chinese scholar's disdain for manual labor. He concluded that the new education was serving only to alienate further the elite from the masses and the cities from the countryside."

– Suzanne Pepper, *China's Education Reform in the 1980's*

The ensuing cultural backlash of the 1920's against intellectuals gave a platform for the rise of political leader Mao Zedong – a voracious reader who developed his own ideologies, by now referred to as 'Maoism'. In addition to espousing rhetoric against elitist intellectuals, Mao experimented with a self-study university – an experiment which would be cut short by a local warlord[15].

As the government began to allocate more funds to the cause of education there ensued somewhat of a tug-a-war between political groups formed by peasants themselves and local education boards who were mostly comprised of return students or proponents of their ideologies. Peasant groups wanted traditional schools which conformed to their work schedule and other life-events which required classes that did not have definite start and end dates and a curriculum which was both practically useful to their every day lives and culturally aligned with their heritage. The local school boards on the other hand, wanted a modern standardized curriculum. The government decided to split the funds to both groups. Peasants then had their traditional schools in which curriculum was reverted to the ancient methods of relying mostly on rote memorization, and individuals could pause their studies as life sometimes requires (e.g. a birth or death in the family) then resume exactly where they had left off. Meanwhile the school boards ran by return student graduates created schools in which modern curriculum and organizational methods were adopted and students were expected to progress together towards a goal – a thing which of course required defining start and end dates.

A number of experiments in education were carried out in the 1920's, and some of them were promising, but ultimately they failed due to lack of political support. Towards the end of the 1920's the Guomindang party brought education under the control of the national government. Returned students then were able to monopolize bureaucratic positions in both government and education. With the 'regularization

---

[15]China in the 1920's was essentially ran by warlods since the revolution of 1911

drive' of 1942 schools who had less than thirty students enrolled and those who refused to or were simply not capable of meeting stipulated standards were forced to close and the rest were required to adopt a set of unified standards[18]. A theme which would prove recurrent to this day then began to take root – an emphasis of quality over quantity. County's were encouraged to pool their resources into a few 'keypoint' schools; prestigious schools that were to serve as models for the remaining schools. The majority of state funds went to keypoint schools which were usually in urban centers, and this had the effect of reinforcing a divide between peasant laboring classes and urban elites, hence the underlying dispute of 'quality vs. quantity'; urban elitist felt the quality and selectivity of their system ought to preclude equal opportunity for rural residents.

In 1949 the Guomindang government was replaced with the Chinese Communist Party (CCP) with Mao Zedong its chairman. The Peoples Republic of China (PRC) was established – what is today the largest country in the world. Among the first orders of business for Mao was to abolish the keypoint system and strip many wealthy nobles of their land and redistribute it to the poor. Wary of the repercussions of implementing too much reform all at once, Mao adopted a policy of gradual implementation of Soviet inspired agricultural reforms; cooperatives were formed and people were encouraged to join farming-associations. As for government officials, they were encouraged to 'go down to the people' by spending time working alongside peasants in order to bridge the gap between high-minded bureaucrats and the realities of those they governed.

Cognizant of the fact he was developing a reputation as an extremist against progressive academics Mao initially attempted to pursue and amicable middle ground;

> "In an attempt to be conscious of extremist ideology, Mao "strongly encouraged intellectuals to speak their mind, to point out the errors of party officials, and to "let a hundred flowers bloom and a hundred schools of though contend." He claimed that few contradictions in socialism could not be resolved with honest and blunt discourse. Soon intellectuals took him up on his offer and broke silence, "...as the intellectuals unleashed an outpouring of grievances against arrogant and ignorant functionaries. At the same time they raised basic questions about whether China should continue to draw so close to the Soviets, and whether the CCP should maintain a monopoly on political power. in essence, China's intellectuals in May 1957 tried to reclaim a position as loyal guardians of the proper moral framework for the political system. Once started, the momentum of criticism gathered stream, and local party officials formed themselves under increasingly severe attack. Workers, too, began to press economic grievances through strike actions and other organized activities."
>
> – Kenneth Lieberthal, *Governing China: From Revolution Through Reform*

The middle ground option having failed, Mao labeled intellectuals as 'rightists' and banished as many as 400,000 into penal camps or sent them to the countryside to engage in forced labor. The anti-intellectual rhetoric resumed. In Mao's mind, '"bourgeois ideas and the people who espoused them had to be changed. Otherwise, they might threaten the continuing existence of the revolution itself"[18], the two-class system would be restored, and class would become hereditary. He was essentially fighting an attitude which had

been ingrained in a populace for thousands of years; Confucian ideology had led to a culture in which familial lines were highly honored and specific, but national identity was not. Consequently, people were not readily mobilized to the idea of working together for a national cause or a cultural shift. According to Kenneth Liberthal, "This specificity of social obligation helps explain a paradox often observed by Westerners in China. A poor family living at bare subsistence level will take in any distant relative who shows up at their door needing help. The relative may live in the family's cramped quarters, share their food, and even find a modest job with their aid. This same family, though, would pass a starving beggar on their street every day and refuse to give him any money."

Mao embraced the idea of consciously creating struggle among people as a means to overcome passivity and change their ways. Passivity, was of course, still is a widely noted trait among intellectuals.

Private property was finally abolished in 1958 and the traditional standard marketing associations (SMA's) in china were amalgamated to form peoples communes. It was Mao's aim to industrialize rural society and level the scales between urban and rural workers. Manufacturing industries such as steel furnaces were implemented in the communes, and these endeavors would entail long hours for peasants who had been taken away from farm work thereby creating a shortage of harvesting man-power. In some ways however, they were successful at implementing a communal society; some went as far as to entertain the notion of giving up the idea of money altogether[19].

A number of organizational problems ensued from the policies implemented in the 'Great leap forward'. Distrustful of intellectuals, policies relied more on mobilization of the masses than they did on their advice. So too was it believed that the mobilization of the masses could substitute for importing foreign farm equipment. For the case of steel furnaces this all translated to peasants being encouraged to donate their personal metallic items to the steel furnace which resulted in steel of such low quality it could not be used for a number of vital purposes such as constructing farm machinery. There were also a number of mistakes made in farming which had been based on faulty assumption such as seeds of the same kind being planted together do not being able to compete with one another, deep-plowing leads to larger root systems, or that neglecting poorer land in favor of concentrating both manure and efforts on the most fertile land leads to a greater per-acre productivity in grain output. Mao had also adopted a policy of increasing grain exports – a thing which was somewhat in contradiction to his requisitioning of 30% of farmers produce under the pretense it was to be held in reserve for the case of a famine.

It turns out that famine was not long to follow. The fact that high export rates were maintained up to a time when the famine was already under way is perhaps explicable by the fact that Mao's quasi-fascist regime had, as in the case of Adolf Hitler, established a sort of brownie point political culture in which government officials were eager to prove their worth to those officials above them. Grain production figures were severely skewed – in some cases multiplied by a factor of ten – in an effort to report an unrealistically positive picture of how the policy implementations were playing out. The results were nothing short of the most deadly catastrophe in recorded history; lower estimates of the death toll from the famine which onset around 1959 say about thirty million people died, a few million of which were either suicides or a result of physical abuse by the CCP in so called 'public criticism sessions' in which members of the public and party members alike were encouraged to rebuke counter-revolutionaries.

> "As mass starvation set in, ever greater violence had to be inflicted in order to coerce
> malnourished people to labor in the fields. Victims were buried alive, thrown bound

into ponds, stripped naked and forced to labor in the middle of winter, doused in boiling water, forced to ingest excrement and urine, and subjected to mutilation (hair ripped out, noses and ears lopped off). In Guangdong, some cadres injected salt water into their victims with needles normally reserved for cattle."

<div align="right">– From Wikepedia, The Cultural Revolution</div>

Child cannibalism is also known to have occurred in some regions of China during this time.

Mao retreated to a peripheral role and passively accepted much of the rebuke which followed. From the sidelines he watched as his critics within the government responded by implementing the *danwei* system in which many urban residents were relocated to the countryside, their mobility was restricted, and they were tied to their occupation. A socially and economically stratified system of secluded and exploited rural society vs. a relatively privileged urban society which received the bulk of government subsidies seemed to be reinventing itself before Mao's eyes – its promoters operating on the presumption that the experiences of the cultural revolution was some kind of omen that their system was the 'right' one, and that it should be reinforced stronger than ever. They keypoint school system was systematized under Zhou Enlai who by that point had been planning for a few years to implement a 'two track' system of keypoint schools for urban elites and vocational schools for the rural poor, but he had not found the timing opportune until 1962 when the devastation of the cultural revolution's backfire created conditions which were ripe for educational reform[16]. The idea of 'quality over quantity' was reasserted and keypoint schools were granted the bulk of state funds. The level of inequity between schools at this time might tentatively be inferred from Jean Robinson's analysis of the distribution of funds between keypoint and rural schools in the 1980's,

"In China, the cost per urban child for education from kindergarten through lower secondary school averaged 6,900 yuan with an additional 6,000 – 7,000 yuan for a regular higher education program. The expenditure for the rural child presents a sharp contrast. The entire education, usually encompassing five years of primary schooling, but sometimes only three years, costs about 1,600 yuan."

<div align="right">– Jean Robinson, as quoted in [20]</div>

Mao became increasingly concerned with the 'revisionist' idea that the revolution could be undone and China could be reverted back to a two class system. He stepped out from the shadows and reasserted his authority with a revival of the cultural revolution. The keypoint system was abolished, not with the notion of restoring equality so much as abolishing labels of urban vs. rural and regular vs. irregular schooling (e.g. vocational schools – schools that train people specifically for a layman craft, would be considered irregular). From 1966-67 youths were radicalized by the notion that teachers were morally irresponsible people and students were encouraged to rebuke their teachers in criticism sessions; teachers were verbally and sometimes physically abused, in some cases they were locked in closets, and in others they were murdered outright. For better or worse, manual laborers were granted teaching positions.

While this abuse against teachers abated after 1967, the cultural revolution would continue until Mao's death in 1976.

---

[16]We will see in part V that catastrophe is a well known opportunity for educational reform.

The intellectual class wasted no time in re-asserting their agenda after Mao's passing. The keypoint system was revived and manual laborers expelled from education. Too much damage had been done to the 'quality vs. quantity' argument to completely abolish rural schools. Instead, as previously quoted, funds were largely redirected to keypoint schools. The national entrance examination (or Gaokao) was revived along with the danwei system which primarily restricted the mobility of rural peasants and ensured they received minimal support in the form of social security, medical care, guaranteed monthly salaries, and pensions[20, 18].

With the national entrance exam a prerequisite to college admission, improving the admission rate became the overarching goal of schools. For rural schools who had the disadvantaged to deal with, the primary way of improving the admission rate was to examine kids and classify them as 'hopeful' or 'hopeless' (or good vs. bad) and place them in classes accordingly. Teacher and school performance was linked to student performance, and in order to improve the schools admission rate, rather than improving education itself, the hopeless students were forced to repeat classes – a thing which it was known would cause many poor students who were already at a disadvantage in that their work and family obligations often took them away from study to drop out. Accordingly, teachers in poor schools took on a dejected attitude that they had become babysitters while others took to blatantly reporting misinformation to improve the numbers. Students who did not make it into college were not eligible for employment by the state and factories were prohibited from employing the illiterate. Those who gained admission were often jokingly referred to as 'dragons' and those who didn't as 'worms'[20].

Meanwhile, keypoint schools were not immune to corruption. As Jing Lin recounts,

> "...many government bureaucrats have back doors, that is, they can use their power to press schools to admit their children, and they can promise the school favorable considerations for funding and quotas of promotion in future....The author was once admitted to a county keypoint school by passing several tough exams. The class was originally planned for just twenty students, but when school began there were more than forty-five students. The additional twenty-five students were all back-door students."

> – Jing Lin, *Education in Post-Mao China*

One does get the drift that the thirty million (a lower estimate) people who perished as a result of the cultural revolution were hardly more than an opportunity for progressive reformers to reassert their will. The keypoint system is still in effect in China today, as is the national entrance exam (the Gaokao) which is notoriously stressful for students; every year suicides are linked to the Gaokao exam.

Conclusion

In hindsight, China's battle over education may be seen as one of traditionalism vs. modernism. In this tug-a-war one gets the impression that casualties were but an excuse to pull policy one way or the other.

As is often the case with educational reformers, an inch quickly becomes a mile; the need for technological advancement was exploited to create a cultural shift away from tradition and to solidify a system of inequality – goals which have questionable relevance to the original motivation of advancing technology and strengthening defense against the threat of colonialism. China makes clear that educational systems are capable of serving a national interest while simultaneously acting to the detriment of citizens.

So too does the case of China make clear that the modern teacher and the cultural transition which he or she represents is not always welcome. Russia is a country which had a strong traditional culture at the onset of the twentieth century; here too we find disdain towards intellectuals and progressive culture when they first emerged in the later parts of the nineteenth century. And we have seen that a similar trend occurred in Islamic history in the middle ages.

If the initial emergence of the modern intellectual teacher class is rarely taken to kindly – that teachers are instead perceived as morally irresponsible people –, then how do we explain the fact that at some point the same cultures which perpetuated abuses against teachers suddenly came to adopt the near opposite notion; that educators are the very progenitors of moral principles? Simple human nature provides one possible answer to this; as we will see in part V, deprived of experiences to which people might refer to a time when things were different, the very capacity for decision making is altered. We will also see that catastrophe is an opportunity for educational reform, and it clearly can be said that China experienced profound catastrophe from which educational reform emerged, and certainly such momentous events have an impact on the dispositions of people. Simple propaganda and the inherent indoctrinating effects of institutions is another explanation. Jin Ling describes how Chinese textbooks in the 1980's espoused the Marxists' philosophy that, "We young people have to nourish collective consciousness ... If it is necessary that we have to sacrifice personal interests, we should have the courage to give up all, including ourselves, to protect collective interests..." The textbook then presents a case of a worker whose son fell unconscious from a high-voltage shock. Rather than tending to his son, the worker continued to complete his work – a thing which resulted in the death of his son but which won the worker praise for placing duty above his own selfish wants.

Indoctrination can come via other institutions than just schools. In Russia for example, under the leadership of Pyotr Stolypin the government adopted in their quest to convert the 'backwards' peasantry to progressive habits an explicit policy of manipulating people via the methods which appealed to individual and group psychology in favor of force. The implementation of credit cooperatives had the affect of inculcating peasants with notions of individuality, progressiveness, and professionalism, and all this aided in shifting the attitude of a highly traditional populace towards the proliferation of schools which were another significant part of Stolypins reforms. In the words of Henry Wolff, a banking professional and scholar of the late nineteenth century,

> "One brief glance at co-operative banks grown up by independent efforts, as compared with others coddled with gifts, will suffice for our purpose. In the former we find co-operative spirit, unselfishness, enterprise, self-reliance, mutual helpfulness and "go" also natural growth from poverty to sufficiency, from sufficiency to wealth; and always solvency. In the latter, we discover neither self-reliance, nor sound finance, but on the contrary, trusting dependence on others, like that of an unweaned calf upon its mother cow, insatiable cupidity for "more," uncoupled with any sense of responsibility or realisation of duty... Rigorous insistence upon prompt payment

is another characteristic feature of our present system....The bank is to make people businesslike, to teach them to calculate, to make them conscientious...It has made uncultured people businesslike and conscientious."

Henry Wolff, *Peoples Bank: A Record of Social and Economic Success* (1905)[17]

In a transition to progressive culture one thus sees a demeaning and hostile attitude towards tradition, dependence on others is castigated while reliance on banks is held as some kind of advancement of the human race, and abstract notions of professionalism are promoted in parallel with the deterioration in a populace's ability to define what exactly is meant by the 'public good'. On what basis Wolff basis the claim that "unweaned" peasants have an "insatiable cupidity for "more,"" is unclear. In the case of Russia quite the opposite was the case. According to A. Chayanov who developed the concept of a 'peasant economy', traditional minded peasants worked only to attain sustenance rather than to create a surplus, i.e. they worked just enough to survive, but beyond this point their focus was primarily on social rather than financial capital[3]. But a transition from tradition to progressive culture certainly entails a noticeably shift in ideology and habits. As previously mentioned a traditional cutlure is typically defined as one in which habits are successfully transmitted to future generations. In contrast, a progressive culture such as the U.S. today is characterized by every shifting trends – attempts by future generations to contrast to that which came before them. Progressive cultures also have a tendency to be characterized by consumerism, in fact one might say consumerism *is* progressive culture in lieu of any actual definition of what 'progress' really is; more inventions; more production; more consumption; just more. Progressive cultures also have a strange tendency to coincide with hegemonic cultures, i.e. 'progress' is an acculturation and assimilation mechanism, one which uproots people from authentic and traditional roots.

Does a transition from traditional culture necessarily need to parallel a shift away from traditional curriculum? Can the agenda of advancing sciences and technology be accomplished without uprooting tradition? With so many personal agendas at play, there seems to be a lack of convincing evidence to support the notion that such a thing is not possible, but so too can it be said that the cultural conflict which plays just under the surface of educational institutions has been successful at stopping the accumulation of evidence which would demonstrate that such a thing *is* possible. And in the U.S. case saw that compulsory schooling served the purpose of creating a shared culture in order to achieve national stability, yet there were some promising alternatives to the traditional and standardized system which were shot down, and for reasons which remain somewhat obscure, but it cannot be said it was because they were incapable of serving the purpose of national stability as these alternatives were simply not given a chance to prove themselves in this regard.

We are then left to the conclusion that educational systems, when applied to a large percentage of a nations populace as a means of generating shared culture, progressive change, or some form of cooperative and stable governance is still a concept that is in its infancy – one which lacks evidence for alternative methods but which is not lacking at all in ulterior motives.

---

[17] Also see Wolff, Henry W. " An unconsidered Factor in the Economic Question-British and Foreign Banking." Economic Review, October, 1905

III. Guilds: Medieval and Modern

A guild is a group of individuals who secure specific rights from the government which allow them to explicitly or implicitly monopolize a trade. An example would be a brick-layer guild in the fifteenth century; while it might be said that many people could learn the skill of laying bricks given the opportunity, with the government stipulating that only the brick-layers guild may lay bricks in exchange for wages, few will ever develop the skill. In Europe guild systems were common by the twelfth century.

Governments often empowered guilds with monopolies because guilds at the time proved a useful means of taxing craftsman, regulating markets, and to support developing centralized governments in their attempts to gain independence from nobles. Up to about the sixteenth century much of Europe was still under the feudal system which gave rise to what is often referred to as the 'three orders'; peasant laborers (often serfs, but there were also free peasants), knights (of the noble class who were obliged to protect the peasants in exchange for their serfdom), and the church. The idea of a central government did not come into play until commerce and trade started to develop between towns beginning in the fourteenth century. Monarchy was of course the first form of centralized government to form, Hence guilds were at times seen as a useful tool for rulers to gain leverage over the disintegrating noble class as the feudal system began to deteriorate.

Guilds began proliferating en mass with the abolition of serfdom and the rise of commerce, hit a high point in the seventeenth and eighteenth centuries, then *most* guilds abruptly died off in the first half of the nineteenth as governments began to accept that they stood in the way of the development of commerce.

The first section to come will compare and contrast the functioning and purpose of the university systems today with guild systems of the middle ages, relying on both research and some of my own observations to make the comparisons with today's educational system. The second section to come will first describe the historical development of the idea of a professional within the medical field which is a good case which demonstrates the motives for professional licensing – specifically as it pertains to universities. Following this will be description of the historical development and modern role of the National Academies of Science of shaping curriculum. Finally will be discussed the guild powers of technical trades such as engineers and Physicists. Though not strictly related to the concept of a guild, this naturally feeds into the idea of the deterioration of a liberal education and some metaphysics.

European Guilds in the Middle Ages

Universities cannot rightfully be categorized as either socialist or capitalist organizations. They might be funded but they are not owned by governments, and they go to great lengths to avoid being assimilated into government so as to maintain institutional autonomy. In contrast to capitalist organizations who strive to maximize profits and do not typically put a ceiling on their growth, if universities maximize anything to do with profits it is the average earnings of institutions or of a profession (e.g. professors) rather than the individual earnings. In order to 'serve the public good' as states require of them, overtly capitalistic behaviors are avoided. Capitalist organizations typically aim to diversify in order to make themselves stand

out, and they maximize the efficiency with which they can produce a product. In contrast, universities are characterized by a want to secure stability and to avoid competing with one another in any fashion which can be honestly compared to free-market competition in which there is more than incentive – there is *need* to maximize the efficiency with which goods are produced and innovative means are embraced in order to achieve this. Though universities 'compete' for students, they only do so in their own artificially contrived fashion.

As we have seen the idea of a university was a byproduct of guild schools in the middle ages, but does this imply they still function as a guild system today? In the words of Elliot Krause whose research has focused on the last vestiges of guild systems which remain today,

> "Economic and political factors allowed the scholars' guild and the guild model of the university to survive while all the others fell. The early university was not an economic rival to the growth of capitalism, as were the craft guilds, and universities from the beginning came under local government sponsorship....
>
> ...The university and scholars' guilds held onto their power over membership, training, and workplace because early capitalism was not interested in it (there was no product that the capitalist wished to produce)..., the cultural prestige of knowledge itself helped keep the scholars' guild and the university alive while all other guilds failed."

> – Elliot Krause, *The Death of Guilds*

Like universities today, guilds in medieval Europe were not driven to maximize profit for the individual, rather their characteristic goal was to maximize the *average* income of their members, and also to secure stability of employment. And they went to great lengths to avoid competing with one another[42].

When and where central government was lacking, guilds had strong power and high honor was given to occupations involving brain-work which were called 'liberal' while those involving manual labor were called 'servile'. While some researchers might claim guilds protected peasants from the tyrannies of serfdom, they only did so when it served their own purpose or when they were obliged to. The guilds in Florence, Italy in the thirteenth century for example ruled unchecked and rather than liberating peasants from serfdom they simply reinforced it in a selective fashion; "On a lower tier again we find the washers, beaters, and carders of wool, the fullers and the soapboilers, who formed the lowest grade of the labouring classes...[being supervised by officials appointed by the guild] subjects of the guilds were absolutely forbidden, to combine, to act in concert, to assemble together, or even to emigrate. They were the victims of an almost perfect system of slavery."[43]

A number of authors have defended the role of guilds such as claiming that they level the playing field between rich and poor; they reduce information asymmetries between producers and consumers; they were a force of democracy because they at times stood up to central governments; they were private order institutions that allowed markets to function; etc.. In a recently published six hundred page long book *The European Guilds: an Economic Analysis* Sheilagh Ogilvic, basing each of her arguments on thousands of historical observations, lays to rest these assumptions and a number of others which have been used by academics in an attempt to depict guilds as something which have not contradicted the notion of 'public

good' they claim to serve. This was in fact, a common phrase among guilds even in the middle ages, and it is explicitly stipulated into university bylaws today.

Ogilvics' analysis covers European guilds from the eleventh to the middle of the nineteenth century – the time at which the majority of guilds died off. Somewhat peculiarly, she makes almost no mention of the scholars guilds. However, when one compares the defensive and even confrontational tone Ogilvic writes with and the emphatic ways in which she dispels fallacious notions about guilds which have proliferated in the literature to the works of academics who have tried to look favorably on guilds by being selective in their choice of evidence, uncritical in their analysis, and lofty in their tone, it becomes clear there is some unspoken battle is being waged in the literature – one in which the true target has gone unnamed. Though Ogilvic seems to make a conscious effort to dodge the issue of the scholars guild, one gets the drift that by so thoroughly undermining the arguments in favor of guild systems in general during the middle ages her unspoken motivation is accomplished. It would make little sense to say that an author could be so motivated because they were angry at cloth-making guilds in the 1500's, and outside of academia one would be hard pressed to say there is any other guild which operates on a national scale today for which an academic historian could be so motivated against (law and medical professions are the other primary quasi-guild systems which remain today).

Science – social or physical – is not just about finding evidence, but it is also about withstanding scrutiny. It is curious to note how the latter part so often gets ignored in many works whose focus is the study of modern education, or any historic thing it might be compared to. Instead authors at times seem to dig through a pile of evidence to find whatever supports their own preconceived notions. Ogilvic's work is of a different nature; it is entirely critical rather than constructive in its methods; she is not out to develop a theory or paint a picture; she is just out to shoot down much of the propoganda which to date has gone unchecked, and researchers have given her much to shoot down.

In either case, Ogilvic's arguments prove directly relevant to university systems today.

- **"Closure and multiplex links"**: Guilds rely on being able to delineate between members and non-members as well as networking with one another face-to-face. The ability to identify who is and who is not a member obviously is a requisite for any organization who wishes to exclude others from some activity. The reasons behind requiring face-to-face meetings had nothing to do with work, rather these were required so that members could identify with one another, reinforce social norms, punish members who did not abide by guild ethics, and so that the guild would have the capacity to organize in a collective fashion. For these reasons and more, attendance for guild members was often made compulsory[21].

  As a physics graduate student I often found myself wondering what the point of seminars were. For every student they were required for the first two years, yet it could be said that even those who held a PhD could hardly follow the material being presented, unless perhaps they happened to specialize in the particular field of the researcher invited to talk, but even then it can be said that digesting all of the complex information presented in these seminars within a mere hour is rarely a realistic goal. It is just the nature of physics that it takes a significant amount of time and energy to grasp things, and never have I heard someone proclaim that such talks instilled in them any idea of what research they'd like to pursue. On the contrary, these talks just seemed to turn people off like a switch. Once there was a seminar with an interesting title '*The Physics of Music*' which drew a crowd from non-physics majors. Half-way through a good number of them left after realizing the speaker was dry and went into the

most reductionist details of the acoustic waves generated in a violin; if the purpose of seminars were to inspire people then it can be said they've done the exact opposite.

What seminars do (beyond adding $300 - -\$1,000$ per student into the schools coffers) is they give the scholars guild a chance to get to know one another, to identify misfits, and to re-assert professional norms among one another.

- **Making citizenship a prerequisite to membership**: Guilds feared the effects of an influx of foreign labor as well as the import of foreign goods. Accordingly, guilds would either exclude non-citizens and foreign goods alike from their local markets, or they would charge higher fees to non-citizens while barring certifications gained from different towns as being considered legitimate.

One comparison for this to the fact that universities charge out of state tuition. The reason for this is legitimate; state residents who pay taxes fund schools. But this along does not explain why universities cost so much and therefore are so heavily reliant on tax and tuition dollars in the first place.

A more appropriate comparison would then be the idea of competition, or the avoidance thereof. In addition to the fact that states typically avoid funding universities which exist too close to one another, as already mentioned, universities only compete according to their own artificially contrived definition. Students are not granted the consumer leverage they enjoy in most every other sector of the economy for which it can be said companies have strong incentive to maximize the efficiency with which they produce goods and to embrace innovative means of doing so.

- **Innovations**: Medieval guilds would often seek to stifle innovation, but only that which threatened their trade. They did so in many instances by using pragmatism and the collective 'wisdom of the crowd' of their guild as a justification for why funds should be redirected,

> "Guild opposition to innovation, the argument concludes, actually benefited the economy by saving it from allocating resources to projects that were bound to fail....
>
> "...Did a guild know better than an entrepreneur?....Portraying guilds as authoritative repositories of knowledge taps into the trope of the "wisdom of the crowds", the idea that the collective opinion of a group may be superior to that of a single expert. Recent research, however, shows that the pooling of knowledge through 'crowd wisdom' is likely to give rise to good outcomes only if certain quite restrictive conditions are met; the crowd must not define the question, the quality of the answer must be easy to evaluate, the crowd must be highly diverse, and the collective information system must depend heavily on individual evaluations by crowd members. In situation involving innovation and creativity, however, those conditions are seldom fulfilled, and the wisdom of crowds instead gives rise to group think, band-wagon effects, and information cascades."
>
> – Sheilagh Ogilvic, *European Guilds: An Economic Analysis*

In the last decades we've seen grocer's turned to automated self-help machines, book markets redefined by Amazon, and soon the electronic menu trending in Japan will likely affect the role of waiters[22]. Yet we are told that 'nothing can replace a teacher' or that zoom meetings for higher education are somehow inferior to in-person. But in the decades of schooling I've had I could never even follow an in-person lecture, but the same is not true for zoom lectures – there simply is no comparison between the two for someone such as myself.

Its interesting to note that arguments against going electronic or [god forbid] the automation of education often have the eerie ring of populism.

First off, *higher* education is not a democracy and its purpose is not to secure national stability – such conditioning was the purpose of *elementary* schools. One persons preference, while worth respecting when possible, does not negate the plain fact that it may not work for many others. Since the 1960's congress has embraced the view that higher education is primarily a *private* investment and any national or cultural purpose it may serve beyond this is secondary[23]. Yet education today has come to be treated as a tug-a-war in which we all are either pulled into doing things this way or that, and so it seems to have become common that almost by default people often respond to the proposition of educational innovation by stating their preference as though higher education is some kind of elementary school democratic majority class vote in lieu of the institutions willingness to provide consumer options. Rarely does anyone seem to justify why such a personal preference should be forced onto others.

Secondly, with regard to idea of automation of higher education, it is worth pointing out that *education is already automated*; there is nothing a teacher presents which has not in most cases been presented elsewhere with the same content and in the same order. Some teachers in fact resent their lack of leeway to construct their own curriculum. As previously discussed in part II there was a time in the evolution of education in America where it well could have gone the other way to a more 'natural learning' or project based method.

- **Lobbying goals**: The purpose of guilds lobbying activity in the middle ages was very similar to educational lobbying today, which is to say that its focus was maximizing the *average* income of guild members, to secure stability of employment for members, to exclude outsiders, and to stifle innovations which threaten their existence[42]. Medieval guilds would spend 33-100% of their revenue on lobbying to maintain their privileges[21]. The wide fluctuation gap in this percentage represents the fluctuation of what Ogilvic refers to as 'cartel rents' (the payments to government in exchange for guild privileges) which would be low in times of low competition and high in times of high competition.

  It is often said in teachers defense that 'they don't make much', but it can be said that the *average* value of their salaries has been maximized to the greatest extent they can manage. So too has the security of employment of professors been substantiated through the idea of tenure – a privilege without comparison in private sectors. In addition to these things, for the case of the professor we must account for the fact that the specific form of capital has changed; both autonomy and competence – the opportunity to continuously delve deeper into ones area of interest under the dictation of nothing other than ones own whim. These things are in themselves a form of currency, without the proper accountancy of which the enigma of why one would choose the occupation of a professor doesn't quite add up. As such privileges become more of a rarity in today's work-force, these critical factors of intrinsic motivation are like a drug, and it is only right they be considered a form of capital in themselves.

  The amount of educational lobbying today has dropped since congress stopped giving out earmarked funds (funds reserved for a specific purpose) to universities in 2010. Still, colleges like mine spend around a million dollars every year on lobbying, and this constitutes much less than 33% of their revenue. However, it can be said that the *need* for lobbying has by now been significantly reduced – this last year's response to Covid possibly being an exception.

- **Controlling access via dropouts, temporal and sequential control, and lump-of-labor fallacy**: As is the case today, guilds stood a better chance of maintaining their privileges if they could claim

to grant open access to anyone, but they also had significant leeway to manipulate the entry criteria so that people would fail or dropout. So much leeway did they have in some instances that guild mastership became de facto hereditary, and this caused significant tension between them and what had become a permanent class of journeymen with no prospect for upward mobility[43]. But grades were not at all immune to subjective bias of masters; as one Swiss survey noted about a law requiring individuals to join a guild in order to practice a craft in 1829 , "a gross contradiction to freedom of occupations: for freedom of admission can be hindered in many ways and does not provide sufficient security against arbitrariness"[21]

Guilds exercised what I will refer to as *temporal and sequential control*; they would implement both minimum and maximum lengths of time for apprenticeship, the place in which it could occur, the times of day at which apprenticeship could be performed, and in what fashion apprentices were to go about their tasks[42]. Apprentices would at times complain that a master was intentionally withholding opportunity for them to gain certain skills or extending their training much longer than necessary. Guilds justified much of this manipulation with the idea that there was only so much work to go around (this is often referred to as the 'lump-of-labor fallacy' on the grounds that it is false), hence the trade needed to be confined to a select few and apprentices needed to be held outside of the job market longer than is necessary to complete the training.

guilds in the middle ages were more concerned with people wanting in than those wanting out

As discussed in part I, grades do not just reflect hard work and ability, they also are a measure of how willing and able one is to 'sacrifice' their life to organize themselves around the schedule and location of a university, and in general they are a measure of ones tolerance for extrinsically motivated activity – a thing which results when one is subjected to the dictations of another and therefore deprived of autonomy.

Temporal control is exercised by universities today in that they extend time to graduation beyond what is necessary by adding a number of generalized an frivolous courses to a degree and they set restrictive limits on credit transfer – a thing which in the case of graduate studies can have the implication of requiring one to essentially re-due an entire masters degree. This is because prolonging the time to specialization and in general frustrating people until they drop out *is* a primary function of the degree system that we have today.

As for guilds being more concerned with those who want in than those who want out, in most every other sector of our economy; housing, transportation, tourism, entertainment, retail, etc. the producer is very concerned about both dropout rates as well as increasing the amount of product sold. With colleges this is true only to the extent that they don't fall below the national average, i.e. they are judged off a metric that is a result of their own cooperation and standardization of the system.

- **Life-long occupation**: Guilds intentionally narrowed the focus of training so as to limit the competition. When shifts in the market occurred and a master found himself without occupation he was not allowed to simply switch to another occupation[42]. As it turns out, when guild restrictions were disposed of abruptly rather than gradually, a huge influx of workers to specialized guild trades was observed[21].

Even though we all know that many people end up working in a field that has little to do with what they studied, today's educational system does endeavor to restrict the number of workers who are able to *specialize* in more than one thing – and they have been fairly successful at this. In general, making specialization in just one thing a life-long affair is accomplished via the maximization of the time to specialization in school and by the fact that universities limit the gradations of degrees.

47

The time to specialization is maximized in part by fragmenting education; constantly interrupting ones progression on a given topic by setting the individual onto another task after only a superficial level of knowledge has been gained. Precisely at the point at which *real* concentrated learning is about to begin is the point at which classes usually turn to the next topic. Before long the class is over and one finds themselves (especially in physics) either starting back at the same point or at the least doing a healthy amount of repeat 'so that we're all on the same page'. By the time one makes it to the PhD level of course one is well aware of the significant pressure to publish when operating at that level so they're liable to adopt more pragmatic projects and strategies than in earlier days. Hence, one goes from being frustrated as they are withheld from pursuing most every instinctive lead to its natural completion (or more realistically, until it evolves naturally into another lead) to just forgetting about it.

Maximization of the time to specialization is also achieved by the linearization of curriculum, i.e. the notion that "education should proceed from the simple to the complex, and the concrete to the abstract."[18] This allows for a subject to be segmented into introductory, intermediary, and advanced forms of knowledge. Presumably this is to ensure competence, but any science is inevitably going to require one to constantly return to the basics in order to understand with competence an advanced topic, hence it is a matter of organization rather than competency which is really being discussed. Conveniently, and despite the fact that some of the most effective learning is to be had by taking on advanced topics which currently eludes oneself and embracing whatever abstract methods are necessary to get there, the linearization of education has proven a most useful tool for extending the amount of time students spend trapped in the introductory phases.

The imposition of definite start and end dates to courses prohibit people from working at their own pace. The over generalization of certifications – the limiting of gradations to that of an associates, bachelors, or masters degree, none of which even allow for specialization to occur [at least not in physical sciences] –, together with the placing of restrictions on the transferability of credits between institutions allows the time to specialization to be appreciably lengthened, the cost involved to be inflated, and the sacrifice involved to go beyond reason.

Then there is the PhD – the point at which point, after having consigned his or her body and soul to the institution, one finally is permitted to specialize in a technical field. Here, at least in the U.S.[19], we find a compulsion to join a group, which is not only ironic being as the purported claim of a PhD is to teach people to think independently, but it empowers the technical guilds with an added layer of selectivity – one which is not based on merit so much as compatibility of interests and personalities. But before one enters the PhD level in a technical discipline, there is the comprehensive examination to get by. After so many years of studying the same things from the same starting point every year, and in the most fragmented fashion which the institution could manage without exposing themselves as frauds, one is expected to spend the better part of a summer preparing, often without any specific funding to support the endeavor, to do it all over again. And in many institutions one cannot break these exams into particular subjects let alone decide when to take them.

There are obviously a significant number of barriers to reaching the point at which today's educational system allows one to reach the point of specialization in technical disciplines which have the added advantage [from a guilds perspective] of complexity. In technical fields the honest sharing of methodology is typically avoided in classrooms, and this has a discouraging effect and triggers an appreciable dropout rate in the first two years of study for many contemplating a technical discipline

---

[18]See section II.IV

[19]Britain's PhD system is different. See policy recommendations in part V.

but yet who maybe have not mastered the methodology needed to succeed in such disciplines[20].

Taken together, all of this grants educators, students, and professionals who are in support the system remaining in its current form appreciable leeway to attribute the fact that so few make it to the specialized PhD level to a lack of some kind of merit of the individual.

- **Correct market failures and information asymmetries**: It has been argued that guilds played a critical role in allowing markets to function – that markets would essentially collapse without the 'supportive' role of guilds. Bo Gustafsson for instance, has argued they play a critical role in price-setting according to quality thereby transforming trade from something like a gamble into an informed purchase,

  > "If the buyer-consumer is confronted with a number of products sold at identical supply prices about which he or she knows that they vary in quality, he or she is uncertain about what products ought to be purchased. This has as a consequence that some buyers refrain from buying, as a purchase may lead to a – in some cases considerable – loss in exchange. Under any circumstance, the consequence of this would be a fall in prices on the market and in the extreme case, when all buyers are strongly averse to taking risks, that the market may cease to exist. Hence, the incomes of the producers decrease or disappear."

Guilds would go so far as to burn or destroy products for their 'non-rightness', and they did so in the name of protecting the consumer. Gustafsson then acknowledges the weakness of this argument,

  > "The hypothesis says: the medieval crafts had problems of marketing on account of lack of information on the part of the consumers about the specific quality of the products and guild organizations were founded to safeguard a satisfactory quality. From this follows a range of possible implications, e.g, that crafts which were not organized in guilds could not assert themselves; that crafts which neglected quality control had greater problems of marketing than those which did not neglect it; that the sales of a craft became greater the more thorough the quality control was (given that the control costs were not too high) etc. Unfortunately, there are no investigations nor probably any evidence which could verify or contradict such implications. "

  > – Bo Gustafsson, *The rise and economic behaviour of medieval craft guilds*
  > *an economic-theoretical interpretation*

Ogilvic presents more flaws with this argument; many guilds didn't even have quality standards and in some instances they put restrictions on products which hadn't even been inspected for certification. Moreover, guilds played ignorant to the fact that gradations of certifications (i.e. certifying different levels of quality) is entirely possible. In general it is clear that the intent of guilds was to prohibit people's choice to buy lower quality. There are a number of examples in the middle ages and today which allude to the fact that people buy cheaper when they are allowed to do so, even though the product may be of a lower quality, and merchants would often seek to bypass guild certification when possible. Far from collapsing, markets in the middle thrived under a system of gradations when they were allowed[21].

---

[20]It was my own experience that no amount of work will yield satisfactory results without methodology, but this is a thing I had to piece together myself as no one discusses this in colleges (least not in classrooms). About a year and a half in I finally got it down and began doing well after that

By limiting consumer options via the restrictions of gradations in quality and content, guilds were able to reduce commerce to an artificially contrived market which served their ends, i.e. guilds shaped more than just job markets; they shaped consumer markets as well. Educational systems today of course parallel this behavior by the restriction of degrees to very general ones such as bachelors, masters, and PhD.

A professor once jokingly asked the class I was in if we had our 'Fourier transform license' and a number of other 'licenses' which were of a significantly more specific degree than a college degree – Fourier transform is in fact a small part of just one course, but were specialization allowed at an earlier date it might constitute a larger portion of a course. In fact we'd likely find the concept of Fourier transform relates to a number of advanced topics, many of which someone learning Fourier theory probably didn't appreciate at first, and any number of which might spark interest in a whole new discipline and plant the seeds to a thought which radically alters their academic and professional trajectory. Progressing in this fashion is more natural; one thing leads to another thing for which the learner probably had no idea in the beginning that is where they'd end up. This is precisely the kind of freedom of thought professors and research scientists ask for when requesting grants to support their endeavors.

It is my hopes that one day we will accept that our feeble attempts to sub categorize topics under some more general course is not just profoundly restrictive to the individual, but has hindered the progress of science in general. To *manipulate* ones very thinking process is nothing short of mind control; to be duped into paying for such a thing just to participate in job markets and thereby gain access to resources to which no worldly entity save mother nature herself can claim to have made (e.g. land and food) is nothing short of a new form of slavery.

It is not immediately apparent to non-scientists why governments might give millions – sometimes billions – of dollars to a group of physicists who tell them they have no idea what they are going to find when they build the Large Hadron Collider or when they send a hundred mile long interferometer to space[21]. The principle of science is that to learn new things you must try new things; indeed, as discussed in part IV, this 'random-walk' behavior is a very natural method to both learning processes and basic physical phenomena within our universe alike. As discussed in section V.III it also seems to play an appreciable role in the decision making process of humans.

How can a system of degrees which endeavors to mold people to its three basic gradations claim to allow for self-determined decision making, to facilitate innovation, or to provide people with the flexibility, knowledge, and adaptable skills which the information economy requires and which they paid to receive?

- **Dishonorable occupations**: Guilds blocked entry to 'unfree' people – those 'tainted' by serfdom or even those who were known to have ancestors who were serfs or slaves. Women were barred as a result of their personal sex lives. Convicts and even just 'morally offensive' acts could be grounds for being excluded from a guild. Of course the definition of 'moral' varied widely over time and place. By the sixteenth century guilds began to offer certificates of good conduct.

Today drug offenders and those with misdemeanors or felonies are ineligible to receive federal aid to go to college. Denying offenders the opportunity to seek suitable, gainful, challenging, and satisfying work of course does little to address anything at a causal level let alone reform them. Instead it may just provide incentive for such a person to devolve further into a life of crime. Considering that extrinsically motivated jobs that are low in their requisite skill and craftsmanship and which do not require a degree are becoming more common as technology creates a divide between the degree

---

[21]This is what China is currently working on since the detection of the gravitational wave by LIGO in 2014.

holders and non-degree holders, this is an issue that will only be exacerbated if the educational system does not evolve.

In my own experience, a life-long friend of mine was once involved in a long-term relationship with a man who owned a number of 'oriental-spas' in which girls would essentially prostitute themselves. This woman came to inherit one of these spas and she fixed it up to be the nicest of such places in town, and ran a fairly transparent operation; never was a woman 'trafficked' against her will, rather girls went there willingly and because they needed to pay the bills and lacked an alternative means of doing so.

Prostitution is of course illegal, and so the morality of the issue must necessarily be addressed before I tell this woman's story as it relates to the university as conceptions of morality become legal sanctions which ultimately inhibit a community from addressing issues at a root cause.

In 1914 anthropologist Bronislaw Malinowski published the seminal work *Sex and Repression in Savage Society* in which he studied matrilineal tribes (tribes in which duties, loyalties, rights of inheritance, and traditions revolve around the mother instead of the father) of Melanasia who went by the tribal name *Trobriand*. The Trobriand allowed their children to run around naked and with little to no adult supervision. Now Sigmund Freud had developed the idea of 'anal eroticism' in which he observed that affluent European kids seemed to be more obsessed with 'indecent' things than did children of a poorer peasant class, and that to what extent this fetish did develop in peasant children it did so at a noticeably later date compared to affluent children. Freud's conclusion was that the poor children were less repressed than wealthy children, hence had less to speculate about. Seemingly as a consequence of a simple lack of curiosity, there arose in the peasant children a lesser desire to explore 'indecent' things. In line with this trend, what Malinowski found with the Trobriand children who were entirely uninhibited was a near total disinterest in indecent things. He also found that an adult taking a perverse interest in children was virtually unheard of[24].

In the Bhagavad Gita (an influential text in India) there is a passage in which Krishna tells Arjuna, "he who abstains from the sense, yet whose mind still dwells on them is a pretender", which is to say that perversion is the act of *speculation* more than it is the physical act itself. As one stripper once put it to me, "strip clubs are for broken people, and women are healers".

In the modern western world a high value is placed on abstaining from the acts of indecent things, but judging from our actions, our movies, video games, strip clubs, brothels,music, and television shows it is fair to say that 'indecent' things frequently have our minds attention. And it is strange to note that while it is perfectly legal to lie and cheat on those we profess loyalty to, a comparably honest business transaction entered by two consenting adults is illegal. While it is reasonable to say that our focus ought to be on both how to help women pay their bills without resorting to selling their bodies, and in the meantime – until we accomplish that lofty goal – how we might provide such women a transparent and safe environment where they can earn their living, the fact is that we've instead chosen to see prosecution as a means of forcing the issue underground, and this is a thing which hardly can be said to have the girls interest at heart as it only makes their working conditions more dangerous.

Anyway, the woman in question was running what was essentially a brothel. One day a casino was set up nearby and they incited the police to raid her business and every other business like it. These businesses had existed for years – decades even – without any such raids occurring or much of a fuss being raised. It was only when some new casino had an issue with them that the police decided to crack down on them, and this is a thing I'd later observe to be somewhat of a trend in my days of advocacy in the city of Portland, OR in which, for example, a long time strip club was targeted at the behest of a local neighborhood association who had been looking forward to a new nearby development project to begin. They made no attempt to deny this when I voiced my accusation against

them; saying that it was just another attempt at gentrification being discussed than anything to do with morality. It is remarkable how adept such groups can be at selling their own cultural agenda as some moral one, at weaponizing the government as a means to spare them the inconvenience of getting to know those they vindictively slander as criminals, and how little understanding or compassion they have for those whose business, culture, or employment they target.

Now the woman in question had been attending a nearby university for the last four years, she was one semester away from graduation, and had a 4.0 GPA. But when the newspapers caught wind of the raids and dragged her name through the paper, and the university in turn saw this, they immediately expelled her and rejected her appeal. Her credits in the specialized program she was in were non-transferable, and so that was the end of her attempt to graduate. Though she would move on from this to buy a good house, get married, and have a son, to this day the issue follows her and interferes with her employment. For other women the alternative is not always as bright. Forcing the issue underground leads to women getting into situations they didn't initially intend to sign up for.

Coincidentally, black markets flourished when guilds were at their peak as they excluded people from legal means of making a living[21].

The role, origins, and functions of guilds remains a disputed concept among historians today. In part this is explained by the fact that much of the recorded evidence which remains of them is based on the statutes of their organizations which tell what their rules were, but they don't always tell historians much about what they actually did[42]. This would explain for example how researchers might come to different conclusions about why masters were often restricted from working at night; one author came to the conclusion that this was one of the many ways in which guilds endeavored to restrict output so as to avoid competing with one another, while another researcher might conclude that it was to maintain quality (because candle-light didn't make for good craftsmanship).

However, even proponents of guild systems acknowledge that when push came to shove guilds did what was best for guilds. Guilds were not just tools for creating 'functioning markets', but more specifically *"The guild organization became an instrument for creating functioning markets for the craftsmen[22]"*[42], i.e. guilds created markets that served the interest of guilds. And guilds were very efficient at making it abundantly clear whether there was enough work to go around, and in turn causing those who drew the short stick to migrate elsewhere.

It is however, probably more appropriate to avoid confusing a guildsman with a craftsman. A craftsman believes in his craft, and lets it guide him, steadily avoiding that which would act to undermine its quality. In contrast, a guildsman, though he may specialize, lets the interest of his guild work to pick apart the efficacy, the quality, the innovation, and the freedom involved in his work – if not for himself than for the discipline as a whole. Left unchecked by governments, the guildsmen grossly inflates his own importance and monetary value – going so far as to create occupations that would not even exist were it not for the governments granting of special privileges.

---

[22]By 'craftsmen' the author is referring to a member of a craft-guild.

Modern Day Guilds: The Rise of the Professional

History of Medical Professions

> "...professionalism represents a form of occupational control rather than a quality that inheres in some kinds of work...The acceptance of professional authority was, in a sense, America's cultural revolution, and like other revolutions, it threw new groups to power – in this case, power over experience as much as power over work and institutions. "
>
> – Paul Starr, *The Transformation of American Medicine*

Though the guild system largely died off by 1870, the rise of the concept of a professional wasn't long to follow[23], and although guilds never really took root in America, it wasn't uncommon for individuals to do their apprenticeship in Europe only to return to the states with notions of creating a class apart from the layman laborer; the 'status profession'. In no profession was this trend more apparent than in the medical profession.

At the beginning on the nineteenth century Medical training relied on the apprentice system as did a number of crafts. Being a physician was far from the prestigious job it is today; doctors had to travel to their patients houses, they had to be their own bill collectors (they didn't always collect), and they lacked any means of limiting entry to the medical field so as to limit competition, hence they could not demand the same relative level of fees that doctors do today. Indians had been renowned among colonists for their longevity and prowess with natural remedies, and a number of other healers who employed natural methods were common, and the rise of empiricism and accusations of quackery which naturally accompany unregulated scientific advancement endeavored to undermine the legitimacy of these practitioners.

Medical schools which granted formal licenses were established by those seeking to transform medicine into an exclusive and prestigious field of professionals. Such schools proliferated after the war of 1812, but at the time they were not associated with universities, and even if they had been it was not until just after the onset of the twentieth century that states enabled medical boards to require a practitioner of medicine have a diploma, pass a rigorous examination, and complete a residency[25]. Accordingly, those aspiring to create a prestigious and selective professional class of medical practitioners found themselves in unregulated competition with one another and with 'quacks'. This resulted in petty feuds between 'orthodox' physicians vs. homeopaths throughout the nineteenth century. There was also intense rivals between medical schools, in some instances even devolving into armed conflict. Physicians were accordinly frustrated in their goals to elevate their profession,

> "Medical schools were originally conceived by physicians who wanted to raise the American profession to the dignity and privileges that medical men had in Europe. But they had no means of preventing other doctors elsewhere in the country from

---

[23]Bridging the gap between the fall of guilds and the rise of the professions in Europe is one notable gap in the analysis. A suggested book on this topic is *The Rise of Professional Society: England Since 1880*, by Harold Perkin, 1989.

creating medical schools for their own advantage, too. The result was unrestrained competition in which the length of the term kept at a minimal level, requirements were sacrificed, and student fees were driven down. In seeking to raise their status individually, physicians undermined it collectively

– Paul Starr, *The Transformation of American Medicine*

Though the professional elite were certainly anxious to differentiate themselves from other practitioners in the field, their practice was relatively assured and rarely short of business. It was instead aspiring professionals at the fringes of the elite status – insecure recent graduates – who felt a compulsion to make formal degrees a prerequisite to practicing medicine. Despite the economic reality that these young doctors might be barely able to keep a roof over their head, they felt a need to create prestige within the profession so as to create a perceived gap between doctors and patients. In D.W. Cathell's *The Physician Himself*, 1882, physicians were encouraged to adopt an attitude of indifference, to avoid being overly social with patients, and to never appear in public unwashed and unkempt as it would "show weakness, diminish your prestige, detract from your dignity, and lessen you in public esteem, by forcing on everybody the conclusion that you are, after all, but an ordinary person".

Whether at the behest of such young and insecure physicians or for some other reason, The American Medical Association (AMA) was established by physicians in 1847 with the goal of standardizing degree requirements, and to make them them as well as membership in the AMA a necessary prerequisite to medical practice so as to diminish the number of practitioners within the field. As the vice-president of the AMA put it in 1887, "the noblest of them all, [has been for too long] left to a competition that is intolerable to an educated man"[44]. As an additional layer of siphoning off applicants the AMA suggested in a draft law in 1887 that the state board also examine applicants before they ever began studies, "... If it be said that the requirement compelling every person to study medicine to spend the time and money necessary to demonstrate to a State Board of Examiners his fitness for entering upon the important field of professional study, would deter many from making the attempt, the obvious answer is, so much the better for all the parties interested..."[44].

Any political movement seeking to affect large-scale fundamental change is bound to bring colliding interests and undisciplined behavior alike to a head, and therefore must find a means to unify, and if necessary to separate itself from such politically counter-productive wastes of energies. In response to sectarian squabbles which had sabotaged some political efforts of the AMA as well as quacks who promoted 'heroic medicine'[24], in the first two decades of its existence the AMA adopted a code of ethics in an attempt to differentiate itself from the 'riff-raff'. Part of this code of ethics was a concept similar to 'lead agency' which is a popular tactic today among educational lobbyists[25] in which a lobbying organization always present a unified front to the public; regardless of disagreements, one person, group, or agency takes the lead and chooses a position to present to the public or to policy makers so as to maintain a united front.

The AMA's first success was in the state of Alabama which in 1873 granted legal control to the voluntary state medical boards affiliated with the AMA to regulate the practice of medicine. Florida was the first state to implement as a prerequisite to entering the medical field both a diploma and a passing of a medical examination, the implementation of which was somewhat telling,

---

[24]Imaginative and supercilious quick fix remedies
[25]See section V.II

"Curiously, the Florida law provided that district examiners, that is, those appointed to examine prospective orthodox practitioners, must themselves have been graduates of "some medical college recognized by the American Medical Association." Inasmuch as the AMA did not begin to classify and recognize medical colleges until 1906, the Florida law seems to have anticipated the activities of the Association in the area of medical education by some seventeen years!"

– Ronald Hamowy, *The Early Development of Medical Licensing Laws in the United States 1875-1900*

Other states soon followed by requiring practitioners have a diploma, but what they came to realize before long is that simply requiring a diploma wasn't enough to stop aspiring practitioners. Ronald Hamowy gives as an example of an Indian medicine man who, wearing war-paint and feathers, went to a local notary and had them sign for him a certificate saying that he was a certified medicine man [who presumably had underwent the traditional apprenticeship of his people]. However beneficial the methods of such practitioners might have been, the AMA could not afford such 'quackery'. Accordingly, they began lobbying for the power to close down illegitimate schools and bar naturalistic practitioners. Their aim was to reduce the number of schools significantly, enhance the curriculum, and add both a rigorous examination and three year residency requirement as a necessary prerequisite to being able to practice[25, 44].

In 1904 the AMA established the Council on Medical Education, two years later this committee employed Abraham Flexner to go around to hundreds of medical colleges throughout the nation and survey them. The *Flexner report* (1910) was renowned for its uninhibited harsh critiques. The number of proprietary schools had already been on the decline as a result of the tireless efforts of the AMA, but the straw which broke the camels back was the changes brought about by the Flexner Report, the result of which, in addition to the merging of medical colleges with universities, " imposed increasingly large opportunity costs on prospective physicians. The academic year, time almost wholly lost for earnings, went from four to eight or nine months, and the total period of training from two years, possibly without high school, to four then five, and eventually more than eight years beyond high school. Under the emerging system, young doctors could scarcely hope to be making a living on their own before age thirty"[25]

The cost of medical schools soared as well. The dramatically increased amount of time and money to get a medical license caused many students attending proprietary colleges to drop out – a thing which proprietary colleges could ill afford. Added costs of laboratories, libraries, and clinical facilities which were now being required was enough to put them under. The ability of medical societies to offer lower insurance rates to members than that of non-members added to the compulsion for physicians to join the gang[25].

As hospitals took root in the early twentieth century, and as roads continued to develop, hospitals increasingly became the primary means of receiving care. Centralization of services multiplied the number of patients a doctor could see and this alone was incentive enough for doctors to flock to cities at a faster rate than customers did. The helped shift the focus of medicine away from the patient and towards the growing centralized bureaucracy of the hospital and the acceptance of ones professional peers. Whereas the traditional eighteenth century doctor might win a good reputation by his or her conviviality with patients and quality of service to them, the newly emerging professional was more reliant on his standing among fellow professionals and his or her qualifications. The aim of the new professional physician class was two-fold; to limit competition within the field and to maximize autonomy. Essentially, they wanted the best of both worlds.

"Doctors did not simply want to maintain a "monopoly of competence." They wanted to be able to use hospitals and laboratories without being their employees, and consequently, they needed technical assistants who would be sufficiently competent to carry on in their absence and yet not threaten their authority. The solution to this problem – how to maintain autonomy, yet not lose control – had three elements: first, the use of doctors in training (interns and residents) in the operation of hospitals; second, the encouragement of a kind of responsible professionalism among the higher ranks of subordinate health workers; and third, the employment in these auxiliary roles of women who, though professionally trained, would not challenge the authority or economic position of the doctor....

...The non-physician specialists were subordinated to the doctors' authority, usually permitted neither to practice independently of the doctor nor to interpret the results of tests or X-rays directly to patients. Nurses and technicians had no chance of working their way into positions as physicians."

– Paul Starr, *The Transformation of American Medicine*

World War II catalyzed the next fundamental shift in medicine – specialization, the idea of which went hand in hand with the governments newly found prioritization of funding defense research. By specializing physicians could manage to avoid competing with one another, assuming of course the general practitioner didn't overlap with the territory of the specialist, and this created a tension between the two types of practitioners. Both however, were increasingly subject to the whims of administration which constituted the downside to gaining access to hospital facilities. As research became more of a guiding theme, university medical schools came to be referred to as 'medical empires' for the fact they were becoming centralized hubs of control among hospitals. The rise of the clinical professor constituted yet another feud within medicine as they were granted positions as chiefs of medical services within hospitals – positions previously filled by practicing physicians[25].

The Lazzaroni

Today the National Association of Science (NAS) is increasingly authoritative in defining curriculum across the nation. While they acknowledged in their report *National Science Education Standards* (1996) that "A hallmark of American education is local control...", their standards are designed to define the framework within which such states can operate thereby allowing "...everyone to move in the same direction."[45] As Universities become more reliant on federal funds, these standards increasingly have authoritative weight. The report is written with an authoritative tone, "The routines, rewards, structures, and expectations of the system must endorse the vision of science teaching portrayed by the Standards" and proclaims to base itself on the feedback of "teachers, scientists, science educators, and many others interested in sciences". The authors do not make any attempt to specify who 'many others' are exactly. Being as they are based in Washing D.C. and provide no accessible means for the public to participate in decision making processes beyond the occasional workshop which does not allow for public testimony, it does not seem that parents or students are not a significant part of the decision making process.

Like most things to do with educational policy, the NAS report is seemingly written with the intentions of solidifying the positions and power of educators more than empowering consumers of education such as

students and parents. NAS is not an official part of the government though; they are a voluntary association of professional scientists who the government turns to for advice in scientific matters. Accordingly, they exercise 'soft power' which relies on influence rather than stipulated powers. Within the literature on education it is a well known tactic among international organizations (or IO's) that , "IO's exercise power by organizing three types of apparently "apolitical" and "technical" actions" 1) Classifying the world by stratifying countries according to, for instance, their level of performance... 2) Fixing meanings in the social world by, for instance, defining what educational quality or educational progress means... 3) Articulating and disseminating new norms, principles, and beliefs by, for instance, spreading what they consider "good" or "best" practices"[26].

The intention of the *Standards* report seems to be the formalization of a national authority in education. In fact when one goes back to the beginnings of the the NAS, it turns out this goal is in line with the original intentions of its founders Louise Agassiz, Alexander Bache, Joseph Henry, Benjamin Peirce, and a number of other scientists who together formed a group who referred to themselves as the 'Lazzaroni' – a self-mocking name inspired by a group of homeless Italian beggars and day-laborers who hung around a hospital in Naples by the name of St Lazarus. Professing that the government should be fearful of quackery which was widely prevalent at the time of the groups formation in 1848, the Lazzaroni sought to establish themselves as an advisory group on all scientific matters including government patronage towards science (of which Bache believed to be essential to the advancement of science – hence the begging analogy) and to establish "a great university, the members of which should be naturally self-elected ... a cult exclusively composed of men who had been selected and elected by each other, because of the preeminence which each was known to have in his specialty."[27] But it was more than a near religious want to protect and to nurture science which guided members of the Lazzaroni; influenced by the system of patronage and professional prestige that had been established in Europe, they sought to emulate this system in America, "They had for a long time yearned for an organization of a select group of leading scientists, to which would be prestigious to be elected ...They hoped, too, that an organization would bring about a more intimate relationship between science and the government, so that federal funds would be granted for the support of research, just as royalty and aristocracy supported European academics."[27]

Despite Joseph Henry's objections, Agassiz and Peirce met with Massachusetts Senator Henry William who in turn quickly wrote up a bill which would make the National Academy of Sciences the official advisers to the federal government,

> "...Bypassing Henry, who had already made known his reluctance to have a bill for such an academy presented to Congress in the belief that such a resolution would be "opposed as something at variance with our democratic institutions,"... During the last hours of the session, when the Senate was immersed in the rush of last-minute business before its adjournment, Wilson introduced his bill; without examining it or debating its provisions, both the Senate and House approved it, and President Lincoln signed it. Although hailed as a great step forward in government recognition of the role of science in American civilization, the National Academy of Sciences at the time created enormous ill-feelings among scientists, whether or not they were named as incorporators. Later, Agassiz admitted that they had "started on the wrong track."

> – Lillian B. Miller, *The Lazzaroni*

Louise Agassiz was at the time somewhat of a superstar for his work on classifying fish. His legacy was tarnished however by the fact that he opposed Darwin's theory by rejecting the idea that Europeans descended from a common ancestor as did Africans – insisting that there was some omitted section in the biblical chapter Genesis, one which would show that light-skinned Europeans resulted as an intervention by god.

Initially dismissed by their peers as an "illiberal clique", the Lazzaronis' aim of centralizing scientific activity via the creation of a national university failed; the U.S. was too large and [in those days at least] too distrustful of European aristocratic models of private control and prestige. On the other hand, their want to create an advisory body for all matters scientific – a cult exclusively composed of men who had been selected by each other because of the "preeminence which each was known to have in his or her specialty" has come to fruition as this is an apt description of the National Academy of Sciences today.

Guild Powers of Engineers

In his study *The Death of Guilds: Professions, States, and the Advance of Capitalism*[28] Elliot Krause explored the guild powers of different professions (primarily lawyers, physicians, professors, and engineers). As the title suggests, his intention is to demonstrate that the guild powers of these professions are steadily decreasing. Most of the book ends up revolving around professors who are probably the most blatant example of a modern guild system. With respect to engineers, Krause asserts that they typically have low guild powers. Increasingly, he argues, engineers are deliberately withheld from management level positions in favor of reserving these positions for liberal arts graduates. In Britain for example, polytechnic institutes where engineers are trained are considered inferior to universities in which students receive a liberal education,

> "...there is the prevailing class bias in Britain. Because a minority of engineers come from middle – or upper – class homes, most lack the social polish and vocabulary that comes from a university background. Many British companies have separate dining facilities for the various ranks of employees, for example, and engineers usually are prohibited from attending the management dining hall. This kind of social snobbery, of course, may be one of the reasons why British industry is so far behind: those who don't know production manage it, and those who do are cut off from management."
>
> – Elliot Krause, *The Death of Guilds: Professions, States, and the Advance of Capitalism*

Over my own years of graduate school spent studying physics, I slowly [too slowly] began to grasp that science curriculum and the rigid degree system have indeed become more than a means to prepare people for jobs which require mathematically complex and counter-intuitive tasks, but they are also a means of relegating those with a knack for scrutiny to reductionist positions that are wholly removed from human affairs. On their part, many aspiring scientists embrace this scheme. It is interesting to compare however, the drawn out and strained – almost crushed – look on some professors faces to that of the students' who are close to star-struck at the idea of having heir labor confined to an atomic scale event.

To this however, I can relate. As someone with a need to channel my compulsive energies into a craft – physical or mental –, being underpaid and overworked was preferable to 'systemic soldiering' and the cult of personality which is even overtaking manual trades. Like most physicists I held a conviction that a person ought to have more than just gainful work, but work which is suitable and satisfying – something which might occupy them for life; a craft. It is this kind of compulsion and idealism which typically characterizes those in physics, math, and engineering.

Engineers of course are probably the most worldly of the three in the sense that there is a well-defined private sector for their trade. Engineers are are also somewhat of an exception among technical disciplines in that formal specialized certifications (e.g. a PhD) are not usually needed to get into the field. Neither do engineers typically aim for academic level positions. As noted by Krause, the job stability of engineering fields is the trade-off for being relegated to a state of permanent sub-management positions which is increasingly a trend within the profession. But the valuation of job stability over high risk gains *was* a common trait of guilds. So too was the want to have the satisfaction of specialization in a skillful trade as engineers enjoy – even if it comes at the expense of upward mobility. The difference between craft guilds of medieval times and engineers today however is reductionism; being confined to one small part of a task rather than getting to see it through from start to finish – something which takes much of the satisfaction and craftsmanship out of the process, and this is to say nothing of the intuitiveness and ingenuity and engineer might be allowed to embrace when going about his or her work. Many may come to regret being confined to a reductionist task, and it is at this point that that the engineers low level of 'guild powers' to elevate themselves to management level positions where they get to partake in more than just one small part of a process are lacking.

The Guild Powers of Pysicists

Physics is the the most extreme form of reductionism, and the discipline has a tendency to draw those who find satisfaction in concentrating their mental energies into one very specific thing which is wholly disconnected from the 'real-world' of day-to-day affairs. Facing an epidemic of extrinsically motivate and unskilled jobs, many aspiring physicists are motivated to do whatever is necessary to find a research position either in the private or academic sector. In one seminar a graduate who went onto the private sector was invited and he made it a point to mention to people that "there *are* cool jobs in the private sector" – as though he knew we physics nerds were wary of the private sector.

The unfortunate truth is that todays job market gives technical minded people (those with a strong desire to focus their mental energies towards the accomplishment of a complex task) strong incentive to specialize, and today's educational system is so rigidly organized that, even were one to find motive for it, they are hard pressed to specialize without forsaking a liberal education and foregoing a diverse set of skills which might help them escape the trappings of reductionism later in their careers. Comparable to how guilds of the middle ages derived a large portion of their powers from segregating craftsmen into life-long specialized trades, in addition to aforementioned factors to do with the higher educational system, physicists today maintain guild powers by forsaking liberal educational and professional opportunities and by endorsing an educational system with well-defined delineations between disciplines. The trade-off to physicists' obtainment of guild powers in this fashion is that by taking on the role of describing physical reality they forfeit their ability to shape it.

> "You will find more in forests than in books. Woods and stones will teach you more than any master."

> – Peter Abelard, as quoted in [9]

As mentioned in part II, Educational philosophy in Europe underwent a paradigm shift in the seventeenth century according to the principle that "education should proceed from the simple to the complex, and the concrete to the abstract." and also that "... the study of real things should precede the study of words about things." Here we find the beginnings of today's curriculum which is linear in its progression and 'objective' in its aim. These shifts are obviously in line with the scientific principles more than that of the humanities, and so it is, being as we live in an age of science, that we've continued to witness this trend in recent decades. In *The Closing of the American Mind: How Higher Education Has Failed Democracy and Impoverished the Souls of Today's Youth*, 1967, Allen Bloom argued against the alarming trend of allowing science to devalue a liberal education,

> "...colleges do not have enough to teach their students, not enough to justify keeping them four years, probably not even three years. If the focus is careers, there is hardly one specialty, outside the hardest of the hard natural sciences, which requires more than two years of preparatory training prior to graduate studies. The rest is just wasted time ... The so-called knowledge explosion and increasing specialization have not filled up the college years but emptied them... These great universities—which can split the atom, find cures for the most terrible diseases, conduct surveys of whole populations and produce massive dictionaries of lost languages—cannot generate a modest program of general education for undergraduate students. This is a parable for our times. "

> – Allen Bloom, *Closing the American Mind*

On the students part, they do much to forfeit the humanities before they even appreciate the true nature of these subjects let alone their power. The Navajo Indians knew plainly that words *shape* reality, they don't just describe it; "In the Navajo view of the world, language is not a mirror of reality; reality is a mirror of language."[26]. But as a liberal education is increasingly devalued, graduates ability to articulate themselves and engage in meaningful discussions which shape their realities rather than awaiting for experts to descend from above to define them likewise atrophies.

The dismissal of the humanities is especially apparent within graduates of technical fields, e.g. math, physics, engineering, chemistry, etc. Problem solving gives one a deep sense of competence which is one of the primary elements in the development of intrinsic motivation[33]. Accordingly, as in the case of a professor, it becomes like a drug, and the university the drug-house. By enabling the addictive tendencies of compulsive technical minded people, and by inflating their ego by patting them on the back at every turn

---

[26]See Pratt, Christina. An Encyclopedia of Shamanism. New York: Rosen Pub. Group, 2007.

with artificial rewards such as good grades along the way, universities have done graduates a great disservice – manipulated their decision making process even[27]. Philosophy, history, language, and political science possess a much greater capacity to shape the direction of society than do reductionist ideals of science. The likes of Socrates and Aristotle held a tremendous influence over shaping the western world. The thoughts of Edmund Burke and David Hume helped shape the government we abide by today. The belief that science can in some way substitute for the atrophication of social intelligence and wisdom among populations which it has caused is more than dumbfounding – it is dangerous.

At the risk of contradicting myself, neither is this to say that Universities would do well to *impose* a general curriculum.

Jean-Jacques Rousseau (1712-1778) had the idea that education of any academic kind should not be imposed on children. Under his philosophy, a child ought to be allowed to grow up collecting *life* experiences more than academic experience. When the child hits an unspecified stage of maturity and/ or inclination, then academic schooling should begin.

There is a world of difference between reading books to get an idea and reading books so as to aid oneself in explaining an idea which has already grown within them. The former is to endeavor to be something other than who you truly are, while the latter only aids the individual in articulating to others ideas born of self-discovery. Reading books just to get an idea, especially if it comes at the expense of life experience, runs the risk of stifling innovative and motivating ideas before they have a chance to grow roots in their native environment. In contrast, reading books as an aid to *explain* ideas which have already taken root within the individual only aids the individual in articulating themselves and adapting their ideas to to those of others. Saplings don't thrive under the shade of full grown trees.

It is only when one has gained some amount of life experience and has accumulated a natural curiosity to explain him or herself to others that the time is ripe for a liberal education to ensue. There is little point to reading history for example, if you don't have a thing which you hope to relate it to in the present. And it is no coincidence that many prominent leaders – especially those who wish to implement significant change – have been voracious readers of history. While reductionists might rightfully pride themselves on having helped create technology, it is only the specific ways in which it is actually implemented which transforms society, and to this end philosophy has done more than any other discipline to affect the world we experience today. It is then curious to note that physics was commonly classified as natural philosophy until sometime in the second half of the twentieth century.

To be sure, and as Rosseau notes, there are relatively few ideas that one comes up with which are truly a result of one's own experiences. But to have even one of these ideas successfully take root and to grow unhindered is to have a unique base from which all other existing ideas can be related to ones own unique *Westaalchung* (or world-view). The imposition of structure before one has established their own world-view not only deprives individuals of their opportunity to develop their own ideas, but it can instill in them the notion that they are not capable of doing so. For all but scientific forms of literacy it can be said today's generations are actually appreciably less well read than people in the nineteenth century[14].

---

[27]See section V.III.

The Observer Based Reality

To relate the devaluing a liberal education to reductionist science curriculum, it is helpful to briefly expound upon the well known [among scientists] differences between math and physics. Whereas mathematics grants itself freedom to make postulates (assumptions) upon which arguments can be constructed, physics does not grant such concession. Mathematics basis itself on human logic, while physics bases itself on human observation. As a result physics does not have such a thing as proofs; they simply don't exist, least not at the most fundamental level. There is no single thing in the entirety of the physical world to which we humans may point to and claim with objective certainty, "this is the fundamental truth to the universe", and there probably never will be. Consequently, physics operates off of a system of proposition followed by rigorous deduction; proposition (not an assumption that a thing is true, rather a proposal to try some idea on intuitive grounds) followed by a rigorous round of proof by disproof; creatively imagine some scenario(s) then shoot everything down and accept that whatever remains standing is as close as we've come to the truth at the moment, i.e. it is a process of elimination.

Mathematics might be subjective in the sense that it ultimately bases itself on human assumption (And its worth noting that human observation is no less prone to fallacy), but the freedom to make assumptions is a very powerful thing in shaping human societies. Moreover, the distinction between subjective and objective (and consequently between math and physics) is an illusory one beyond *convincing* people there is some fundamental difference. One can spend a lifetime searching in vein for a single thing in this physical universe which is truly objective at the most fundamental level. This is essentially what quantum theory is based on; as a byproduct of the 'uncertainty principle' no observation is truly independent; the observer and the observed cannot *actually* be separated. It is no coincidence that mathematicians readily find employment in numerous private sector jobs while this is a thing one trained in physics has a harder time selling his or her skills in. Businesses like statistical and other mathematical models. While the physicists might retreat to a dark corner and scrutinize the weaknesses of the model for the fact they don't represent what physical reality currently is, the mathematician (and I'd lump the engineer in here as well) gets behind the business men as they *make* it a physical reality.

A physics instructor[28] once almost defensively lectured the class on how physics describes *real* [physical] things but mathematics does not. Being as many instructors such as this have hardly if ever ventured outside of universities at any point in their careers, many seem to go through their entire careers without fully appreciating the capacity for words to shape reality – even thoughts. But words which have little to do with science have done much to shape the very theories which characterize science today. Words shape the curriculum and the institution which today keeps students so busy during the prime years of their brains life (20-30 years old according to neurological research) with digesting then regurgitated centuries old material that they have little time or opportunity to explore their own intuitive inclinations. Is it any wonder that the rate of fundamental breakthroughs in physics has essentially flat lined since the 1930's?

The observer based reality is even more readily apparent at regularly occurring local, state, and national meetings which develop policies that govern or at the very least influence peoples daily working lives. Digging through a pile of evidence to find what supports ones view, in conjunction with savvy political skills, can go a long way to influence policy in ones direction. Hence the terminology 'observer based reality'; by selectively directing the observations of the individual, alternative explanations and therefore the alternative realities which result from them are likewise controlled. Here of course 'observation' might

---

[28]I no longer call them teachers

be mental or physical; derived from a book or from real life experience.

One professor I had in quantum theory once shook his moppy and strung out head of hair in an effort to emphasize his frustration, "It's all wrong – all of it. We know this. It's only a matter of how long until we prove it." But so long as our educational system constrains our observations we probably won't prove much. By 'prove' I really just mean change to another wrong theory – a new world outlook.

To alter the world view of people was for millennia the role of shamans of which either came under persecution or were ridiculed the world over beginning in the nineteenth century – a time in which much of the world adopted the philosophy that words describe real things rather than giving shape to them. What the twenty-first century brought us more than just advanced tools was opportunism of those among scientists who believe the reductionist powers of intellect and science can do much more than merely overcome the damage these things have caused; they believe the tools themselves have the capacity to alter the human race, not by changing human nature, restoring an age of social intelligence, or living sustainably, but primarily by empowering one small sect among us while either converting the rest to their small minded reductionist ways or weeding them out. This sect within the sciences has become adept at proliferating their own ideology by reaffirming the scientific educational curriculum in its current form which creates the *illusion* of objectivity; that to avoid developing ideology is to be objective, and to be objective is to be scientific. But it is not possible to lack ideology; everyone embrace some kind of system of thought, and if there is exception to this it certainly is not those who stand by a well-defined educational system and who have been shaped by it. To pre-eminent scientific thinkers like Benjamin Gould science was a means in itself, and scientists a thing deserving of special protection by society[27].

The problem with the ideology of objectivity is the observer based reality; that our thoughts and motives – our ideology – will inevitably influence our thinking, guide our research, and eventually shape our theories.

In the movie *Interstellar* (2014) there comes a point near the end of the movie in which the main character – an engineer and astronautical pilot by the name of Cooper – and his robot M.A.R.S. get trapped in a black hole which brings Cooper into a fifth dimensional space in which he is able to go back in time and reach out to his daughter. The robot, thinking extraterrestrial multidimensional beings had constructed the space and brought them to it, tries to discourage Cooper from his attempts to transmit data to his daughter about the black-hole in hopes of enabling her to crack the theory of gravity and in so doing save the human race on earth by allowing themselves to simply float away from it, but Cooper has a revelation; *we* constructed the multi-dimensional reality of the black hole just as we did our own bias conceptions of gravity to begin with,

> "M.A.R.S. : *They didn't bring us here to change the past.*
>
> Cooper : *Say that again.*
>
> M.A.R.S. : *They didn't' bring us here to change the past.*
>
> Cooper : *They didn't bring us here at all...don't you get it M.A.R.S.? We brought our-selves here. We're here to communicate with the three dimensional world.* We're the bridge...*my connection with Murph [Coopers daughter]; it is quantifiable....Don't you get it M.A.R.S.? They are not beings – they're us.*"

> – *Interstellar* (2014)

By "We're the bridge" Cooper is referring to the idea which earth scientists had been contemplating in hopes of saving the human race, namely that only gravity can traverse the dimensions of time and space. Nobel laureate in Physics Kip Thorne was the an executive producer for the movie, so I'd probably not be the first to say that Physics as we know it leaves wide open the door for such quantum strangeness. What's really interesting about the film is that by the year 2067 – just over fifty years past the movies date of release – virtually everything in the world had changed *but* the educational system. Coopers son is denied entry to the university and classified as a life-long farmer by the age of 15 for scoring a few C's and High school teachers were still playing an authoritative role in deciding what "propaganda" to deliberately put interject into text-books. Conveniently, it is a hand-full of scientists who use science to save a portion of the human race from the very problems that science had caused in the first place. While the fate of the poor laboring farmers left behind on planet earth is left unsaid, the conclusion is obvious; the "world's best kept secret" [a large space-station] probably couldn't fit them all. But we know those who do survive go on to live floating in space in a highly scientifically advanced society.

All of this has the ring of a power play by the aforementioned sect within the sciences. As discussed by Allen Bloom in his seminal work *Closing the American Mind* (1967), the novel *Gilliver's Travels* has a similar theme to it,

> "Laputa is a flying island ruled by natural scientists. It is, of course, a parody of the British Royal Society...In this strange new land Gulliver finds a theoretical preoccupation abstracted from primary human concerns, one whose beginning point was not the human dimension, but which ends up altering it...The only studies are astronomy and music, and the world is reduced to these two sciences. The men have no contact with ordinary sense experiences. This is what permits them to remain content with their science. Communication with others outside their circle is unnecessary. Rather than making their mathematics follow the natural shapes of things, they change things so as to fit their mathematics...
>
> ...He also thinks the scientists have a sense of special right to manipulate politics. The Laputians' political power rests on the new science. The Flying Island is built on the principles of physics founded by Gilbert and Newton. Applied science can open new roads to political power"
>
> – Allen Bloom, *Closing the American Mind*

To some scientists, education isn't about much more than advancement of anything but a personal and political agenda; institutions to such as these are seen as tools for the weak of mind, body, and spirit to overcome the strong. One may question the inclusion of 'mind' in this, but we must acknowledge that the portions of the brain which account for the reductionists forms of reasoning which is increasingly guiding societies today is likely of a more recent development than the ancient portions which granted us instinct, intuitiveness, social intelligence, and cooperation – all qualities of which got us through four billion years of evolution. The articulated reductionist intellect is in fact a small minded thing in some critical ways. I.Q. exams mean little when applied to the very species which created these tests. Anyone could pass any number of exams which they had the freedom to write, but it wouldn't mean they are one inch closer to outsmarting Darwinism. As for the academicians concept of cooperation, this has little discernible distinction from the idea of sacrifice; individuals bend and mutilate their life to conform to the institution, but because it holds an open door to assimilating those who are properly obedient it is called 'cooperation'.

Though by these arguments it might be said that there is no fundamental difference between physics and math – between the objective and the subjective –, and that the distinction is really just a matter of personal philosophy, nevertheless, physics programs typically insist on a clear dividing line between math and physics curriculum, some professors going so far as to mock mathematical "toy models". Why maintain such an illusory division between such intimately related disciplines? Admittedly, as was found with guild systems, the evidence presented may be used to support different explanations, so it will only be pointed out that maintaining a strict delineation between disciplines, however illusory such a distinction might be, is conveniently in line with upholding division of labor, maintaining a system in which time to completion of degrees can be controlled and maximized, and confining expertise to one field in which a person is presumably going to spend their entire life pursuing. That is to say, it is about in line with what European guilds used to do.

Conclusion

"Social Cognitive Theory (Bandura, 2002), very like Neutralization Theory (Sykes & Matza, 1957) describes eight strategies for reducing moral conflicts. Moral justification, advantageous comparison and euphemistic labeling refer to the cognitive reconstruction of a harmful behavior into a good one, which serves a worthy purpose, by comparing it against more inhumane and harmful ones, or by giving it a sanitized label (e.g. this is business), respectively. Displacement of responsibility allows personal responsibility to be viewed as a result of societal or authority pressures, (e.g. I was only following orders). When the harm is shared with others e.g. a group, diffusion of responsibility obscures personal responsibility. Blaming the victim or circumstances also serves to obscure personal responsibility. By disregarding or distorting the consequences of a harmful behavior, guilt or shame is reduced which eliminates self-condemnation. And dehumanization, allows victims to be stripped of their human qualities and be viewed as subhuman objects devoid of feelings. We already know that youth will set aside their moral standards if by doing so they will be accepted by a chosen group (Emler & Reicher, 1995). As such, it should be possible to use social cognitive processes such as moral disengagement to help explain the process of how youth disengage from the informal social controls they have learned in favor of the rewards gang membership offers. "

— Emma Alleyne and Jane Louise Wood, *Gang Membership: The Psychological Evidence*

The authors in the above quote could have just as well been describing students in a university setting, some of whom intuitively and from an early date seem to pick up on the fact that such institutions are bulwark's against the 'dog-eat-dog' world of capitalism, and that by joining this powerful group they might be spared the need to face it as individuals. Of course we all join groups of some kind as a means to an ends – it has been this way for the human species for millions of years. Where Universities differ in this regard is that they are neither entirely private nor entirely public; a guild picks and chooses aspects of both according to whatever serves its purpose. Accordingly, they are spared the inconvenience of maximizing the efficiency of their product according to consumer preference in a competitive market.

Similar to youths who join gangs, it is common to find in academic who profess a deep sense of belonging to academic institutions, and it is through such people that notions such as 'Higher education generates positive externalities' – e.g. the generation of social capital, protecting society from the dangers of misinformation, mitigating the exploitation of capitalism, reduce information asymmetries, etc. – are popularized. But such arguments necessarily have to dance their way around the plain fact that educational institutions themselves are also capable of generating negative externalities. It's all a matter of who's perspective a matter is viewed from.

Listening to the academic gang-banger who finds an inexplicable sense of comfort and security in University settings, one could easily get the impression that, despite all of their education, it is their genuine belief that institutionalizing people in the most costly, indoctrinating, and inefficient way is not just the best way, but the *only* way they could think of to generate social capital. Conveniently, such 'arguments' have the capacity to overlook that the social capital generated by institutions is for many *someone els's* idea of social capital. Academic institutions are flaunted as the guardians of human knowledge while the question of whether these institutions have done more to hold the advancement of knowledge hostage than they've done to facilitate its advancement – a thing which sometimes entails removing oneself from the equation – have been swept under the rug. In a similar fashion, educators redefine the concept of 'sacrifice' to be one which revolves around the institution rather than knowledge while subtly sweeping the fact that there is a difference between the two under the rug. As is consistent with this new line of reasoning germinating in the mind of the academic gang-banger, the cure for capitalism is apparently to deprive people of consumer options so that 'dog-eat-dog' competition simply cannot occur. Either they are cunningly deceitful or truly are wholly oblivious to the fact that the information that is *truly* educational (e.g. academic, career, and life advice) is in fact distributed in a very bias fashion in universities who have significant leeway to do so because this kind of knowledge is not what has been transformed into a commodity, rather it is the standardized knowledge which is already printed in books, i.e. the knowledge we don't actually need a teacher to get, which is paid for. Least of all do they care to admit that university success is highly correlated to upbringing[29] and is equally a measure of ones willingness to obey as it is of hard work and ability. They state their lofty theories and their personal preference with little attempts to justify why other people should be deprived of alternative means of pursuing the same opportunities (to specialize – particularly in technical crafts) they enjoy in the protective bubbles of universities. And such theories are not difficult to find – it is in fact somewhat impressive how the most 'objective' among us can manage to dig through a pile of evidence to find what suits their agenda while ignoring that which does not.

When entering a graduate program one is commonly informed their anxieties are explained by 'impostor syndrome', but this is a thing that will be overcome as the institution aims to be inclusive; its guiding mission one of cooperation. The more cooperation, the less our collective reliance on governing bodies is the line of thought espoused by pre-eminent thinkers in the philosophy of education such as John Dewey. Yet when it comes to the point that people have to relocate their lives away from their home and family and indebt themselves to an institution whose primary cost is the salary of teachers it becomes clear that is not really 'cooperation' so much as a very amicable form of strong-arming and a very welcoming and inclusive policy of assimilation which is being promoted today.

I recall one high school friend who got weeded out of the higher educational system at an early date. He told me he was frustrated with algebra and asked me for help, but at the time I myself was just beginning and hadn't mastered the methodology, hence all I could do is attempt to solve the problem for him rather

---

[29]numerous studies demonstrate there is a strong correlation between academic achievement and upbringing

than share any methodology with him. I've seen a number of such people get weeded out of the educational system at a very early date. The genius of the system is that, by refusing to foster an open and honest conversation to do with methodology, by defining definite start and stop dates and religiously imposing time limits, and by depriving individuals of intrinsic motivation via the strangulation of all three factors of it[30] such a system does a remarkable job of convincing those who don't know better that *they* are the problem. Being denied opportunity for productive and satisfying craftsmanship, how many people resort to degenerate habits of crime or self-destruction? In the words of William Ewart Gladstone, "greater calamities are inflicted on mankind by intemperance than by the three great historical scourges, — war, pestilence, and famine."

The genius of the system is that, by refusing to foster an open and honest conversation to do with methodology, by defining definite start and stop dates and religiously imposing time limits, and by depriving individuals of intrinisic motivation via restricting autonomy and by strangulating relatedness (e.g. requiring they leave their natural environment and people in order to assimilate into another crowd of 'professionals' in training), such a system does a remarkable job of convincing those who don't know better *they* are the problem.

While researching this paper I for the first time came down with a life-threatening condition[31]. After numerous visits to the clinic it became clear that my condition simply transcended the very general and somewhat rudimentary level of knowledge and technologies which the clinic had to offer. Morever, the clinic at times seemed to be more concerned about scheduling visits than offering diagnosis. After well over a dozen visits to either the clinic or the E.R. room I could not recall one visit in which a physician had spent more than ten – in most cases no more than five – minutes with me. Having obtained a reference to see a specialist, I was informed the wait time was on the order of two to three months. A week before my appointment the secretary of the doctor I'd scheduled with called me up and informed me he'd gone on vacation so it would be another month before I could have the diagnostic procedure. When I finally did get to see him, neither before nor after the procedure did he spend more than two minutes with me. He had little feedback beyond that he didn't find anything (yet his report mentioned some abnormalities he didn't bother explaining to me) and no advice beyond that I refer to my general care practitioner.

This is the result of the professionalization of the medical profession. Without an understanding of the history and motive of the practice of licensing it is natural today to presume that competition within specialized fields and consumer leverage alike are so low because practicing specialized medicine requires an extremely high degree of competency. While in some cases this is certainly true, for my case it can probably be said that it didn't take someone with a decade or more of schooling to perform a basic endoscopy or to shove a probe up my rear end. In the one ambulance ride I took in all of this I found myself talking to a paramedic who was studying to get into a more specialized role in hospitals, but so while working was very difficult he claimed. How many competent and hard-working people such as this have been excluded from the opportunity to specialize?

To the co-operative academic gang-banger, the more people who get caught up in these nets of frustration the better – it only reinforces the illusion that education is primarily a measure of meritocracy.

---

[30] Autonomy, relatedness, and competence

[31] To this day no one has offered me even the beginnings of a diagnosis, but I've reason to believe it to be systemic mastocytosis. All I know is I cannot drink coffee, alcohol, or chocolate without some part of my intestines swelling up in addition to some very concerning nerve and brain symptoms. All of this is likely a result of a decade of drinking 40-60 oz. of coffee a day.

Though they may know how broken the system is, it is in the nature of a guild system that those who successfully assimilate into it have incentive to reinforce its boundaries rather than having an unbiased conversation about it. Instead they become adept at forming groups with like-minded people who then project their preference as though education were a democratic election; *I* prefer the traditional class structure, in person is more effective [an unfounded assertion], etc.. But *higher* education is not, or at least shouldn't be, a matter of democracy; it is a private investment, one which people have to pay for. Yet we all know educational policy has a tendency to be all-or-nothing; you wouldn't poke a hole at the bottom of a gallon of water and expect 90% to stay in just because the other 10% decided to leave. Accordingly, academics tend to become populist bullies; projecting what is more than likely a minority opinion to be that of the majority, they capitalize on the fact that many without a degree simply haven't gained sufficient experience within the system to allow them to articulate an intelligible opinion on the matter.

There are of course a number of enduring qualities which tend to characterize those who don't allow the educational guild system to dictate their lives; some of the most obvious of which are the valuing of their social roots over the want to obtain qualifications, the ability to generate social capital in more genuine and efficient ways than do universities, a keener insight to social problems at the most causal level, creativity, etc.. Similar to how the majority of communication is non-verbal, the sheer amount of information one acquires through simple life-experience dwarfs that which we spend decades attempting to acquire via books and to express through the articulated intellect – a relatively new function of the human brain. During a brief stint at the University of Reno I had a neuroscience professor tell me that research today is showing that physical exercise has much more to do with neural development than does studying books. It is then curious to ponder that all of our conceptions of intelligence today may well prove to be superficial reflections of a very small and recently developed portion or function of the human brain which is primarily good for small-minded reductionism[32]

Rather than conforming to the life-styles and preferences of such people, the university system has striven to form a dividing line to segregate them.

While it is certainly natural for a person to *want* to specialize, this does not imply it is natural for such a person to spend the vast majority of their working lives in that one narrow occupation. What many workers – professionals included – have been bullied into is accepting the idea that only those who devoted themselves to the institution for approximately a decade or more in order to earn a PhD have earned the right to specialize. Were higher education more flexible, people could specialize at a much earlier date and, depending on their motivation, specialize in multiple fields. As discussed in part I, craftsmanship is an endangered concept for anyone without a PhD. Rather than adapting to the times so as to compensate for the very alterations in job markets which the research it basis itself helped cause, universities have capitalized on these shifts within job markets to serve their own ends; people change for the university, but the university does not change for the people.

Change of any kind was never won by way of the academically, financially, or socially responsible – these are subjective constructs meant to define those who abide by the way things currently are. Change instead comes by those who are both willing to try *and* to embrace a degree of disobedience. But universities subtly interweave the concepts of obedience and social responsibility to the point that students can no longer tell the difference, and in this fashion they carefully select out the most obedient. By isolating the academics set of life-experiences to some artificial college campus bubble from which the 'irresponsible' are neatly

---

[32]See part I of reference [46]

excluded, an educational system and a professional job market which is not capable of directing itself is only reinforced.

IV. Boxing and Education; An Analogy

Boxing and Science

"Imagine a rope coming out of your butt and connecting you to the ground" my first boxing coach would say to us while squatting into a fighting pose and bobbing up and down. Beyond "Elbows in, hands up, keep punching." I'm not sure I ever got any good advice from him. In hindsight I realized I spent a good number of years unlearning his dogma – particularly his attempts to tell me what *not* to experiment with in my introductory years.

Of course with trial comes error.

Something to appreciate about boxing is that it truly is a science in the sense that the smallest details will make the biggest difference, and the human body is full of details, all of which work in conjunction with one another to produce the end effect. Unlike *physical* academic science (e.g. physics), boxing does not have the luxury of isolating just one of these variables independently from the rest, but like academic science it can be said every adjustment requires a matter of weeks or months of perfecting and putting to the test so as to work out the kinks. As in any science, one often hits what initially appears to be a dead end in their development only to find that if they just keep *moving* a new route always opens up. A suitable analogy might be a brick wall on a demo job; you hit a thing enough with the right tool you will eventually break through (or wisen up and pick the right tool). The same goes for problem solving in mathematics and physics. That's not to say however, that what comes next necessarily makes you a 'better' fighter, it is rather to say that change and evolution of the human body and personal craft are constants; one does not reach the end or the pinnacle of a craft so much as it evolves into something else and they become someone else (I am a believer in the reasonable concept that mind and body are one).

But any physical science has two sides to it; experimentation and theory, or at least that is how physicists divide themselves. Professional categorizations aside, this same divide occurs in a natural fashion in the practice of solving problems; one performs something like a 'random walk' in their head by conceptualizing ideas which range from creative to pragmatic and from pragmatic to nonsensical. One then puts such ideas to the test by attempting to use them to solve the problem at hand. If ones methodology is well honed, upon failing this trial, he or she probably does not look at a solutions manual which tells them how to get from A to B, primarily because those successful in technical problem solving know that critical thinking – the kind of thinking which grants insight and which actually stick with a person – only begins once you've gotten a thing *wrong*.

There is neurological basis for this; the brain is a plastic thing meaning it can grow neural pathways connecting point A (problem) to point B (solution). But like most things in nature, some of our initial attempts to make this connection are somewhat random; we just try things, inspired sometimes by god knows what. It is not until a few random attempts produce some kind of correlation in their outcome that we begin to comprehend some kind of pattern and therefore develop strategy and comprehension. When the attempt to connect point A to point B fails, the brain is capable of downregulating AMPA receptors

which play a critical role in strengthening or weakening neural pathways[33]. Hence, when we try new things *and* we fail at them, it is only then that we've really engaged in the process of reshaping our brains. It is somewhat like Hansel and Grettle laying breadcrumbs when lost in the woods, only now they start marking unpromising pathways with red tape which lets them know what pathways *not* to take the future. With enough hard earned effort, it is inevitable that this process of eliminating false pathways will bring them closer to finding the right one – assuming it exists. Any scientific process requires some degree of freedom in order for this 'random walk' to occur. And of course any process is subject to a variable degree of randomness which in the case of brain function represents some process that is so convoluted and/ or intricate that for all practical purposes to us it is 'random' (see section V.III).

In terms of the 'sweet science', even if it can be said [and I am not entirely sold it can] that the fundamentals are the same for everyone, how to make those fundamentals work for individuals who have their own highly individualized body structure is a science in itself – one that is at times overlooked by some of those inhabiting boxing clubs today. Nevertheless, when one walks into a boxing gym today it is common that extremely standardized knowledge is thrown onto them.The irony is that it is in the early stages of learning pugilism that students are most prone to experimenting in a way that is in accord with nothing other than the natural inclinations of their own unique body; free of dogma, it is in this stage that self-discovery of ones style is most easily achieved. And it is the *discovery* of a thing rather than the creation of it which characterizes real science. Styles and abilities are buried in the bone structure; one does not bench press what Mike Tyson did or punk gravel like Bruce Lee and expect to hit like they did. The act of discovering and 'unlocking' them is a thing which is easily underestimated – indeed, one can make a life-long craft of it.

Yet throwing punches in an artful way is not something that the human body is naturally designed for. Gorillas for example, strike one another with an open palm. It was most likely only the need to develop fine fingers which are capable of detailed manipulations which caused a transition to humans striking one another with a closed fist[34]. As Morgan Freeman claims in the movie *Million Dollar Baby*, "Boxing is an unnatural act. Cos everything in it is backwards."

There is reason to believe boxing is also an unnatural act in terms of the psychology of fighting. For anyone stepping into a ring this sentiment becomes apparent as doing so produces a sensation that can neither be characterized as fight nor flight, but some abominable grey-zone; your *waiting* for a fight to occur. To my knowledge nature has no equivalent phenomena to which we might compare this, save perhaps shock. Take for example a Rattle snake which instinctively seems to know it cannot outrun a king snake, but in a sense the onset of the fight has already begun the moment the rattle snake has become aware of the king snakes presence; it's immobility is either a result of a mistaken belief that its reflexes are superior to that

---

[33]I've managed to find a few articles which seem to confirm this, but not without a lot of 'additional' neural biology to accompany it. I say this based off knowledge gained from having taken one graduate level course in neuro-science and also over a decade of experience solving problems (and boxing)

[34]Research among Anthropologists on this subject seems to be lacking. The one study I did find back when I looked into it a couple of years ago was just a group of graduate students who measured the force on a bag for both a palm strike and a punch. Predictably, they found the force to be the same for both. They concluded that because a knuckle spreads that force out over a smaller area and therefore produces greater power that this, together with some set of circumstances which made hand-to-hand conflict necessary, must be why we started throwing punches. I am going to spare the reader a nerdy digression on the difference between momentum transfer of a palm strike and the power of a punch, but suffice it to say that one is not necessarily superior to the other. What these Anthropologist students overlooked was that fighting is just as much about momentum transfer as it is about power. Russian slap contests today are an example that, despite humans evolution to more of a physically weak and gangly creature, the momentum of a palm strike can be appreciable.

of the king snake or it reflects some state of mental shock. It is tempting to compare the latter state to that which a fighter feels when entering a ring, but there is a twist to the human case; the expectation of third parties. A rattle snake doesn't fight because someone else expects it to, and it is questionable any human fighter does so without in some way hoping to gain the approval of those outside of the ring.

Third-party expectations produce an added element to whatever shock may or may not be present; confusion. It is a confusing thing how and why one can end up needing to get punched in the face to make a living. For a number of those who today rely on boxing gyms as a source of community within a society that has reduced human tribal instincts to mere commodities, it is confusing to the instinctive mind why one feels a compulsion to get punched in the face in order to satisfy such basic human needs. To the cocky professional who demonstrates his love of the sport by espousing moral principles and notions of honor and virtue in a fashion which borders on religious, they are the most confused; boxing is a surrogate activity, one in which the individual has largely been deprived of their ability to undergo the *power process* (see section V.I). In *Prize Fighter* (1927) Langston Hughes observed,

> "Only dumb guys fight If I wasn't dumb I wouldn't be fightin'. I could make six dollars a day. On the docks And I'd save more than I do now. Only dumb guys fight."

> – Langston Hughes, *Prizefight*

In either case, fighting is hardly an option to those who feel a need for it in their very bones (or their pockets). If it can be said that society has obstructed natural means of physical sustenance and natural forms of human social relations then, however unnatural such a means might be, it *is* natural for one to 'pick his poison' in order to achieve these ends as best he or she can. Assuming there to be some wide-spread and pervasive mechanism which forces people to do so[35], some will respond by becoming workaholics in business, some by becoming scientists who bury themselves in a lab, some by becoming drug addicts, and others will respond by becoming boxers. None of these things are entirely conducive to human heath and all have the mark of addition. When a fighter walks into a boxing club he or she is dong more than just endeavoring to earn money as a prize-fighter – they are endeavoring to solve a social problem, one which burns away at them every minute of the day – a burning sensation which in some inexplicable way the gym seems to temporarily alleviate. In the ancient Indian text the *Bhagavad Gita* Arjuna is involved in a dialogue with Krishna, one which revolves around the basic question; why fight? Arjuna having moral qualms about engaging in war against people he was once close to, and also about the very *idea* of war, he was the kind of person the military would likely reject today on the grounds that he thinks too much[36]. To his question Krishna replies, "Even wise people act according to their natures, for all living beings are propelled by their natural tendencies. What will one gain by repression?".

People who fight, or at least those who stick with it, are not always people who want to fight, but neither are they people who necessarily don't want to fight. It is natural for people to want to be who they are. People who stick with fighting are usually people who cannot *stop* themselves from fighting. Just as

---

[35]here I am referring to the idea developed in reference [46] that the development of privacy and private property might be considered a psychological dependence – a mess up from which the entirety of human civilization resulted.

[36]As noted by Morris Janowitz, "the means of control in the military have shifted from authoritarian and coercive techniques to more subtle, psychological manipulation." – Paull Starr[25] summarizing Morrix Janowitz work

compulsive traits might drive someone to any other physical science so as to channel their compulsive mental energies, boxing is a means to channel ones physical energies. But both forms of science are surrogate activities which serve the convenient function of diverting the individuals energies away from achieving self-determination. In the case of the academic, those with a knack for scrutiny end up being relegated to laboratories where they are a safe distance from the creation of public policy. In the case of the fighter, we will see in the next section that by introducing the idea of a club in conjunction with prize-fight regulations, fighters were inculcated with affluent bourgeois notions of civility and honor while the revolutionary impulses of the crowd that watched them were curbed.

By 'surrogate activity' I mean activity which only seems to present a means of achieving an ends, but which in fact does little to bring an individual closer to achieving that ends – may even take them further from it.

Imagine a large troop of apes – say thirty individuals – who one day discover the power of domestication and farming. As argued in my report *Domesticatoin & De-partitioned Housing*[46] domestication entails the establishment of physical divisions between group-members and this obstructs individual ability to satisfy their tribal and social needs. Whereas members of the troupe used to be openly exposed to one another and the social drive constantly satisfied, now individuals hide behind their own four walls. Whereas there once existed a natural mechanism for the alpha male to maintain social order by observing the troop and checking the actions of the most envious, opportunistic, deceptive, and antagonistic among the troop, now this natural mechanism is suddenly outdated. Moreover, these individuals are claiming territory and resources for themselves – its no longer just a banana tree, its *their* banana tree. New conceptions of 'mineness' – the idea that an *individual* can own the land and resources within it – gives rise to trade and commerce within the troop which inevitably has the effect of monetizing human social relations and undermining all natural and satisfying ways in which the social drive can be satisfied. Whereas members of the troop once spent most of the day casually lounging around one another, now they hustle from sun up to sun down as the difficulties of farming and trading life require.

From the alpha males perspective, it is not just dis-empowering to him as an individual, but the degeneracy and unhealthiness involved in the new direction is as alarming as it is heartbreaking and unsatisfying. Frustrated, he begins to hit things as he usually does. One day he gets so mad he hits *someone* – knowing such a thing is now considered 'uncivil'. It having been a while since the members of the troop have seen the big guy in action, everyone pauses in their daily hustle; they come out from behind their walls and circle around to observe what just happened, and for a moment with everyone circled around things are as they once were and all felt as it should be to the big guy. So he just keeps on hitting people in whatever legal way he could think of. Yet to a very large extent it can be said he's been unsuccessful at reverting things to how they were. On the contrary, his attempts add up to little more than a temporary and somewhat desperate reprieve from the deprivations of domestic life; a surrogate activity which has become his crutch of fighters and fans alike. Ironically, by providing this transient crutch the true underlying problem was allowed to grow unchecked as so long as people had a fight to watch they didn't have to question why they were driven to such things in the first place.

So it was the sport of boxing was born.

History of Boxing

"There is no place in the world for nations who have become enervated by the soft and easy life, or who have lost their fibre of vigorous hardness and masculinity"

– Theodore Roosevelt

"They work off their restlessness and get rid of the devil in the gymnasium with the boxing gloves and with single stick; they contract habits of order and discipline; they become infected with some of the upper-class ideals, especially as regards honor and honesty, purity and temperance."

– Walter Besant, as cited in [29]

Boxing is of course among the first sports ever recorded, dating back to ancient Greece. It disappeared for a number of centuries and was revived in seventeenth century England. But before this one can begin to find traces of its modern day reincarnation in Medieval European duels between knights and passerby's on the streets. The idea of chivalry was so ingrained into the behaviors of people during this time that reports can be found of robbers respecting the code of never striking a person when they are down[9]. In seventeenth century England boxing seems to have been more comparable to basketball today than modern boxing gyms in the level of freedom individuals possessed to engage in the sport. It is a detriment to the study of the sociology and science involved in the sport that historical facts tend to be recorded only with regard to the fights themselves rather than the training environments which lead up to it. Nevertheless, novels have a tendency to reflect some of the day-to-day realities of such things. Utilizing novels as a means of doing so, Kasia Boddy notes of conditions in England around the seventeenth century, "Fighting (like sex) is ubiquitous in Fielding's novels; something that English men and women just like to do. It is an activity natural to all classes and all professions – chambermaids, squires, landladies, schoolteachers, army officers and the aptly named Reverend Mr. Thwackum all pitch in."[29]

Boxing had begun to take root in America by the late eighteenth century, but of course in those days it was different than it is today; fighters would 'toe the scratch' (stand behind a line) before rushing at one another and striking each other with bare fists until one was knocked down. Under these rules it was not unheard of for a fight to go as long as a hundred rounds. In order to avoid breaking the wrist, fighters threw many more body shots than they do in today's sport, and bare-knuckle brawlers typically struck with their fists held in a vertical fashion (were the thumb extended it would be be pointed upward) – possibly in an effort to avoid breaking their wrist[37]. 'Prize-fighting', the act of receiving money in exchange for fighting, became popular as populations amalgamated in urban centers during the 1810's and 20's. Sparring clubs came about not as a means to support prize-fighting, but as a means to combat its effects. Using the example of Philadelphia aristocrat Robert Waln, Elliot J. Gorn describes the role that the introduction of boxing clubs served for the aristocratic class,

---

[37]I am of the opinion this is also the more natural way to throw a punch, and that today's fighters are largely victims of an inter-generational human tendency to transmit superfluous habits to one another. The best reason I've come across as to why fighters began flipping their punches has to do with the idea of cutting another fighter once gloves were introduced. While this may have been a legitimate purpose in the days of horse-hair gloves, I don't think cuts are common enough in today's sport to warrant altering ones style in hopes of cutting their opponent

"Prize fighting broke down class barriers, allowing a tavern keeper or a black man, Crib or Molineaux, to mingle with the aristocracy. Sparring, on the other hand, helped maintain social distinctions. "In all civilized societies," Waln reasoned, "an aristocracy must and will exist, either founded on letters, family or fortune." American demagogues who denied this truth unleashed the insolence of the lower orders. Sparring lessons, however, would help the upper class keep hack drivers, wood sawyers, carters, and draymen in their place: "Tobacco-smoke would not be puffed in the faces of our ladies at every corner, nor white silk stockings jostled into gutters, but every athletic and malicious porter. The aristocracy of fashion and gentility would be more clearly recognised, and the farce of relative republican equality cease to ornament every ragged vagabond with the same attributes as a gentleman."

Clearly, men like Waln dreaded the masses and, equally clearly, they sensed that political and social power were eluding their grasp. The success of Fuller and other sparring masters was due at least in part to fears that the social transformation of American cities was subtly changing class relationships, that inferiors no longer respected their betters, and that gentlemen must learn to protect themselves against ruffians. The rise of boxing schools signaled new anxieties that a dangerous underclass now threatened social order."

<div align="right">– Elliot J. Gorn, The Manly Art</div>

Accordingly, prize-fighting became illegal throughout much of the states beginning in the 1830's, but in practice the enforcement of such regulations proved difficult. In fact it has been argued that such attempts had the reverse effect of giving the sport the appeal of the taboo or forbidden; "...when legislatures ban popular activities, entrepreneurs are likely to circumvent the law to satisfy demand. Nineteenth-century boxing promoters provided matches to prizefighting fans, just like the contemporary drug dealers who supply marijuana to casual and regular smokers."[47].

William Cobbett perceived boxing as a means of imparting ideals of individuality, boldness, and patriotisim; a means to divert conflict away from bowie knives and into the boxing ring, and as a means of combating effeminacy. In his words,

...for, much as I abhor cuttings and stabbings, I have, as I hope most others of my countrymen have , a still greater abhorrence of submission to a foreign yoke – Commerce, Opulence, Luxury, Effeminacy, Cowardice, Slavery: these are the stages of national degradation. We are in the fourth; and, I beg the reader to consider, to look into history, to trace states in their fall, and then say how rapid is the latter part of the progress! Of the symptoms of effeminacy none is so certain as a change from athletic and hardy sports, or exercises, to those requiring less bodily strength, and exposing the persons engaged in them to less bodily suffering; and when this change takes place, be assured that national cowardice is at no great distance, the general admiration of deeds of hardihood having already been considerably lessened. Bravery, as, indeed, the word imports, consists not in a readiness and a capacity to kill or to hurt, but in a readiness and a capacity to venture , and to bear the consequences...

...Render the whole nation effeminate ... it is evident , that you will hold the people in complete subjection to your will; but , then, recollect, that they will be

like the ass in the fable, that they will stir neither hand nor foot to prevent a transfer
of their subjection to another master.

<div align="right">– William Cobbet, Cobbett's Political works</div>

Cobbett recognized the bias in his peers within parliament who were targeting prize-fights on the grounds that they represented some sort of threat to social order; he saw that they were using their positions of political power to assert their own subjective sense of morals over the people, hiding behind a wall of victimization to disguise their cultural agenda which was strikingly devoid of either understanding or compassion for those who chose to partake in the sport. He further accused them of being shortsighted in overlooking the benefits of the sport,

> ...Every thing calculated to keep alive the admiration, and even the idea, of hardihood, seems to have become offensive and odious in the sight of but too many of those, whose duty it is to endeavour to arrest, and not to accelerate, the fatal progress of effeminacy. That many of the persons so zealously engaged in supporting the system of effeminacy (for such it may properly be called), are actuated by motives of tenderness for the common people there can be no doubt; but, while I must think, that such persons act without due reflection, I hesitate not to declare my belief, that those with whom the system originated, and who are the principal instigators of all the measures adopted for effecting the extirpation of boxing and other hardy exercises, are actuated by motives far other than those of compassion for the persons who are in the habit of being therein engaged...

> .... But, boxing matches give rise to assemblages of the people; they tend to make the people bold: they produce a communication of notions of hardihood; they serve to remind men of the importance of bodily strength; they, each in its sphere, occasion a transient relaxation from labour; they tend, in short, to keep alive, even amongst the lowest of the people, some idea of independence: whereas, amongst cutters and stabbers and poisoners (for the law above mentioned includes English poisoners), there is necessarily a rivalship for quietness and secrecy; they generally perform their work single handed; their operations have nothing of riot or commotion in them.

<div align="right">– William Cobbet, Cobbett's Political works</div>

It is an unfortunate fact that the last bare-knuckle championship bout (Jake kilrain vs. John Sullivan, 1889) happened only two years prior to Thomas Edison unveiling his "kinetograph" which four years later evolved to the "kinetoscope" – the pre-cursor to video cameras. Among the first applications of Edison's invention was to film fights. With prize-fighting illegal in many towns, fight films raised legal questions. Barak Y. Orbach notes that fight films gave impetus to some of the first acts of censorship, "Contrary to scholarly consensus in the literature, movie censorship was not born of conservative concerns about pictorial depictions of sex and crime; rather, it arose from attempts to suppress boxing"[47]. Being as prize-fighting was illegal in many states at the onset of the twentieth century, it became a matter of dispute whether the viewing of such acts should also be illegal. According to Orbach, the set of legislative rulings

which resulted at the time had implications for censure of many things to come such as cigarette advertising and educational campaigns.

The filming of fights evoked a second wave of reform efforts in the 1920's which were designed to strangulate the culture which pugilism embodied. But of course boxing is just the tip of the ice-berg of other social events. As the members of the middling class sought to solidify the defining line between themselves and the lower classes, and to establish the supremacy of their vision of the domestic economy which was centered around the private home[30, 46, 31], along with it came a set of expected behaviors; sobriety, fragmentation and routinization of life's basic activities, and normalization of a culture of consumerism which industrial capitalists had vested interests in weaning people onto. Here we begin to see the germination of concepts which would eventually come to dominate sports and which would bring about the end of boxing as the most popular sport in America; cooperation and living up to the expectations of others, i.e. 'teamwork'. As Elliot J. Gorn puts it, "The ring was above all a focus for cultural conflict...The old sports and leisure traditions were obstacles to the spirit of improvement because they seemed to encourage an ethos of pleasure for its own sake, of living for the thrill of the moment...".

The progressive era is not without its share of irony. For example, a generation of nineteenth century feminists who resisted the cult of domesticity were now being replaced by a modern generation of feminists who willingly embraced such a thing as being central to their identity, the trade-off being professional and educational opportunities, shopping and restaurant culture, and access to sporting events[30, 31, 46, 29]. For sportsmen 'progress' held the implication of becoming more of a marketable and family friendly poster-boy than a representative of his community. For fans the progressive movement was equally transformative,

> The 1920s are often recalled as a golden age of sport, but it was an age of mass consumption rather than mass participation. Some thought that this was a very bad thing. In their 1929 sociological case study of Middletown, the Lynds noted that modern leisure was now 'mainly spent sitting down'. 'A few play,' elaborated Stuart Chase, 'while the rest of us shout, clap hands . . . crush in our neighbours' hats, and get what thrill we may from passive rather than active participation.'
>
> – Kasia Boddy, *Boxing: A Cultural History*

My niece and I once attended a play entitled, *The Magic Show* which was about drunk and aspiring magicians and love quarrels. To open the show a man [an actor] gave a beautiful speech which detailed how audiences in the nineteenth century used to throw tomatoes onto the stage and shout and *boo!* at the actors when disappointed, or give a standing ovation and loud cheer when exited. Acting used to be more of an interactive thing he said, and that this was all in contrast to today's docile crowds who sit quietly, clap only when cued to, and would likely be asked to leave were they to interrupt or arrested should they dare throw a tomato on stage. As he explained all of this, he had been making numerous failed attempts to engage a stiffly obedient crowd – a thing which, in addition to making us hate ourselves for what we had become, also had the effect of leading one to believe it was going to be a disappointing show. Giving up his attempts to liven us up, he said, "How a society goes from that" [implying the active crowds of the nineteenth century] "to *this*" [gesturing to all of us wallflowers] he said, "is the *real* magic trick." He then asked that we silence our cellphones, emphasizing in all apparent seriousness that we'd be asked to leave if we failed at this.

The show was far from disappointing.

Clubsmanship

My first coach I had once said about boxing, "It's like a game of chess". At the time I was certain he was talking about some complex process that was going on in the ring. In hindsight, I realize that is only half – maybe less – of boxing today. As it turned out, his 'chess' playing strategy turned reduced to, "ha-ha; I have the chess board and you cannot play".

Having just begun college I found myself unable to put in a full forty hours a week at work, and for the first time I found myself unable to pay the bills. Being the paternal father he was, the coach allowed me stay in an apartment above the gym while splitting the rent with someone else. A few months later he throws in the towel on coaching his own team in favor of tending to the numerous roller-derby girls, families, and other work-out enthusiasts of his gym and he tosses his fight team onto some new coach. Soon after he tells me I gotta get out of the apartment because his cousin just got out of jail. So I end up in my first half-way home, and it was a bad one; roaches, mold so thick it was difficult to breathe, paint peeling off the walls, lights flickering, and turrets patients screaming down the hallway at night. The person I'd been splitting a room with hooked up with someone across town to start another gym, and he asked me to come out there with him. In my naiveté, I thought I could have the best of both worlds; bounce between this gym and that one. But soon as my first coach caught wind of it he claimed, "I betrayed the family", excommunicated me, and we soon found him lurking around the other club scoping it out.

This behavior would essentially repeat itself any time anyone attempted to open a club in his town. Spokane, WA is like that. Something about landlocked midsize towns makes guys take on this king-of-the-geographically-isolated-foothills kind of mentality. In hindsight he never wanted to go across to the coastal side of the state to Seattle and get his fighters some real experience, instead he'd take us on nostalgic road trips to some small town out in Idaho or Montana where we might get some drunk red-neck willing to fight us at a bar smoker. The boxing club was for him and some ever-evolving nucleus which surrounded him a means to a social life more than a means to pursuing the sport of boxing. Cute girls would frequent the rustic boxing club and clubsman would often pose with them for photos or sell them on their 'expert' advice and otherwise use the club as a sexual hunting grounds.

Being a young fighter it is easy to get the mistaken impression that boxing clubs are for fighters. Most of them today – even those with fight teams – are not. As a fighter you are a far second. It's tempting to say its all about the money, and that there just happens to be more money in catering to kids, families, and others who like the club atmosphere, enjoy the workout, but aren't interested in fighting. Having frequented a number of clubs up and down the west coast however, beyond the need to just barely pay the bills, I convinced myself it was instead the social function of the gym which is the primary motivator of most gym owners. The gym becomes his (her) home-away-from-home where he (she) establishes his (her) tribal bubble. As a fighter you have to find a way to tap into this and find opportunity. Whereas boxing clubs and fights used to be a common occurrence, today in a town of half a million people you might find two half-serious gyms and an equal number of local tournaments every year to participate in – if that.

As noted by Sheri Berman in her analysis of the Weimar Republic (Germany), "...the United States has been considered the homeland of associationism ever since Tocqueville", comparable honors could also be bestowed on Germany,...". For some reason the culture in both the U.S. and Germany is such that people have a tendency to turn everything into an association or a club; "The extraordinarily vigorous associational life of Wilhelmine and Weimar Germany was frequently commented on, so much so in fact that

contemporaries spoke of the *Vereinsmeierei* (roughly, associational fetishism or mania) that beset German society and joked that whenever three or more Germans gathered, they were likely to draw up by-laws and found an association." She even goes so far as to correlate this trend to periods of political disunity and strife, i.e. without a nationally unifying force, people essentially withdraw from national politics and compensate by forming their own small groups; "The weakness of such national political structures was a key reason that Germans threw themselves into clubs, organizations, and interest groups during periods of strain like the 1870s and 1920s."[48]

In the U.S. its clear that most people don't join boxing clubs because they want to fight, and if one hangs around for long enough, they may come to question how much of it is even about the work-out. For many, boxing clubs have become a means of socializing. As one fighter once joked with me, clubs on the west coast of the U.S. had devolved into, "socially selective boy-toy hang out clubs at best; some old guys last ditch attempt to get laid at worst."

But sports have to some degree or another always been about the community more than the athlete. What sets fighting sports apart from other mainstream sports, least as it relates to the points I wish to make, are two-fold; you don't find 'pick-up' sparring matches at the local park as you would in basketball, rather you find them in their designated place; boxing clubs. 2) Opportunities for official competition have been relegated to private businesses rather than to state-run schools. Taken together, these things essentially force anyone with an itch to fight to play the game of 'chess'; to give into this *clubsmanship*. The fact that the number of competition clubs has so diminished only exacerbates this problem.

From a competition standpoint, there are in general two kinds of clubs; those who require their fighters to operate according to their strict regiment (these gyms usually primarily cater to youths), and those 'old-school' gyms where people are usually left to organize themselves. The third option is to become an 'unattached' fighter which means you are not affiliated with any club for the purpose of official competition. By 'official' I mean bouts sanctioned by U.S.A. boxing – a company which essentially has a monopoly on official competition in [probably] every state within America. By 'monopoly' I mean that it has been stipulated by states that prize-fighting is illegal for all but those events which have been sanctioned either by an organization which has obtained a license from the state, or by the state athletic commission itself. 'Smokers' are informal events which can occur by applying for a license directly to the state, but to attempt to do so on any regular basis would likely be a hassle and probably would not be approved. In either case no one (least not in the northwest) seems to attempt to do it on a regular monthly basis. To my knowledge, neither has any other organization which might compete with U.S.A. Boxing managed to take root in any of the fifty states. U.S.A. Boxing is the gatekeeper to the Olympics, so fighters have incentive to remain in good standing with them, but if they find that a fighter has participated in any other organized boxing contest – even a smoker – outside of their organization, then that fighter will not be allowed to fight in U.S.A. Boxing sanctioned bouts in the future.

Taken together, this all presents a problem for the unattached fighter who has the audacity to ask for opportunity without being bullied into clubsmanship. Were fights common enough, one could bypass joining a club and just get whatever sparring they could manage to find by solicitation – maybe even go without it entirely. Fights themselves in this case would be the majority of a fighters sparring. While not advisable, if fights occur at least every month then it is a way to gain experience. But if fights only occur in a given area twice a year, then at that point one is essentially just preparing – conditioning themselves to the habit of – losing. This is a trap a number of unattached fighters fall into. You can practically spot them without even looking at the bout sheet; they are dressed more flamboyantly, they take up strange habits, and

are inexplicably confident – for no apparent reason than that they maybe have some natural ability. I know all of this from experience both in the way of watching unattached fighters and from being one; its easy to be confident when everything you've been hitting hasn't been hitting back at you.

When I became an unattached fighter I noted a curious thing; I wasn't nervous; the 'abominable grey-zone' feeling didn't happen when I went into a fight. Best I could figure is it had something to do with the autonomy I had gained as a fighter; no one to manage me; no one barking military orders at me; no one subjecting me to expectations of any kind. It is a curious facet of the psychology of fighting that it is these things that give rise to what we mistakenly label as fear rather than the act of fighting itself. What many fail to appreciate about living as a fighter is that this feeling lingers with you – affecting every moment of day-to-day life. Whether it be due to the combative nature of boxing or is just a matter of forfeiting autonomy over the specific ways in which one performs their bodily functions I am unsure, but in either case the effect is that being a fighter feels like being a dog on a leash. But when training in the woods or along railroad tracks or behind abandoned buildings I carried with me the serenity of these places which had either outgrown expectations which humans one placed on them or which simply remained untouched by them.

Anyway, needless to say, I got my ass handed to me – on two separate occasions. Neither of my opponents hit particularly hard[38], in fact I had beaten both of them in previous years when I was in a gym. I had a few more fights after that, and for most of them it was the same old story; go nearly eight months with virtually no sparring but lots of training, then get in the ring and lose to a guy I knew I should be beating. Though by then I'd become adept at training without any need for a gym, I actually did train in a gym for those fights in what was the last 'old-school' gym in town[39]. Still, being a bigger guy, and anti-social to boot, I had trouble finding sparring partners. What few serious fighters there were seemed to form their own club-within-the-club; they sparred with one another, and at least one time they stopped the sparring soon as I came along. What few sparring matches I got were small adolescent kids who had never sparred before. On the rare occasion I did get a serious sparring match, for some reason – either because I was the hardest hitter in the gym, was a horrible [nose] bleeder, or just because he was a nice old man – the Portland coach would say, 'just go light guys', and this was in contrast to the blood-bathes that used to go down in Spokane.

In general, my experience led me to the conclusion that in an environment in which clubsmanship is a prerequisite to fighting, as the number of clubs and competitions dwindle, especially for cruiser and heavyweight fighters, opportunities to get your fight on become scarce. This conclusion is in line with the fact that the U.S. stopped producing a significant number of quality heavyweight fighters since about the nineties – probably sooner. And in the lower weight classes champions across the world in these last two decades have an eerie tendency to be those who were raised by their parents to be champions – as though the championship itself is becoming hereditary. Nothing against these guys, but it is suggestive that competition isn't quite as 'pure' as it once was.

As has been discussed, boxing is like mathematics; without the opportunity to put your ideas to the test and get that negative feedback, you are not really prepared for an examination. Left unchecked, the mind and body will contrive all sorts of weird experimental ideas, and if they sound good on a bag then what can you conclude but that they'll also be effective in a ring? Infallible logic of a nomadic champion [in his own mind].

---

[38]R.I.P. Thomas Allenton; we'll meet and do battle on a level playing field in another life.
[39]R.I.P. Grand Avenue Boxing, Portland, OR

Yet having been involved in both forms of physical science (physics and boxing), I recognize that there is a critical variable which has been quietly swept under the rug in all of this; why is it that unnattached fighters find it harder to find sparring opportunities; why is it that clubsmanship has become a pre-requisite to finding opportunities for preparation? More generally this is to ask, why should freedom of experimentation only come at the expense of opportunity?

I have often wondered why we don't see clubs advertising signs which read for example, "$10 drop-in sparring, saturdays @ noon (money back if no one shows up to sparr with you)". Such a thing has the capacity to appeal to a potentially large and as of today untapped audience – people who would like to hone their fighting skills, to gain experience so they might take a stab at the pros, or just vent some frustration, but which are averse to clubsmanship for whatever reason. Here I must clarify that by 'clubsmanship' I do not include large-gym membership which is so popular today for weight-lifting clubs. Some research on group dynamics has indicated that there is a fundamental difference between small and large groups, e.g. 'Dunbar's number' is 150, beyond which it is believed the individuals capacity to maintain individual relations is surpassed. This can also be related to James Madison's concept of majority faction; if you bring enough people together, you essentially drown out their small-group instincts and ability to form dominating factions, or to the concept of strong vs. weak tie in sociology. By the fact that large-group dynamic gymnasiums thrive today, it is fair to say that the weak tie which has overcome the exclusiveness and the expectations involved in small group dynamics is what many people want.

The fact is that the amount of time, energy, and simple awkwardness that clubsmanship entails when compared to the amount of opportunity it gives for actual fighting is very low – at least this is the case in many 'old-school' gyms, the alternative to which is highly organized clubs which primarily cater to youths. Admittedly, some people are better at networking to find sparring opportunities than others, but that is precisely in line with one of the points being developed; fighting has become a measure of personality, in particular the kind of personality which thrives in a club environment.

Being someone who at many times has felt a strong need for such a thing as drop-in sparring sessions, I cannot help but figure there could be an attractive business appeal to it. So why don't gyms ever do it? This question bothered me for years, until quite recently in fact. None of the books or the papers I'd dug into endeavor to explain the specific day-to-day operations of gymnasiums in past times. I was particularly interested in the nineteenth century when I'd like to believe things weren't so 'clubby' – a time when boxing was primarily a means for those with the inclination to fight to be who they were and do what they do regardless of whether people accepted them into their clique. Of course it is always tempting to want to believe there was a time when things were better. To this end there is unfortunately an appreciable gap within the literature on the sociology of boxing in the sense that historians don't seem to be interested in (or no one saw fit to record the evidence of) what transpired within the training grounds rather than during the fight itself. A fight is truly everything which led up to it, not just what transpires on the day the fight is scheduled; the *culture* of fighting begins in either the gymnasium or wherever else fighters of the time might happen to train.

Then one day shortly after reading Orbach's article *Prizefighting and the Birth of Movie Censorship* it occurred to be to simply look up local prize-fight laws, and my years of befuddlement came to an abrupt end; simply charging admission is enough to be classified as a prize-fight, thereby making such a proposal illegal. Doesn't matter if its only a light sparring contest, if no audience is present, or if none of the fighters are being paid for it; unless sanctioned by some organization which has been granted a license from the state (which is basically equivalent to saying unless U.S.A. boxing approves it) then it can be classified as

an unsanctioned prize-fight.

For the gym owner, the inability to make full use of his or her facility is a tremendous deficit to business – nowadays it is essentially a death sentence for those 'old school' gyms which are typically the last to adopt trendy work-out equipment that appeals to soccer moms. Consequently, it is these 'old-school' gyms which are going out of business at an alarming rate – most are already gone. Some people are of the mind to believe that boxing gyms *should* be dirty, and that this is a cultural preference which should be respected. But by constraining a business in its operations, their ability to survive is essentially handicapped, and it therefore cannot be said that such a preference has been respected, and this is a bias in our regulatory system.

Unless of course it can be said with certainty that proposals such as 'drop-in sparring' would have some intolerably disruptive consequence.

To this end, history is full of examples in which, when left to their own devices, prize-fights got out of hand; even in some of the smoker events in red-neck towns today one begins to witness a break down of the notion of stiffly well-behaved audience members, of which seems to be the gold standard of our law-makers. Despite their illegal classification, fights at the turn of the century in New York became an almost nightly occurrence. Left unregulated, such events were bound to become associated with crime and degeneracy[29]. However, it can most often be said for such cases that, rather than attempting to regulate them, lawmakers instead attempted to outlaw them altogether. This had the effect of creating an underground environment where only lawlessness *could* result.

It is entirely possible to have regularly occurring regulated and casual sparring matches. Audiences could even be excluded, and still such a thing has the capacity to earn a business money by appealing to an as of yet untapped market and of granting fighters opportunities to gain experience. There of course may be some complications to do with insurance and liability for non-members of a club which hosts such a thing, but to allow the conversation to tend to extremes is the mark of guilds at play; intelligent, flexible, and innovative solutions are possible to this problem. It could be stipulated, for example, that a fighter bring his own corner man who is to look after his fighter and take responsibility for his health, that both the fighter and corner-man be registered with U.S.A. boxing and undergo any number of reasonable training requirements. Beyond this, fighters belonging to a club already get fairly brutal with one another, and they already network with one another to drop into one another's gym's for sparring, so there is little difference between this proposal and what already occurs beyond making it less exclusive among fighters and more lucrative to the business owner.

Conclusion

To attend to U.S.A. Boxing sanctioned event today is like attending a funeral, only at a funeral most people present actually care about what is happening in the center of the congregation. In contrast, sanctioned bouts draw maybe a few family members per fighter in addition to the club which they represent, but a common feeling of unity amongst the crowd is entirely lacking, and this is in distinct contrast to pugilism of the nineteenth and early twentieth century. Sports have always been more about the crowd than the athletes, but what modern boxing regulators have accomplished is not just the defilement of what few unnatural forms of human congregation which remain to us, but by disregarding the need for autonomy

among fighters, they have successfully weaned an entire generation of fighters to the notion that they must 'choose' between fitting into some gym owners social bubble or simply refrain from the act of expressing their natural impulses – a necessary outlet for any society that wishes to maintain both national stability and an assertive populace which is capable of upholding a fee and democratic country.

With respect to my main report which has to do with the issue of domestication[46] I maintain sports are an unnatural occurrence in response to domestic environments which strangulate shared spaces and make it difficult for human tribal instinct to manifest. Sports then are 'natural' in the sense that they are a natural response to an unnatural event (domestication).

By stifling communal congregation as it 'naturally' occurs within a domestic environment boxing regulators and U.S.A. Boxing administrators have acted to exacerbate rather than heal the underlying social diseases which drive people to a boxing gym in the first place; rather than finding the sense of community which is so lacking in domestic society, fighters only find regulations, labels of 'winners' and 'losers', and false promises that what has been driving them on an instinctive level can be found somewhere higher up the ladder – if only they keep chasing it. In this fashion generations are weaned to the notion that they can somehow compensate for a lack of internal experiences with external accomplishments. So carried away have these generations become with notions of being remembered that they are willing to overlook the want – the need – to *live*.

Being a part of a club can be a great feeling, but it is unrealistic to say that there will always be a club at hand which is a good fit, least of all in an age when there is perhaps a handful of small clubs in a city of two million people. Though every club is different, they have the potential to stifle innovation for those who fit into them and opportunity for those who don't. Freedom of experimentation and autonomy in the bulk of his or her training for the unattached fighter should not come at the expense of the opportunity to prepare. As with many other markets, providing clubs with the flexibility that is needed to provide a plethora of consumer options would allow for them to cater to a wider audience. Fighters don't *always* need experts to guide them, least of all when they are not training for some championship fight. Just as students are deprived by law of their natural right to complete a thing with autonomy, and so they default to the thinking they need teachers for bulk of what they learn, fighters from an early age see that opportunities are only gained through associations, and so they become submissive to them. In this fashion a guildsmen is born; trained to think and act like gang-bangers, they in turn reinforce a system in which meritocracy in pugilism has been undermined by clubsmanship.

Was there ever a great deal of autonomy and independence in the sport? It is often tempting to look back and imagine things were better than they are today. In either case, there is reason to believe the sport would benefit from such a thing as drop-in sparring. This is not to say that *some* kind of organizing force is not necessary, it only means a *different* form of organization is possible.

A thing not mentioned thus far is boxing in schools, which obviously became taboo sometime in the twentieth century. Paralleling this trend has been a rise in the victimization ideology; bullies are not a force to be stood up too, rather they are yet another thing to dehumanize, to publicly shame, and to form an entire political movement against. Protection then comes from the enhanced threat of reprimand to would-be offenders rather than from a cultivation of individual qualities or the reliance on one's peers. In addition to this being a preconditioning of the populace to authoritarian forms of governance, the more people rely on third party intervention to handle their personal affairs, the more opportunity there is for false-witnessing

and other forms of deceit. Left unchecked, with the honesty and forthrightness of pugilism wholly removed as an option, antagonism can become a means to an end. Lacking the will to stand up for themselves, those with an inexplicable disdain for pugilism project this behavior onto others as the new standard of civility – going so far as to label those who do so as some sort of barbarians. For others, lacking the discernment gained from experience in the pugilistic arts which tells them to think twice about standing up for those unwilling to stand up for themselves, they are liable to do more harm than good. Left unchecked, such a conditioning of the populace towards effeminacy seems a suitable pre-requisite to the downfall of a nation.

As for me, I knew by the age of nineteen that if I wanted to get anything done in boxing I had better head to the east coast. But family, school, and life in general happens. Though its probably not too late to take that leap, one does come to question whether allowing a quasi-guild system to dictate their life in the chase of opportunities is fighting at all. Nevertheless, lady motion bids us to keep moving. So I take what opportunities I can find wherever I happen to be in a world of clubsmanship, taking faith in the wisdom once granted to Arjuna,

> ”You have a right to your actions, but never to your actions' fruits. Act for action's sake. And do not be attached to inaction.”
>
> – Krishna speaking to Arjuna, as quoted in *Bhagavad Gita* by Stephen Mitchell

V. Education Today

How Geniuses Feel About Education

> "We are in a comfortable Dark Ages of the inventive mind; institutions change but little, and that by gradual evolution rather than revolution; scientific research creeps crablike in a lateral shuffle, where once it leaped in great intuitive bounds;..."

> – Dan Simmons, *Hyperion*

It is telling that some of the most genius people have a very low opinion of the educational system. Christopher Langon, the holder of the highest IQ score in America, says of education, "Owing to the shape of a bell curve, the education system is geared to the mean. Unfortunately, that kind of education is virtually calculated to bore and alienate gifted minds. But instead of making exceptions where it would do the most good, the educational bureaucracy often prefers not to be bothered."

In contrast to Langan who dropped out of college, Ted Kaczynski was one of the youngest to become an Ivy league professor in mathematics. Before long he became disillusioned with domestic life and attempted to live off the land in Montana. At this he was successful for a few years until development began to occur nearby. His next career was one that would forever change the level of security U.S. mail is subjected to; he began stuffing explosives in envelopes and mailing them to individuals who he felt had played a particularly strong role in the 'industrial machine'. Kaczynski, a.k.a. the unabomber, after a number of years of periodic murders-by-mail, wrote a 35,000 word manifesto on how industrial society was depriving people of their ability to undergo the 'power process' – a process comparable to Ryan & Deci's theory of self-determination and intrinsic motivation in which the autonomy an individual has in performing a task is viewed as critical to their psychological well-being.

"Human beings have a need (probably based in biology) for something that we call the *power process*...This is closely related to the need for power (which is widely recognized) but is not quite the same thing.".The power-process as Kaczynski describes it, is comprised of four parts; goal, effort, attainment, and autonomy. As industrial society replaces individuals ability to directly procure their own resources with commerce and natural social relations with cheap entertainments and addictions, individuals are deprived of their opportunity to undergo the power process and instead are weaned onto 'surrogate activities'; "We use the term "surrogate activity" to designate an activity that is directed toward an artificial goal that people set up for themselves merely in order to have some goal to work toward, or let us say, merely for the sake of the "fulfillment" that they get from pursuing the goal." Most people, Kaczynski argues, have been duped or bullied into accepting surrogate activities as both a means of employment and entertainment (e.g. sports)[49].

Myself being a longtime resident of what has lately established a reputation of being a hot-spot for political protesting, Kaczyniski's theory does a fair job of describing a number of 'anti-fascists' – a group of predominately young white and probably unemployed males who seem to be regulars at protests regardless of what cause it is in support of. Politics for such activists is more of a means to escape the house and

perhaps vent some frustrations than it is a matter of meaningful strategy and well-defined goals. Kaczynski describes what he labels as 'leftists' surrogate political activity,

> "Some people partly satisfy their need for power by identifying themselves with a powerful organization or mass movement. An individual lacking goals or power joins a movement or an organization, adopts its goals as his own, then works toward those goals. When some of the goals are attained, the individual, even though his personal efforts have played only an insignificant part in the attainment of the goals, feels (through his identification with the movement or organization) as if he had gone through the power process. This phenomenon was exploited by the fascists, Nazis and communist."
>
> – Theodore Kaczynsi, *Industrial Society and Its Future*

Education to Kaczynski is primarily a means of controlling child development. Science he holds to be a particularly obvious example of surrogate activity; the act of doing research is usually in itself not directed towards the attainment of any actual goal, rather it is done because it – the surrogate activity of solving problems – induces a surge of dopamine to the users head upon completing the goal, but beyond perhaps receiving a paycheck (and often not even that), the goal is an artificial one which does not usually benefit the scientist or even humanity – on the contrary, technological advancements act to create a sort of self-conscious machine for which humans are simply fodder. The system, "is currently engaged in a desperate struggle to overcome certain problems that threaten its survival, among which the problems of human behavior are the most important.".

Educational Lobbying and Accreditation

In the post World War II era higher education was widely considered to be a public good more than a private investment. Educational lobbyist in the 1960's therefore didn't have to advocate too hard for their needs. "Their activities reflected the notions that higher education was a good in itself and would therefore have society's unquestioned support, that higher education need only fulfill its traditional missions of teaching, research, and community service as the institutions defined them to be, supported, and that these missions were so important that higher education' should be protected from governmental interference as it pursued its lofty aims[50].

In the late 1960's and early 1970's higher education instead came to be perceived to be a private investment, one which primarily bestowed private rather than public benefits. As the higher education act was up for renewal in 1972 congress was deliberating whether to direct aid to students or directly to colleges. Representatives of the American Council on Education (ACE - one of the 'big six' lobbying firms which represent the interests of higher education in Washington D.C.) began to speak as though they had presumed they'd be the recipient and that the question was simply a matter of how much they were going to get rather than being one of whether the funds would be directed to them or to students[23, 50].

Congress of course voted to direct aid directly to students. Since this time the unnecessary prolongation of higher educational opportunity has been a significant means of educators ensuring their incomes as without direct federal funding the cost of education for students is the primary source of revenue for higher educational institutions. Of course students cannot get aid without taking courses, and it has been suggested that federal funding should be disconnected from the idea of accreditation[51].

Like licensing, the role of accreditation is supposedly to protect from quackery, and while it can be said that they do a fair job at this, this does not mean that people are incapable of making discerning judgments for themselves. Furthermore, by using the prospect of quackery as a red herring, both the public's and the governments attention is diverted from more common and more important issues. As it turns out, accrediting agencies are riddled with conflicts of interests, one being the fact that the same people who review a given university are often members of a nearby college who will in turn be reviewed by the those who's program they are currently reviewing. The review process is therefore, "highly collegiate"[51]. Accrediting agencies judge entirely off of inputs rather than outputs, i.e. they go through a checklist that assures a given university is going through the right motions rather than checking to see if these motions are actually meeting their target goals (of which accrediting agencies conveniently leave it to the institution to define for themselves). Beyond this, the effects of accreditation are understudied and poorly understood. According to By George C. Leef and Roxana D. Burris

> "Although accreditation is usually justified as a means of giving students and parents an assurance of educational quality, it is important to note that the accreditors do not endeavor to assess the quality of individual programs or departments. The visiting teams do not try to check on the quality of Professor Smith's English Composition class or that students in Professor Jones's American history class actually have learned important facts about American history. The accreditation system is not based on an evaluation of the results of an institution, but rather upon an evaluation of its inputs and processes. If the inputs and processes look good, acceptable educational quality is assumed. It is as if an organization decided which automobiles would be allowed to be sold by checking to make sure that each car model had tires, doors, an engine and so forth and had been assembled by workers with proper training—but without actually driving any cars."
>
> – George C. Leef and Roxana D. Burris, *Can College Accreditation Live Up to its' Promise?*

Similar to medical accreditation agencies discussed in section III.II, accreditation agencies are voluntary organizations and accreditation for colleges is an entirely voluntary thing. What gives accreditation such power is the stipulation that a student can only receive federal aid if they attend an accredited institution.

To return to the higher educational lobbyists, they were not accustomed to fighting for their funding, and to do so was looked down upon as a publicly funded non-profit organiztions lobbying for their interest as would a private firm is a thing that many considered to be morally reprehensible. Bloland defended this in 1974; "The direct influencing of this legislation; or lobbying, has been considered in the past as vulgar... In reality, lobbying actually means letting the people in legislative decision-making positions know the needs and positions of the higher education community"[50].

Despite disdain from the public, higher education did what it had to do to survive.

Academics typically do not like to engage in conflict, but that does not mean they simply roll over and give up the fight, rather it just means they adopted less than forthright tactics. They started out bashfully, and they made a number of mistakes in the seventies, particularly with regard to organizing and developing actionable consensus among what was an increasingly large number of lobbying firms in the capital throughout the 70's and 80's. As is typical of academics, they'd have an amicable discussion among professionals in which no one really stands up to anyone else but everyone presents their thesis and they'd all walk away with no actionable plan or any unified consensus. Consequently, congress really didn't know how to help them.

Before long "amateur hour was over", as one congressmen put it in 1994[23]. Higher educational lobbyists within the big six adopted the concept of 'lead agency' which implies that one person takes the lead on a given topic and, after discussing the matter, at some point the issue is relegated to one person, group, or agency which is to present a unified consensus to congress regardless of whether there remains dissenters. The big six lobbying association pride themselves on being democratically structured, which implies that the university presidents cast ballots, but students themselves don't vote for either university presidents or big six representatives – many students don't even know what the big six are. Even within this bubble of university presidents, the degree to which these associations are truly democratic in the sense that the will of the individual is represented is uncertain. According the Constance E. Cook,

> "When Cosand et al. (1979) conducted their survey of colleges and university presidents fifteen years ago, about half of the presidents thought the associations should arrive at a policy compromise when there was a difference of opinion on a policy issue. The other half thought the associations should present different positions to the federal government. The 1994 survey data indicate that there has been a substantial change in presidents' views on this strategy over the years, with many more favoring consensus now"

> – Constance E. Cook, *Lobbying for Higher Education: How Colleges and Universities Influence Federal Policy*

Beyond a concerning dismissal of the idea of tyranny of the majority, the idea of 'lead agency' as we've seen also happens to be a characteristic trait of guild system, and like medieval European guilds higher educational lobbyists tend to paint a doom and gloom scenario which would certainly result if they are not allowed to interject themselves to defend the public from themselves. In the words of one attendant at a congressional hearing, after claiming that no one wanted to be the enemy of education because it just doesn't look good, "we wear white hats."[23]. It is unclear if such statements are reflective of deliberate opportunism or whether such educators truly have convinced themselves they are some sort of white knight who safeguards the public good. In either case the 'public good' has come to have a convenient way of being aligned with their own interests.

If lobbyists were truly democratic, why don't those who have to pay for and consume educational services get a vote? Instead students are granted 'student body governments' which really are surrogate governments – a bone for students to chew on while all the real lobbying goes on half way across the state

or in Washington, D.C.. In my own experience it is often found that student body governments are more of a means for students to put a thing on their resume than to affect any change, to represent any interest, or to inform anyone. When I relocated from downtown Portland to WSU in the middle of nowhere, eastern WA, I found myself wanting to compensate for the fact I no longer had access to a city council of a major city to be engage with. I ended up one of two people lurking in the back of student body governments and otherwise tacking onto a subsidiary group who met once a month and had only a handful of members. This was supposedly a research based policy group, but they had a tendency to treat science as a popularity contest instead of employing logic, in fact they went so far as to say we should stick to actionable statemetns instead of methodological ones (i.e. statements which question the methods of a study). They claimed to be making an effort at advertising in an effort to improve their numbers, but seemingly dodged any attempt to make good on this claim. Come to find out this group was all from the neuroscience department, and they saw this group as a means of networking for jobs by inviting various professionals for talks; they had little apparent interest in actually affecting policy.

Universities rarely provide regularly scheduled opportunities for anything which might be compared to civic engagement in real politics (e.g. testimony at city hall) and when they do such things are so little advertised hardly anyone is aware of their existence. But there are ample opportunities to join clubs and various associations. All of this lays a strong foundation for a minority few to project their ideologies as some kind of majority. But like much of politics today, the true majority of students are passive and dejected as the system has conditioned them to be through civic engagement systems which substitute the powerful art of oratory – the opportunity to challenge the very dispositions of a crowd and potentially unite people who previously had no common interest or point of view – with clubsmanship – the opportunity to align with like-minded people, reinforce commonalities which already exist, and strengthen barriers which segregate those who aren't a member of the club.

Manipulating Decisions & the Majority Consensus

"The most successful tyranny is not the one that uses force to assure uniformity but the one that removes the awareness of other possibilities, that makes it seem inconceivable that other ways are viable, that removes the sense that there is an outside."

– Allen Bloom, *Closing the American Mind*

"Court laid the foundation for the student's right to freedom of conscience'...individual freedom of conscience is a precondition for democracy."

– Rosemary C. Salomonel, *Common Schools, Uncommon Values: Listening to the Voices of Dissent*

"...The merit of this tale is its clarity in illustrating the pivot upon which all modern management turns: the control over work through the control over *decisions that are made in the course of work....*

Taylor spent his lifetime in expounding the principles of countrol enunciated here, and in applying them directly to many other tasks: shoveling loose materials, lumbering, inspecting hall bearings, etc. but particularly to the machinists' trade. He believed that the forms of control he advocated could be applied not only to simple labor, but to labor in its most complex forms, without exception..."

– Harry Braverman , *Labor and Monopoly Capital*

As Covid has begun to wind down a campus-wide email was recently sent out by the associate dean of the University. In it she claimed, "... returning to campus is what we all want". Educators today have a concerning tendency to *tell* students what the majority consensus is or otherwise projecting the*idea* of a majority consensus. But a true majority consensus is a thing which needs to be consciously honed else it be subconsciously inculcated into the masses. A consensus amongst a crowd is similar to a decision in that it can be conditioned, reasoned with, and influenced by those who have the opportunity to do so. Accordingly, educators have been in somewhat of a scramble to pretend like Covid never happened. One is reminded of the way the church responded to the protestant reformation; the church having been in control of education until this time, they endeavored to resist moving with the times; "The world was rapidly becoming modern, while the Church, with a perversity almost unexplainable, insisted upon remaining mediaeval and tried to force others to remain mediaeval with it."[12].

A common method used to model decision making behavior is the so-called *drift diffusion Model* (or DDM). When applied to decision making an upper and lower bound is assigned to the stochastic (or semi-random) process. In figure 1 these are simply the bottom and top horizontal lines at which the stochastic paths terminate and they have been labeled as 'A' and 'B', respectively. The stochastic trajectories plotted represent a decision evolving toward one of two end outcomes; A or B. Once a decision has been reached the process is terminated and the decision (A or B) is taken to have been made. If neither line has been reached by the final allocated time (here we set the final time to $t = 1.0s$ for simplicity) then we take this outcome as indecisiveness, or no decision.

The 'randomness' effect can be increased or decreased as desired by adjusting the parameter D in the following drift-diffusion stochastic model,

$$dX = Cdt + Ddw \qquad \longrightarrow \qquad [integration] \qquad \longrightarrow \qquad X = Ct + Dw + X_0 \qquad (1)$$

Where C and D are here taken to be constants as is X_0 – the value of X at $t = 0$[40]. In the absence of any random process (coefficient $D = 0$) we'd have a straight line $X = Ct$ which has been depicted as a dashed red line in the above plots. This is the predictable path and it represents the part of the decision making process we can predict[41] based on inputs of evidence, i.e. if we present to a decision maker who has no randomness in his or her decision making process ($w = 0$) with certain evidence which is meant to persuade them towards a particular outcome then we *know* they will respond in a fashion that obeys the equation $X = Ct$. This of course forms a straight line that will either trend toward decision A or decision

---

[40]For simplicity of notation the time dependence of the X and w variables has been omitted

[41]In stochastic calculus this is instead referred to as the deterministic path because it can be determined using the analytical tools of regular calculus.
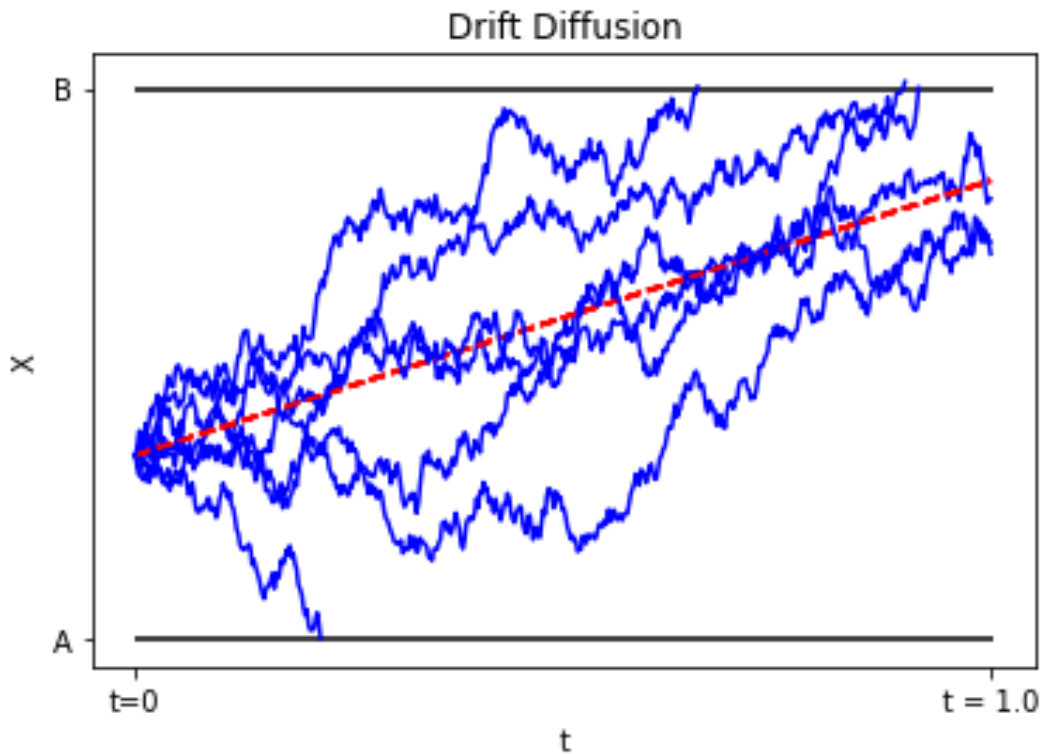
Drift Diffusion

Figure 1: Drift-diffusion decision making model. Horizontal lines A and B represent two distinct outcomes (decisions). Each trajectory represents an independent attempt to make a decision. Dashed red line represents an entirely predictable decision making process. Blue lines represent decision trajectories which have some amount of randomness which causes them to fluctuate about the red line (the deterministic part of the decision process). A trajectory is terminated if and when it reaches decision A or B before the maximum time allowed to make a decision ($t = 1s$). If neither A nor B is reached within the allocated time then the decision making process is taken to be indecisive or no decision.

B depending on whether C (the slope of the line) is positive or negative. The variable w is the [normally distributed] random variable which causes the jagged blue lines to diverge from the predictable red line. The coefficient of w is the constant D – this will affect the magnitude of the random fluctuations, i.e. how far on average the blue lines deviate from the red line.

What is meant by 'random' depends on the model. In general, it simply reflects the fact that presenting more evidence in an attempt to persuade a decision maker towards a particular outcome does not necessarily equate to successfully doing so. In neuroscience lingo, this would perhaps be the difference between homogeneous and heterogeneous decision making models. In Homogeneous decision making models a decision-threshold is approached as a result of a cluster of neurons being activated at the same time and apparently with little attempts at discrimination. Whether the threshold is reached is then a simple matter of how many of these neurons are activated at a given moment. In Heterogeneous decision models neurons instead are activated at different times in response to a stimulus, and their action potentials[42] have different lifetimes, and this indicates a more complex 'sifting' or analysis of presented evidence, i.e. the decision maker is performing some conscious or subconscious calculation then is assigning particular weights to the evidence being presented. Hence, 'random' may represent an entirely deterministic process, but with over a

---

[42] A neuron fires when the electrochemical potential it experiences reaches a certain threshold.

hundred billion neurons making over a hundred trillion connections in our brains, for all practical purposes, we consider the end result to be 'random'.

While drift-diffusion is about the simplest stochastic model, its interpretation in terms of decision making is more involved. For example, How to represent bias in the decision making model? One can see from the graph that the random trajectories tend to move in the general direction of the red line, hence one way to represent bias towards a particular decision *is* the red line; the determined part. Another way might be to alter the initial starting point of the trajectories so that it is closer to either A or B. Research has shown that the former (to represent bias via the slope of the red line) option is more reflective of human decision making[52].

Kloosterman et al. measured subjects ability to accurately detect a square pattern when presented within a continuous stream of horizontal, vertical, and diagonal lines. They tested two general conditions; liberal vs. conservative. In the liberal case subjects were penalized for not reporting a target (a square). Being as there is no penalty for missed attempts in the liberal case this naturally led to subjects reporting more targets in hopes of missing less. In the conservative case subjects were instead penalized for falsely reporting a square target. Predictably this resulted in a more conservative choice of reporting less targets – it was only when they were very convinced they were seeing a square that they reported it. An analogy to this experiment might be duck hunting; in a liberal experiment you are not penalized for missing shots but only according to how many ducks you failed to kill, and in the conservative experiment you are instead penalized not by how many ducks you fail to kill but only by how many shots you miss. Liberal has unlimited ammo and is about the quantity of ducks killed, conservative has limited ammo and is about quality of shots taken. What the authors found was that conservative feedback did not develop within subjects a bias, but liberal feedback did[52].

Applied to the case of education, it has been argued that a system of degrees of such general gradations facilitates the 'right-of-passage' form of meritocracy which is characteristic of guilds; you either have a degree or you don't; you are either in the club or you are not. Whether you have the skills or are capable of developing them is a second to degree-qualifications; its about how many ducks you kill not the quality of your aim.

This is not to say the educational system has been entirely successful in normalizing this form or meritocracy within job-markets, but only that it has endeavored to. And it *has* been successful at implementing this form of meritocracy within academia itself. For decades now, researchers note, academic career advancement has been becoming more and more formalized according the 'prestige economy' in which advanced degrees are just enough to get you into the club where the amount of publications more or less determines the trajectory of your career[53]. As one seventy year old professor put it to me, "Back in my day, you could get into PhD schools with C's, but not anymore". So too has it become increasingly difficult if not impossible for anything less than a PhD to secure a teaching position at a college.

The guild system of overly generalized degrees undermines peoples capacity for making self-determined decisions, inducing in them a liberal, un-discerning, and gambling-like mindset, the end object of which being gaining entrance into some generalized club which might elevate them for life above a good majority of their fellow men and women.

But this is just one casual attempt to link research to some of the points argued thus far in this essay.

More generally, it is just to demonstrate that human decision making is a thing which can and is in a constant state of being conditioned, and that institutions do more than serve a need in a neutral fashion. As one group of researchers put it, "Institutions, more than drivers of change, tend to operate as mediators of policy reforms, whether they do so as inhibitors or as facilitators. Understood as stable systems of rules and patterns of behavior that promote social order, institutions influence the direction of future policy changes by generating various forms of path-dependence."[26].

Though it has certainly been my intention to persuade the reader throughout the course of this essay that the educational system can and should change, this is not to say I fancy my disposition to be a popular one. Of course many people would resist changing the system, if not out of some personal agenda or because humans are creatures of comfort and inertia who will avoid change until it is forced upon them, then because their very capacity for making decisions has been conditioned to make this so.

Privatization Schemes

In America many value the idea of a free market, even though in truth such an ideal is never truly reached; governments regulate even the 'freest' markets. The influential economists and historian Karl Polyani argued long ago that 'free markets' never have, nor ever will be able to exist without some form of government regulation. Nevertheless, in America people typically value the concept of consumer leverage, and this is only found when we shoot for the ideal of free-market competition. Though the next few paragraphs involve some points which have already been touched on, the idea of consumer options and leverage deserves to be expounded upon in finer detail.

Of course education has obtained a special status; it cannot rightfully be compared to buying a car or any other commodity for which people demand such a thing as consumer leverage. But why shouldn't it be? Humans are supposedly intelligent creatures, so one might figure that we are capable of devising a way to achieve both quality *and* efficiency. How ironic is it then that what is supposed to be the institutions which fosters intellectual growth and innovation has done such a remarkable job at preventing society from achieving this?

When we buy a car the company has much incentive to list all notable features of the vehicle being sold, potential buyers get to test drive it, and buyers usually have the option of purchasing a warranty of some kind. The seller has incentive to maximize transparency (or to maximize the amount of information about the product being sold to the consumer) because the buyer has a plethora of alternative options; sellers within the local area of a wide variety of both new and used cars. In contrast, state governments typically avoid funding more than two universities within a few hundred miles of one another, and even then it most often can be said that one is a research university which offers a variety of programs extending to the PhD level (a division one school) while the other terminates most of its programs at a bachelors degree and offers only a limited number of masters degress (a division three school). In terms of information being transmitted to the buyer, one rarely knows in any appreciable detail the method which is going to be employed by a given professor, and one often has only a couple of professors from which to choose from – often times only one at the graduate level. Whereas one might buy a car any time of year, students are expected to arrange their life according to the time-table of the university.

Most importantly, an automobile manufacturer has much incentive to minimize production costs relative to the quality of product which they aim to produce. The manufacturer therefore considers all feasible innovative means to achieve the desired level of quality product. In contrast, a university carefully avoids mentioning the white elephant in the room, namely that the idea of a teachers and administrators being a necessary pre-requisite to achieving a high quality education is an a-prior assumption, one which would quickly be shown to be hopelessly inaccurate were students granted the opportunity and freedom to become licensed without needing to subject themselves to the usury of educators. In short; Universities have not maximized the efficiency with which quality information is transmitted to (or is digested by) the student[43]

While it may be true that many people do prefer a teacher, it is also true that most anyone who has gone through the public or private – basically anything other than home – school system has long been trained to such a dependency. In either case one persons preference does not justify another being deprived of options. *Higher* education is not a political election; it is a personal investment, or at least that has been the decisive view of congress since the 1960's.

As far as options are concerned for k-12 education, beyond the standardized schools developed during an increasingly outdated age of industrialization, xenophobia, and racism, the two primary privatization schemes which have in recent decades become available to consumers are charter schools and the voucher system.

The voucher system is a system in which governments provide vouchers to parents, and these vouchers can be spent on any qualifying school the parent desires provided their child is accepted and [often stipulated] their child's attendance does not interfere with that of another who resides within the natural district boundaries of the school. The idea is to restore consumer leverage by increasing consumer options and therefore creating competition between schools. The voucher system has faced heavy opposition from educators who feel k-12 schools should not be subject to competition. Other reasons for opposition against the voucher system primarily seem to center around the idea of separation of church and state[26]. Opponents further claim that such a system is susceptible to exploitation and fraud (e.g. quackery), waste, poor management, and over-regulation of private schools[36]. Being as the voucher system hasn't really had a fair chance, much of this is still within the realm of speculation.

Courts are not entirely sold on whether religious institutions should be excluded from being eligible to participate in the voucher system, the reasoning being that intelligible middle ground options to the dilemma are achievable. For example, after proposing a sliding-fee voucher system which stipulates that participating schools not discriminate on the basis of race, sex, or gender, Professor of law Rosemary C. Salomonel notes, "by requiring ... participating schools present core values throughout the instructional process as well as the "hidden curriculum," [i.e. the often unspoken national purpose of education (see closing paragraphs of this section)] the proposed model assures that we preserve certain democratic principles and cultural commitments which bind us together as a nation."[36]

Social democrats have long opposed voucher system legislation, and as of at least 2007 it could be said that every major attempted voucher reform had failed. Those in support of vouchers have found it difficult to organize on a large scale against teachers and school bureaucrats who have fought to keep the system

---

[43]A more rigorous way to put this would be to say that the educational system has not maximized the entropy of the *quality* information – what is known as 'information entropy' – that a student is receiving. Perhaps next summer (2022) I will put together some models which make use of it. More than likely I will instead focus my energies on integer optimization and stochastic decision making models.

standardized and outside of the market so as to avoid competing with one another[26].

Accordingly, charter schools have been for decades now the primary means of privatization in America.

Charter schools were originally proposed in 1974 by a Ray Budde – a retired professor of the University of Massachusetts. Budde's idea was to allow for direct appeal between teachers and school boards; to cut out the administrative middle men such as principals and teacher union representatives. As summarized by Zander Shermann,

> "The name *charter* was chosen because it conjured the idea of a temporary, specific arrangement between two parties and not the longstanding partnerships of regular public schools, which tended to get in the way of genuine learning....
>
> For the first time in the history of North American academia, Budde was implying not only that there was a distinction between school and education, but that there didn't have to be...The charter would be signed by both parties; then teachers would have a limited number of years to carry it out. Since the schools would be operated independently of government and union, money could be spent wherever the teachers saw fit, and since their own jobs were constantly at risk, it was in their best interest to be good at what they did. ".
>
> – Zander Shermann, *The Curiosity of School*

By the fact that charter schools were to be judged by their effectiveness on an annual basis, and by putting more power in the hands of the teachers (who parents and children of course have regular and direct access too) charter schools would go a long way in restoring consumer leverage to k-12 schooling.

Or at least that was the idea.

Just as the idea began to gain popularity, private think tank firms contrived an alternative charter-school model in which the administrators were still present, only now they were to be outsourced to the highest bidder thereby giving birth to the more common form of what we today conceive of a charter school – a far cry from the decentralized system Budde had in mind[14].

In general, today charter schools are defined as publicly funded schools which serve as an alternative to public schools; schools that are judged more on outcome rather than the standardization of their methods. However, being judged by standardized results has the inevitable effect that many charter schools are fairly similar to today's public schools, some notable exceptions being waldorf education and summerhill school. As the name implies, charter schools operate under charter signed by the private agency which provides services and by the state who provides the majority of the funds. Even though they did not pan out to be precisely what Ray Budde envisioned, they still prove to grant communities more flexibility in the teachers they hire. As one administrator put it, "The charter was a vehicle to assert that we would be as inventive as we needed to be to address the issues of student achievement and learning"[54]).

There is no consensus on whether charter schools should be considered private or public, but to avoid confusion we will hereafter consider them to be private institutions.

Low fee profit schools (LFP's) are an increasingly utilized concept in developing nations. The idea of a LFP is somewhat ambiguous as it is still a relatively new concept, but in general they are defined as, "private schools that have been set up and are owned by an individual or group of individuals for the purpose of making a profit, and are supposed to be "affordable" for low-income families". The idea of making a profit and serving low-income families it has been found does not present a contradiction. Furthermore, LFP's in developing nations have garnered a reputation for being superior in quality and devotion of teachers, rigor, and management when compared to state-run schools. Many low-income native families prefer LFP's for all of these reasons and the fact that they are often more disbursed and therefore closer to home (because poor families often lack adequate transportation). They are also widely perceived to be more respectful of cultural differences[26].

Criticisms of LFP's have been that they typically seek to increase student to teacher ratios and facilitate cultural and economic stratification. The former argument seems to be based on the a priori assumption that a lower teacher to student ratio should necessarily be equated to better student performance, and while there may or may not be sufficient evidence to support this notion (the efficacy of LFP's compared to state schools is, for example, highly contentious), it is one that is more relevant to educational models which put the teacher in the center of the classroom (as compared to, for example, the Dalton Plan).

Economic and cultural division is both the irony and the danger of diversified consumer choice models. It is often found that granting people diversity in their choices for schooling allows the rich to segregate themselves from the poor (or the less poor from the extremely poor) thereby reinforcing rather than leveling existing inequities among people.

According to one group of UCLA researchers, charter schools within the U.S. are often perceived to be a tool which would facilitate "... groups of parents, educators, and community members who wish to create a "... 'safe space' or 'homeplace' ... for students of a particular racial or ethnic group who live in the surrounding community ... people of color fighting for greater independence from what they see as a hegemonic state-run system "[54]. The author's go on to describe a community meeting in which "Speaker after speaker–older adults as well as young–thought that maybe we need to have our own schools. We need to decide our own curriculum. We can decide how our children are gong to learn, what they are going to learn". Inevitably the authors knowledge that there is a flip side to allowing ethnic-based cultural delineations in schools in that it has the potential to reinforce existing inequities between ethnic groups, with those of European descent gaining the upper hand. Out of respect for this, the researchers begrudgingly admit that maintaining 'permeable ethnic boundaries' is in the long run the more desirable strategy to pursue.

Aside from the fact that the UCLA researchers seemed to have overlooked the national purpose of education which, as we've seen in the case of U.S. history, is to facilitate some sort of shared culture, the authors also fail to acknowledge that educational systems were at one time used to indoctrinate a number of European ethnic groups as well; Italian, German, Irish, etc. They too experienced an appreciable degree of discrimination (probably more in comparison to today's immigrants, being as it was the nineteenth century). Whereas these immigrants likely perceived an 'immigrant-wall', as one Hispanic immigrant said to me in regard to the situation in the U.S. today, "one day, that white-wall will come down".

No ethnic group – of neither European, African, or Hispanic origins – has enjoyed the opportunities of the newly established U.S. without [willingly or otherwise] taking on the obligation of creating some kind of

shared culture. And there is good reason for this; as has been seen in the case of U.S. history, the idea behind Horace Mann's common school (and which continues to be the primary purpose behind today's elementary and middle schools[44]) was to provide stability to the Unites states by facilitating a shared culture among youth. No ethnic group wins if the United States becomes so embroiled in internal disputes to do with racial categorizations that it devolves into a third world country. Being a minority today does not excuse one from the obligation to create *some* kind of shared culture. Supreme court rulings have upheld this sentiment. According to Salomone, "Court decisions reflecting this perspective emphasize the inculcative or indoctrinative nature of schooling for a given purpose, maintaining that public schools not only may but should "influence their students to adopt particular beliefs, attitudes, and values" "[45].

None of this however, is to say that it is the government, industrial capitalists, school administrators, or even teachers who ought to be the ones to say precisely what that shared culture is. To date, standardized methods which place the teacher at the center of education, administrators at the top, and students in a passive and obedient role has become the dominant form of education, not because it is the only or even the best way of achieving the ends of education, rather the standardized method has prevailed to date simply because cooperative human beings have a way of bullying one another into uniformly adopting whatever simplistic method we *know* will provide stability while simultaneously transmitting *some* amount of knowledge – even though it may just barely be enough so that we can call it 'education'. Experimentation, innovation, and therefore efficiency comes neither naturally nor willingly to large crowds, of which are characterized by a very different nature than the individual intellect alone[**LeBon**].It is human inertia which mostly explains why educational systems have not been allowed to evolve beyond what is really still an infant stage. Beyond a few experiments in Germany, the idea of educational systems being used for the purpose of ensuring national stability is a relatively novel concept, as is the idea of millions of people of different ethnicity mixing together at the rate we see today.

Catastrophe: An Opportunity for Change

One salient lesson of this last year in which much of the world has placed itself on lock-down might be this; on a collective scale people do not change unless and until they are forced to. There is no logistical reason why much of work and school could not have been mobilized before Corona virus. Though the primary purpose of k-12 is to facilitate shared culture as a means to national stability, and this requires *some* degree of face-to-face group contact, this fact alone does not explain why more flexible and intelligent middle ground options which might even be more effective at achieving such aims have gone unexplored or have been deliberately shoved under the rug. More than just a means to facilitate a shared culture, the purpose of six-hour long days of unidirectional lecturing was more of a means to weaning individuals onto the notions of living by the clock, receiving instructions from a superior, and working in an assembly line fashion towards a goal in unison with others as an age of industry required. But there is no a priori reason why schools could not have achieved the national purpose of education via other models, and industry evolved some time ago such that today's k-12 educational system can safely be considered outdated.

Yet we stick to it.

---

[44]I have deliberately omitted high schools from the generalization of k-12 on the grounds that high schools were extended as a means of reducing competition within labor markets (see part I).

[45]Also see the previous quote by Salomone on page 96

Domestic society has a way of locking us into its rigid and unnatural norms, and short of catastrophe humans haven't seemed to develop much of an effective means of breaking themselves out of this inertial trap.

And for higher education the trend is even more clear. Save for the fact that universities were used for military purposes during the Civil War, by no reasonable argument can it be said that the purpose of higher education was ever to provide national cultural stability. There is no good reason that the act of getting a college degree could not have been since at least the time of the internet or CD-ROM's if not from the time of the inception of education itself something more like a drivers test in the sense that one studies on their own time and at their own pace and simply takes a qualifying examination when ready – consulting teachers only when needed. To say such alternatives are implausible or would give rise to quackery is to say humans are so stupid that we cannot but operate between the extremes of a medieval guild system or accepting fraud. In either case, society has clearly managed to find a more intelligent middle ground for the case of drivers licensing.

But to say "people don't change until they are forced to" here is intended more as a rule of thumb – one which is probably more accurately stated as "people [collectively] *resist* change until they *must* change". This is a facet of human group behavior which has dangerous implications as it would necessarily at some point or another lead to the conclusion that one must *create* catastrophe in order to overcome the passivity and inflexibility which in a number of ways has been indoctrinated into the masses.

At least this would seem to be the conclusion some people have reached, particularly with regard to education.

As noted by Antoni Verger, Clara Fontdevila, and Adrian Zancajo in their book, *Privatization of Education* (2016), "Catastrophe works as a material catalyst of change, opening up opportunities for privatization advocates to question the current state of education. The catastrophe also makes education stakeholders more receptive to the messages of privatization advocates. Due to the destruction and the sense of urgency that catastrophes generate, policymakers and other educational actors are more open to considering drastic policy changes, especially if such changes are framed and perceived as inherent to the reconstruction process."[26]. The authors go on to describe privatization reforms which had occurred in the aftermath of the earthquake in Haiti (2010), Hurricane Katrina (2005). and the War between the U.S. and Iraq (2003-2011). In the case of Iraq,

> "...The Iraqi case reflects the "smash and grab" idea (Saltman, 2007) lying behind the path toward education privatization via catastrophe. The education infrastructure of the country was first devastated through sanctions and conflict; afterward, two simultaneous processes of privatization and decentralization were introduced. The privatization agenda, hence, was advanced through consecutive stages of military destruction and reconstruction that, according to Saltman (2006), were embedded within a broader process of neocolonization in the country.
>
> ...The "promotion of democracy" frame behind CAI's projects in Iraq, but also in other parts of the world affected by conflict and war, represented the intervention as a matter of progressive encouragement of civic participation, individual rights, and constitutional rule of law. Nonetheless, the underlying objective of the intervention was the encouragement of a free-market liberal democracy, with an education

system modeled on privatization ideas originating from the United States (Saltman, 2006, 2007)."

– A. Verger et al., *Privatization of Education: A Political Economy of Global Education Reform*

In addition to catastrophe being an opportunity for educational reform, it can also be incentive. Writing on the case of the Chilean Revolution of 1859, Gustina S. Paglayan has as his thesis statement, "...instances of widespread internal political disorder that constituted a threat to political elites' authority, such as peasant revolts and civil wars, were a key historical factor that prompted elites to turn to mass primary schooling as a means to contain future political instability—not by buying off rebels through redistribution, but by using schools to instill values of order, obedience, and respect for the rule of law that, elites hoped, would help prevent future mass rebellions against the state's authority."[55].

Obviously there are numerous agendas at play in education. Equally obvious is that catastrophe presents an opportunity for change to occur. The question worth entertaining is whether such opportunism ought to be resisted. To this end, firstly, it is worth noting that if ever there was a species which did not capitalize on such opportunities when mother nature presented them in an effort to diversify and adapt, then this species likely is no longer in existence. But change can of course go both ways.

While the idea of a democracy presents a theoretical alternative means to catastrophe to ameliorate differences between people and facilitate cooperative decision-making, serious questions begin to arise when it becomes clear that peoples natural mechanisms for developing a consensus have been obstructed, either because society has become too large such that these natural mechanisms are no longer possible, or because such mechanisms have come to be manipulated as they have been in the case of education. Catastrophe then becomes one of if not the only way to affect change. However distasteful the idea of exploiting catastrophe may be, it should be remembered that there are a fair number among us who have learned to exploit times of peace. Often this is precisely what one finds when looking to the front of a classroom.

VI. Conclusion/ Policy Recommendations

Alarming Trends in Labor

In her recent book *Little Soldiers* Lenora Chu describes how tens of thousands of parents every year dread the results of the *gaokao*; China's national college entrance exam. The primary fears of many parents is that their child will end up a permanent day laborer. Having spent ample time doing both day labor and academics, my greatest fear is that I'll have to choose between the two. However redundant and 'unskilled' such labor may be, it is the most evolved form of work known to us. A manual laborer can go to any town and ply his or her trade, be self-employed, and not worry about how they dress. Manual laborers – especially day laborers who are willing to perform various different tasks – have greater versatility in the

99

jobs they perform, they enjoy a higher and more 'down-to-earth' degree of social capital than most do in other jobs, their job markets are more immune to shocks, and the 'lump-of-labor' fallacy is more readily apparent in them than elsewhere; more people = more homes = more things to work on and maintain. In contrast, the relatively new conception of a professional brought on by technical trades is a fairly inflexible field characterized by well defined hierarchies, dress codes, scrutinization of periods of unemployment or employment which was just too short, people are concerned about whether you are a family man, there is a perception of scarcity of professional and prestigious jobs to go around, and (at least in technical trades) the number of people you come in contact with can be low. This as I see it has little to do with technical complexity of the tasks being performed and everything to do with the fact that these job markets are simply new and haven't had nearly the amount of time to evolve as has many manual labor trades.

Certainly it is natural to specialize to the point of craftsmanship, but is it natural to spend the totality of ones career doing specialty work – let alone *one kind* of specialty work? And is the conception of a 'boss' natural? Until relatively recently in the course of human history, the primary means of employment for the majority of the world's population was farming in which an individual did any and everything necessary to support the household, and worked for none but the family to be supported. But even that was [anthropologically speaking] a relatively recent advancement. Prior to domestication and for the vast majority of human evolution we were nomadic hunter-gatherers who had an even more diverse and far more mobile conception of labor than we do today.

In 1800 four out of five people were unfamiliar with the concept of a boss. By 1970 less than one in ten could say the same. Today not only can it be said that number is probably less, but many people are being coerced to begin their professional working lives in debt. Since at least the times of ancient Rome, "Debts created long-term relations between people of different status groups, and became one of the main ways the wealthy elites extended social control over ordinary and poor people, ...According to Roman laws as codified in the Twelve Tables, if a debtor did not or could not repay his debt on time, creditors could seize a debtor's property, sell the debtor into slavery, or impose debt-bondage..."[32]. A similar relation between debt and serfdom is likely to be found in the middle ages, but at least then the peasant averaged only 270 working days a year[21, 3]. Were one to care to add it up, today's graduate students are so overworked and underpaid it might as well be referred to a as a new form of serfdom. The working professional, though they might be well paid, is still overworked and today has a very skewed notion of social capital.

But what I fear more than any of the above is that workers don't believe in what they build or produce today, let alone what purpose it serves. How unsustainable and irresponsible is it that we've embraced a philosophy of building more things just to create more economy? Meanwhile, the deterioration of craftsmanship seems to parallel a break down in the capacity of our ability to define the public good or to pursue the principle of enlightened self-interest in our work[46]. One would think it ought to be considered an urgent need to convert more people into information laborers, yet our ability to do so has been handicapped by opportunists. As one representative of the Bureau of Medical Economics for the American Medical Society put it, "Not a small part of business acumen or present society is expended in seeking an opportunity to intervene in business relations between buyers and sellers in order to abstract profit from the interflow of commodities and cash... such intrusion and tribute extortion has come to be known as 'racketeering.'"[25]

In Arthur Koestler's 'theory of the masses' it is claimed that for every advancement of technology there

---

[46]Or Tocqueville's 'principle of self-interest rightly understood'; how to solve ones own problems by considering those of others.

is a temporal gap during which the general populace is vulnerable to exploitation as they've yet to master the effects which the advancement of technology has had on them, and therefore do not know how to employ it to their collective advantage. As society becomes more complex we might suspect the ways in which we deceive one another to likewise evolve in both their subtlety and complexity.

It is one of the more impressive cons in the course of human history that so many people have been weaned onto the notion that they need a professional presenter to 'teach' them what has already been laid out plainly for people to read and learn for themselves; that compulsory attendance, rigidly defined start and end dates of courses, and standardized curriculum's are in some way designed to teach people to think independently, yet school has played a central role in bringing about the most widely spread age of dependency in the course of human history; that that educators today protect us from quackery, when it is clear they've become the quacks.

It is no stretch to say that a computer would do better. For all our reductionist knowledge it can be said that people still don't understand people. People manipulate, exploit, and undermine any system for which they are placed in a position to do so. But computers have no such motives; they are transparent, and with some effort people can gain an honest understanding of their algorithms. With the onset of the information economy, what does it say about our society that we embrace a five hundred year old European guild system acting as the gatekeeper to this market? If students cannot find self-determination in the ways in which they digest information in schools, how will they find it in information based job markets?

As has been argued in part III, higher education has done much more than prepare people for today's information economy; it has shaped it, the results of which have been a quasi-guild network of professionals. Higher education increasingly stands as the gatekeeper to gainful and satisfying work, while k-12 has been utilized as the most profound tool of acculturation in the history of the modern world. Reforming both is essential to achieving systems of equilibrium. By 'equilibrium' I do not necessary mean economic equality, rather, social capital and self-determination accounted for, I mean contentment and national stability. Schools are means of generating shared culture and cooperation, but they've been abused in that they have served as a means to deprive people of their ability to define the resulting shared culture and to redefine cooperation as simple obedience.

K-12 Recommendations

> "We are so used to equating education with schools that we may forget that schools are merely a convenient, economical method of group or mass education. In primitive societies a child is educated by association with his elders in work and play. Plenty of great thinker s, from Socrates to Pascal, Rosseau, and Mill, never went ot a regularly constituted school."

> – Morris Bishop, *The Middle Ages*

In the state of Oregon education accounted for 49% of the 2017-19 legislatively adopted budget, with 39% of that going to k-12. Within a span of two years (2015–16 biennium to 2017–19 biennium) teacher

salaries increased by 4.51% and the amount paid per teacher for pensions went from $5,665 – $8,572 (a 50% increase). Regardless of the consistent increase in funds, the budget for the last twenty years has consistently fallen at least 24% short of funding requested by the Quality Education Omission (QEC)[56]. The QEC's recommendations for a 'quality education model' are largely based on the strategy of simply increasing attendance and throwing more money at the system as it is currently defined, but virtually no mention is made in their 2020 executive summary of experimenting with alternative models – models for which, though they might prove much more effective at serving the QEC's proclaimed goals of redefining the system so as to better serve minorities who are currently falling behind the median level of achievement, might also challenge the central role that teachers play in the education process today.

For k-12, the need to consciously create a shared culture does not mean that the state, the school board, teachers, or industrial capitalists should be the ones who have authoritative say in what that culture is. Secondly, as often is the case with systems which address some need when they are initially conceived, as time goes on, and as circumstance change, such systems sometimes cease to effectively serve their original function. Social and political events in recent years – even prior to covid – are suggestive of the fact that educational systems in their current form are not as stabilizing as they have been in past times, and they should evolve accordingly. Thirdly, six hours a day of compulsory attendance is unnecessarily excessive. There is no convincing reason why two or three hours a day, or even compulsory attendance for some amount of hours only a few days a week, cannot prove to be just as effective at accomplishing the national purpose of elementary schools[47]. On the contrary, such a thing might have the effect of making students *want* to be there and therefore more effective in this aim. How much more so might this be if students rather than teachers are made the center of schools, and if autonomy is restored? Neither should compulsory attendance be equated to compulsory instruction – this subtle equivocation is one of a number of underhanded means by which educators have endeavored to undermine the collective decision making capacity of the public to serve their own ends.

There is not a prior reason schools need to be segregated according to age or even that learning needs to be the primary activity within them. Schools are first and foremost a means to achieve cooperation, and the model we've hung onto in order to achieve this is a very primitive one which can be evolved.

The freeing up of time spent on compulsory attendance in K-12 schools can be replaced with either standardized (e.g. the Dalton method) or project based curriculum (e.g. Dewey's method), both of which can be worked on autonomously and either of which might be supplemented with online consultation. Recent advances in technology make it possible for students to reach across the entire state or even nation to connect with teachers who specialize in their projects of choice – a thing which in Dewey's time was a hindrance to the implementation of his methods –, but this would require a merging of some sort between educational institutions, i.e. state or national elementary, junior highs, and high schools.

With regard to the Dalton method it should be acknowledged that it was largely a successful endeavor. When attempting to explain why the Dalton school lost popularity after the 1920's, despite his best efforts to discredit the system[48] by suggesting that "perhaps...the Dalton Plan fell short of what had been hoped for", ultimately Piet van der Ploeg's best explanation is the 'grammar school hypothesis'

---

[47]To create shared culture between ethnic, religious, and economic groups so as to maintain national stability.

[48]Ploeg is a teacher in the Netherlands – a place which today uses the Dalton method perhaps more than any other nation. Judging from the fact he's written numerous articles attempting to discredit the Dalton method, and he does so with apparent bias, one might consider the possibility that his employment as a teacher might have been jeopardized by the Dalton method.

"... the "grammar of schooling" was too strong. ...By "grammar of schooling", Tyack and Tobin mean "the organizational framework that shapes the conditions under which teachers instruct students". It is the institutional template generated by political, social and cultural factors and is perpetuated, for instance, by (respectively) power, functionality and convictions. The grammar of schooling is stable, despite the disadvantages and shortcomings which are evident to many of those involved in education. The Dalton Plan is one of numerous attempts to "challenge the structures and rules that constitute the grammar of schooling". Just like all the other attempts to challenge the grammar of schooling, the Dalton Plan managed to interest and inspire many people during a brief period – but only a brief period. This is because every innovation soon falls out of favour and people lose interest in it, owing to the traditional organisation of schooling being too strong and offering too much resistance. This also holds true for the Dalton Plan. In our opinion the grammar of schooling ... explains the loss of popularity of the Dalton Plan"

– Piet van der Ploeg, *The Dalton Plan: Recycling in the guise of innovation.*

Note that momentous events such as the depression and World War II paralleled the downfall of the Dalton plan, and such things have the capacity to sideline innovations – however promising they might be.

Higher Education Recommendations

" A clear distinction must be drawn between culture, on the one hand, and erudition and professional training, on the other . The first ought to be shared by all; the last two are necessarily confined to individuals and classes. And not only ought one scheme, with one definite purpose, to extend from the kindergarten to the university , but all the kindergartens, universities and other institutions of learning in the nation should freely unite into one great hierarchic agency for the culture of citizens fit for a democracy. The seat of the national government ought to be the central seat of learning; the Bureau of Education , while exercising no authority, should be the most influential department of the national government. Indeed, it ought to be erected into a separate Department"

– Thomas Davidson, *A History of Education*

As for higher educational reforms, as in k-12, adopting either the Dalton plan or Dewey's method or some variant thereof would be a dramatic improvement from today's system at the undergraduate and graduate levels. For many a system of complete autonomy comparable to a driver's license examination system in which one has freedom to study and take exams when they are good and ready would be a best fit. While I cannot say such a system would be a best fit for all (because without deadlines some might lose motivation), so too can it be said that the vast majority of students today have been weaned to the notion of needing someone to guide everything they do. If there is one accurate assessment of myself I've ever heard it came on a job site setting up a circus; a manager looked at me and said, "I can tell you work

best by yourself." Some people need structure else they fall behind. To others, being deprived of autonomy and the freedom to go about a task in their own way is like dragging nails on a chalkboard, and today's system has done nothing less than discriminate on the naturally independent facets of such people. In this instance equal opportunity has not been achieved as it can be said the system has been conducive to those whose circumstances allow them to bend easily their life to the schedule of the university (and probably even to people of a certain personality type) being able to consistently tap into extrinsic motivation while withholding it from others.

Isaac Newton made a number of advancements during the two years of forced absence from the university during the plague outbreak. Ramanujan is today held as a savant in the world of mathematics, and he lacked a formal education. While it is certainly true these were exceptional individuals, *how* exceptional remains open to question as *billions* of students over the last century have been deprived *by law* of their opportunity to become autodidacts.

And it would be a mistake to say that imposing structure facilitates the need to teach people cooperation. Aside from the fact that facilitating cooperation is the legally recognized role of k-12 while congress itself considers university education a private good, and that there is no good reason college students should be duped into paying for someone to 'teach' them cooperation, the university system has demonstrated a peculiar reluctance to evolve the specific ways in which we cooperate, instead holding us hostage to centuries old European practices and requiring people organize their lives according to the needs of the institution and not vice versa. This suggests that the notion of cooperation has become yet another means for educators to deceive the public and undermine their collective decision making capacity to serve their own ends.

Finer gradations are called for so as to facilitate flexibility, to efficiently match graduate skills to the needs of the job market, and for students to have the capacity to make self determined decisions. Providing consumer options which facilitate self-determination for the individual can be achieved in large part via a system of finer gradations in the degree system. As discussed in part III, our system of degrees should be adaptable to the job market – analogous to the pinscreen toy. It should be the job market rather than guild systems which determines where this equilibrium lies between supply and demand for graduates of a certain skill set. In the information economy this requires a very fine and specific degree of gradations – in both quality and content.

As for gradations in quality, By 'high vs. low' quality I mean essentially what we currently conceive of as the difference between a bachelors level knowledge in a subject and a PhD's. Unlike today's generalized gradations however, they should be much more specific and consequently there should be a greater variety of them. And they should be disconnected from general degree requirements which primarily serve the purpose of prolonging time to specialization. Were this not true then one with a bachelors level certification who returns to school seeking to get qualified at that same level in a different field would not have to repeat another four years – perhaps only a third of which was actually spent studying the specialty anyway. One would think that completing general education once would be enough.

If the current system of generalized degrees is really what the job market requires or it adequately embodies the kind of curriculum people really want to study, then some combination of lower quality certifications can be combined to produce the equivalent of what we now call a bachelor's, master's, etc. Providing options would grant flexibility for those who desire it while doing nothing to inhibit the freedoms currently enjoyed by others wishing things to remain as they are. Importantly, federal funding should not

be coupled to the pursuit of such a generalized degree. This could easily become yet another means for opportunists to manipulate consumers of education.

Importantly, it is the ability to specialize (e.g. advanced graduate courses and PhD level research) which gives research universities such leverage as they possess today. There is no good reason that people should be held back from the ability to specialize at an early date if that is their wish. People don't need to be protected from themselves, they just need to be informed on the prospects/ repercussions of such decisions. In physics especially it can be said that students are coerced into beginning the same topic from the same point every year – even at the graduate level! Better to abolish or at the very least extend the time limits of a given course and do a thing right the first time so that it need not be done twice. Exposing students to the advanced treatment of a topic at an early date gives a more honest view of what it is and also creates more of a necessity for consultation with peers and/or professors, i.e. it *enhances* cooperation. The only thing allowing specialization to occur at an early date doesn't do is secure the job-stability of teachers who thrive off of the unnecessary prolongation of education. It should also be mentioned that the lack of opportunity to master a thing thoroughly hinders students in their ability and willingness to tutor one another, and this adds to the overall inefficiency of the system as it keeps it reliant on vertical information transfer instead of maximizing horizontal information transfer.

Knowledge pertaining to advisement of navigating the academic and professional worlds is probably the most valuable kind of information an institution has to offer, and it is precisely the kind of information which is suitable for standardization so as to put people on equal footing and accomplish educations pro-claimed goal of being 'the great equalizer'. Yet this form of knowledge transference is left to the informal and bias realm of human advisers or the individuals upbringing while the sort of knowledge which shouldn't be standardized (e.g. skills-based knowledge) is standardized and monetized at a much higher rate than is warranted.

A simple computer program could do much better. For instance, upon finishing a chapter, instructional software could inform students of up to date statistics in employment on the subject, trending areas of related research, information regarding other university programs that might specialize in that particular area, as well as grants and scholarships related to it. Of course, any truly transparent, unbiased, and informative program such as this would quickly contradict the aims of a guild who seeks to insulate itself from the competitive influences of other programs and departments and to maintain artificial boundaries between disciplines. For example, informing physics students that statistics graduates are getting hired faster than the school can produce them, and that these graduates find themselves much more prepared for a dynamic range of employment opportunities in today's data analytics sectors (which is to say in most all sectors) than do physics grads, then one might expect to loose a few graduates in the department before long, or at the very least have the rigidity and artificial boundaries of their program's curriculum come to question.

One might object to the automation of higher education, but higher education is for all practical pur-poses *already* automated – there is nothing in most classes that a teacher presents which isn't already laid out in the same content and order as it is in a textbook. Institutional actors have incentive to manipulate the capacity of students to make self-determined decisions, and no system which places them in control will ever be immune to their ever evolving usury.

In conjunction with a system of finer gradations, the abolishment [to some reasonable degree] of rigidly defined start and end times for courses would allow people the flexibility to work towards a certification at

their own pace and on their own time, and would open the door for many people currently de facto excluded from higher education.

General critical thinking skills can be learned via specialization just as well – better even – than they can be in today's fragmented curriculum which constantly interrupts ones attempts to build off of what was learned. In the beginnings of learning a subject, ones mind is hardly focused. In the intermediate stages, one achieves an intermediate level of focus. It is only in the advanced stages when one is contemplating the finest intricacies of a subject and all of their inter-connections which true and pure focus is achieved – it is here that critical thinking skills are truly born. Yet this is a phase education today routinely holds students back from. We begin to appreciate what Helen Parkhurst meant when she compared education to a meal for which, "The host was presented with a bill for a meal which had been perfectly served, but which they had not been permitted to enjoy."

As for achieving a liberal education, today's educational system is robbing students of life-experience which may inceptualize in them original ideas. There is a danger to forcing a liberal education prior to this point in that one may find themselves reading books to define themselves and their own ideas instead of using books to help them relate their own ideas to existing ones as well as to express themselves. The former case has the capacity to stunt human innovation and self-discovery before it has a chance to take root. Human affairs are the result of countless reductionist processes working together, as such the humanities are not subjects which are suitably confined to a well-defined course. Project based curriculum would allow for the social and intuitive intellect which such disciplines rely on to manifest. The flexibility granted by finer gradations and abolishing definite start and end dates would help allow students to avoid sacrificing life experience in favor of getting a degree as soon as they can in hopes of 'getting ahead'. Today, for all of the books we write, we are at a deficit for having undervalued philosophy which has the capacity to shape reality rather than merely describe it – a quality which is a very dangerous thing to lose. If nothing else, a liberal education helps people express themselves and facilitates productive dialogue which is distinctly lacking in today's mainstream political conversations that are more characterized by peoples frustrations at their inability to express themselves intelligibly and completely on a matter.

One of the primary downsides to the things proposed thus far is that they'd likely decrease the selectivity of education. But the point of education – what people pay for – is precisely that; to be educated, not to be selected out because their life cannot conform to someones else's schedule or because they cannot develop a sense of intrinsic motivation towards a system which is designed to stifle it. In either case the plain fact is we can no longer afford to abide by the 'lump-of-labor' fallacy. Technology and research have irrevocably altered job markets such that education can no longer be considered a lofty privilege – it is a right for citizens whose very lives have been uprooted, bullied, shaped, and stupefied[49] by the technological advancements which ultimately can be attributed to the proliferation of institutions of knowledge and research – advancements which have gone largely unchecked.

Britain's PhD system is a useful model which demonstrates that autonomy at the graduate level is a perfectly reasonable thing; rather than standardized curriculum, candidates are left to their own devices to learn what interests them. However, after four or five years of study, candidates are examined only once by one expert in the field and no petition or second chances are allowed if a candidate fails the examination. This is not to promote the latter guild-like extremity (I like to think we could pick from this model the autonomous part while lessening the repercussions of the judgment part), but it does demonstrate that in no

---

[49]I say this on the grounds that as reductionist intellect goes up, social intellect goes down.

way can what I've proposed be construed to be the lessening of standards.

Like k-12, the university system would benefit from state or national mergers.

America of course has a strong bias against nationalization of institutions, and education is in many ways a form of governance. However, such fears are not altogether founded on reason. Historically, some of the greatest tyrannies have occurred at the *local* level, e.g. serfdom in Russia evolved prior to the development of central governments which later proved to be the force which would emancipate them. The federal government in the U.S. is also to thank for the abolishment of slave system which evolved on more of a local than national scale and for its intervention in the civil rights movement. When governments become bashful at the prospect of governance, guilds and local rule by despotic gangs thrive. State governments especially have empowered these gangs and sold their own people out to them.

Educators ought to see a potential shared interest with consumers in the nationalization of the university system. Though universities might try to resist the process, inevitably higher education follows industry, and since covid a new norm within industry seems to have been born; electronic mobilization. This development makes the future of the traditional models and institutions ability to survive within a capitalist market where consumer options are highly valued questionable. But nationalization makes possible a more amicable and stable transition.

Educators should cease an opportunity for an amicable transition while it is on the table, because before long it won't be. Already educators have shown their true colors by the fact they've endeavored to fight change when the door to it has been opened. One vice president of a nearby university (University of Idaho) I found proliferating 'research' online which suggested that if universities were empowered to hold housing itself over students heads, then in-person classes never would have needed to be interrupted to begin with during Covid (because they'd be able to deter students more effectively from partying by holding housing privileges over their head.). Of course managing tough situations is always easier when one is empowered to violate basic human rights.

If education is to be considered a *private* good, then like any other private investment consumers should have options and leverage – a thing which can only be granted if the guild powers of institutions are abolished. Accordingly, if not for a national university, then federal aid should be decoupled from accreditation which does little to ensure quality education as it is based on inputs rather than outputs that measure how effectively it is working. Furthermore, institutions have the leeway to define the very goals which their own accreditation are measured on.

The fact that students have been deprived of consumer options which they might spend their loan money on is a new form of loan-sharking; while interest rates may be low, by limiting consumer options schools exercise a great deal of authority in influencing how much a student must inevitably borrow in order to achieve their desired goal. When the guaranteed loan program was established in 1965 federal loans originated from the federal treasury, but when the default rates got too high the federal government realized the need to create a secondary market; in come companies like Sallie Mae whose profits rose 1600% from 1995-2005. As the scheme now goes, Sallie Mae provides the funds and the government guarantees to reimburse Sallie Mae for any loans which go into default. Meanwhile Sallie Mae does the collection which comes at a percentage fee to the borrower, of which Sallie Mae gets a certain percentage of[14]; all of the rewards, none of the risks. Furthermore, unlike most lenders, Sallie Mae is privileged by the fact that

bankruptcy is not an option for student loans and taxes and wages – basically everything save child support – can be garnished by the federal government in order to recoup the cost of paying them. In the words of Elizabeth Warren, "bankruptcy laws are written to benefit [student] lenders"[14]. Lenders such as Sallie Mae have virtually no risk in lending, yet students are granted minimal protections. This in turn engenders more than a capitalistic mindset in today's graduates – it gives rise a heartless and opportunistic one in which there is little room for compassion; one in which the concern for the private good has little to no overlap with concern for the national good. Here a national university might do good as it would inevitably direct the public's attention to questioning the federal governments outsourcing of loans to a private company.

If the federal government values the research of professors so much then it ought to be them who pay for it not the public. But government would be wise to instead focus on how to develop and restore a reasonable level of social intelligence among today's populace on the grounds that no breakthrough in technology is going to solve too many problems in the hands of a populace whose social intelligence – here defined as more than a liberal education, but also the ability to think and act together, and to address our collective issues via the principle of enlightened self interest – has been undermined by higher educational institutions. To this end schools – both k-12 and colleges – ought to be seen as a means of restoring our shared spaces rather than as a means of institutionalizing people[50].

Reform should not base itself primarily on the need to appease those of us who have successfully navigated and who now benefit from the educational system. One would not reform Wal-street based on the private interests of affluent bankers and call it the public good. Likewise, higher education in itself is *not* a public good – in itself it is just a tool, one that has been used and abused by self-interested actors who have become adept at exploiting the public.

A Fork in the Road Ahead

Long have educational institutions been recognized as a most powerful tool to establish a uniform culture and a docile populace. It is probably no coincidence that the BLM movement was able to generate the momentum it did during a time when school was out, and when schools return to session, it is a good bet to say that an atmosphere which negates such movements before they ever gain momentum will resume. Things will go back to just about where they were prior to Covid, and not much will have changed in the system beyond its middle to upper echelons having gained a slightly more multicolored hue to them. Living next to a high school, I can already witness a predominately white crowd of parents and children flock back to their institutional centers of cultural power, fully confident that so long as these institutions remain unchanged, nothing else of great import will. 'Cultural diversity' will then continue to be conflated with simply assimilating people of various ethnicity into the progressive hegemony while requiring that they leave their ability to influence the culture they are being assimilated into at the door.

Guilds flourished from about the twelfth century to the middle of the nineteenth. As trade began to develop between towns in the sixteenth century, and especially as industrialization began in the 1800's, the simple inefficacy of guilds could not compete with capitalism in an industrialized economy. Guilds do not go out of business willingly or even evolve with the times if it involves giving up any degree of power.

---

[50]See reference [46]

Though they fought the process, governments began to turn on them and deny them their privileges which were hindering economic progress. In some cases it happened fast while in others it occurred over a period of decades, but in every case it required a degree of governmental nihilism towards the guilds who were cut off from their privileges and left to fend for themselves. The primary purpose of education is not, or at least should not be, to employ educators. Neither should students be looked on as a primary source to sustain them; such a practice is parasitic in its nature, and it has grown unchecked in recent decades.

Humans were evolved to operate in small groups, and to a large extent we still operate in small groups. Yet today we live in very large groups (e.g. cities). But sometimes a means to an ends becomes outdated, and as society changes that means may no longer serve its original purpose. Increasingly it appears that our small-group (or tribal, gang, guild, etc.) instincts are an outdated.

With regard to the classroom it is often claimed that smaller student to teacher ratios are synonymous with superior learning outcomes, but I've never been in a class which had more than sixty people in it. Some group psychological research has suggested that there are fundamental differences between small groups and large ones, and this is important because something which plagues classrooms across the world today is the unwillingness and/ or lack of opportunity among students to transmit information in a horizontal fashion among themselves. If we utilized technology to pass this threshold then would this behavior change? What if we graded people on their willingness and ability to share information rather than incentivizing them to hoard it? Could we take this so far as to entirely replace the idea of a teacher with advanced forms of cooperation?

Should teachers be at the center of these institutions in both the financial and physical sense? Should 'teaching' be equated to presentations; 'responsibility' and 'culture' to learning how to live by a clock and receive commands from a superior? Should kids be so separated with respect to age? Should learning even be the primary activity within schools?

These are questions which warrant a fair and open discussion among the public, but thus far they've been swept under the rug. As I write these last words, educational lobbyists are trying their best to dupe the public into letting a prime opportunity for needed and justified change pass them by. Such people would hold evolution itself hostage. What becomes of a species when they stop ceasing the opportunities which nature gives to them to adapt and instead start trying to fight nature herself? It must be realized that there are those within the ranks of educators who are more aptly called creatures of an institution than of any nation or state – perhaps of any species. This is not to promote bigotry, but in all seriousness to point out the dangers of allowing the age of information to be reduced to an age of institutionalization, subjugation, and exploitation. The human race is approaching a decisive fork in its evolution; one way is large scale cooperation based on enlightened self-interest, and the other is subservience based on institutionalization. There are those among us who see institutions as a means for the weak to overcome the strong of mind, body, and spirit.

Schools represent a vital resource to a modern and populous society in which various intermixing ethnic groups and cultures have to learn to cooperate, but they represent just the *beginnings* of a new form of governance; one in which lines of authority and information transfer still occur vertically as in a hierarchical society. This concept is still in its infancy, and the form we've clung to is by now an outdated one; it is time to evolve. Information entropy cannot be maximized in a system which relies primarily on vertical transmission, and to endeavor to cheat entropy is to think one can violate the most inviolable law of nature.

Many species have probably tried, none succeeded, and few survived to tell about it.

Vertical lines of authority of information transfer might be seen as a sort of neo-tribalism; an attempt to hold onto our instinctive wants to secure the power of small groups. Human beings have to *overcome* their tribal instincts, not by dismissing them in favor of self-interested individualism as capitalism has trained us to, but by evolving them to something capable of encompassing a much more populous world in which tribal and cultural boundaries cannot define society. James Madison in his day called it overcoming majority faction. On a instinctive-biological basis to my knowledge we don't even have a name for the transition, save perhaps the as of yet obscure [when applied to humans] concept of 'hive-mind'.

Authors Note

Here is yet another horror story of the world of PhD's:

Having successfully clawed my way through four years of graduate school – a significant portion of which I was required to repeat on the grounds that I did my masters at one institution before [reluctantly] transferring to another –, I finally got to the point where I was to assimilate into a research group. I stood out like a sore thumb in the program, but they accepted me and I had been having trouble breaking into the professional job market with a mere Master's degree in Physics. Physics is like the English degree of the sciences; there's nothing you *can't* do with it, but on the other hand, what are you going to do with it? Like most who study physics, I began under the conviction I was going to get a PhD and figure it out from there. In hindsight such decision making philosophy is not suited to today's educational system, but basing your decisions on a conviction that doing what suits you should take precedent over all the 'what-ifs' that could occur along the way is no better or worse strategy than always planning everything as our system today requires – they are just different decision making methods.

Anyway, presumably because I didn't bend over backwards to impress people by taking the comp exams earlier than I was required to (an unspoken expectation for those entering with a masters degree), most researchers within the department shunned my initial attempts to join their group. When I finally got one whose interests matched my own to respond to my inquiries, he told me, "I know you have a strong opinion on how things should be done" and sent me a link to *The Culture Code* – a book about small group dynamics – telling me "if you agree with the culture code we'll set a meeting". As it turns out the primary theme in *The Culture Code* was all about sending signals of safety and belonging to group members. Mistakenly thinking we'd entered some open conversation about our personal research interests, I informed him it would fit in well with my current research on guilds, going so far as to tell him I was reading *The Death of Guilds* by Elliot Krause and how it described that universities are the last remaining guild system; they only survived because they didn't stand in the way of commerce, and that I believed this all was about to change, and that we should *all* be looking to evolving.

Needless to say, I didn't hear back from him after that.

So I appealed to the head of the department. A trend I'd observed with him was that he was reluctant to stand up to those he supposedly led within the department. Whenever a group of competent graduate students would get together to tell him something was wrong with some professor, he'd reply, "there is such a thing as 'academic freedom' ", 'academic freedom' being a term often used in educational policy discussions to justify the idea that researchers should have freedom to direct their own research. But to me how this term came to be applied to teaching to me seemed obscure, and it was a concept being applied in a hypocritical way being as students give up a great deal of academic freedom for the sake of the teachers employment. As is typical of academics, such concepts just get bent and abused to enable them to avoid confrontation amongst one another; to respect the 'code' of not infringing on the autonomy of professional craftsmen, even though it comes at the cost of consumer leverage among students and quality instruction (not to be confused with education).

Later that year I'd attempt to transfer to the math department and just do an MS in computational finance and call it good. The department told me explicitly that if I scored at least a B in some courses I'd

be admitted. I scored a perfect 4.0 in one class, a B+ in another, and a B- in one, and it happened to be the one course I was sure I was on track to an A in. The course was very compared to a number of graduate courses I'd taken. As it turned out, the man who ran this course was the head of the math department and it was his say which my admission depended on. He knew the deal that had been offered to me of course, and he knew all he had to do is ever so slightly bend the grade from B to B- to give himself just barely enough wiggle room to justify denying my application. More debt and another six months wasted on misleading information and deception. I told him and the associate dean they had the meeting in which I was told before deciding to put the PhD physics program on hold to pursue this deal on video file and could review it themselves, and that this was basically an act of giving unreliable and vague if not outright deceitful information for me to base my decision on. But universities lack external oversight and incentive to act on their own internal oversight mechanisms. The dean sided with him without bothering for much of an explanation.

A computer would do far better as no system is immune to usury of those who spend a career figuring out ways to manipulate it – least of all PhD mathematicians.

After spending a decade living either homeless or in 100 square foot bug infested 'apartments'; after taking on more debt than I care to admit in an effort to live according to the principle that a man should have a craft which is challenging and satisfying to live by; after repeating the introductory level curriculum which constitutes the better part of a masters degree; having over a matter of years observed how in numerous underhanded ways I was being coerced to 'choose' between a productive life and the ability to associate with my own people; after losing out on what proved to be the final year of my fathers life, in response to my refusal to return to campus and relocate my entire life over *one* course so that the university can try to pretend covid didn't happen, the fearless leader of the PhD program had the audacity to question my commitment, telling me "PhD is a sacrifice – have you considered terminating at [another] masters degree?" Like many who have made a career in academia, or even made it through graduate school, he was raised by parents who valued education – both were career teachers in his case.

In contrast, I was raised by a life-long alcoholic and drug user and an Italian immigrant who didn't even know English when she came here – neither of which ever bothered to give any advice or share their life experience. Though I'd gained invaluable lessons from *observing* both of them, such knowledge has little relevance to educational systems. On the contrary, my dads aversion to authority and my moms dogged strategy of 'shoot-first-ask-questions-later' type persistence probably left me at a disadvantage when it comes to navigating today's educational system.

And what of those who didn't have at least one productive parent? Growing up I knew a number of such people, and they considered me privileged. Today, to my knowledge, very few of them have successfully navigated the higher education system. Some of them don't even have their front teeth, others will be in prison for decades to come, and at least one is dead. In the words of William Ewart Gladstone, "greater calamities are inflicted on mankind by intemperance than by the three great historical scourges, — war, pestilence, and famine."

What happened to be the last thing my father and I ever spoke of in person on our way to the train station had to do with what anthropologists call 'social congruence' - a term used to more or less describe the level of cooperation which is required by a society (the need for which is steadily increasing every century if not decade). Practically defeated by the loops of social workers, court troubles, and all of the

petty things which come from hustling jobs while living out of a van, he told me that once you're in the system its hard to get out – that too many people make a living off just trying to kick you back down when you're trying to get your things together. But most of all it was the idea of 'social congruence' which got him. Having read some paper I mentioned it in, it was though I'd offered him an explanation for everything which plagued his life; "it's *everything* Wayne, and it's *everywhere*" he'd say. When he said this, some wild kind of look would come over him – the same look I'd seen in a number of homeless men who had been pushed over the edge and wound up doing something that more or less sent the message, "fuck you world". It turns out that would be the last year of his life, and I spent it allowing school and all of the low-life parasites inhabiting it to bully me around.

How is education serving the needs of people such as me and those I was raised with?

Needless to say, my drawing a line resulted in me 'dropping out'. It was one of the more liberating experiences of my life.

Books

[1] James M. McPherson. *Battle Cry of Freedom: The Civil War Era*. Oxford University Press, 1988.

[2] Harry Braverman. *Labor and Monopoly Capital: The Degredation of Work in the Twentieth Century*. Monthly Review Press, New York, 1974.

[3] Werner Rösener. *Peasants in the Middle Ages*. University of Illinois Press, 1992.

[4] *Free Trade*. The H.W. Wilson Company, 2005.

[5] *Horace Mann*. Horace B. Fuller, 1868.

[6] Edgar S. Furniss. *Labor Problems*. The Riverside Press, 1925.

[7] Edited by Claude Gilliot. *Education And Learning in The Early Islamic World, Volume 43*. Ashgate Publishing, 2012.

[8] Thomas Davidson. *A History of Education*. Charles Scribner's Sons, New York, 1900.

[9] Morris Bishop. *The Middle Ages*. American Heritage, 1968.

[10] Patrick J. McCormick. *History of Education: A Survey of the Development of Educational Theory and Practic in Ancient, Medieval, and Modern Times*. The Catholic Education Press, 1915.

[11] *A History of Private Life, II: Revelations of the Medieval World*. The Belknap Press, 1988.

[12] *The History of Education*.

[13] Edited by Sol Cohen. *Education in The United States: A Documented History, Volume 2*. Random House, Inc., New York, 1974.

[14] Zander Sherman. *The Curiosity of School: Education and the Dark Side of Enlightenment*. Viking, 2012.

[15] J.G.A. Pockok. *Virtue, Commerce, and History*. Cambridge University Press, 1985.

[16] John Franklin Reigart. *The Lancasterian System of Instruction in the Schools of New York City*. Teachers College, Columbia University, NY, 1916.

[17] Samuel Chester Parker. *A Textbook in the History of Modern Elementary Education*. Ginn and Company, 1912.

[18] Suzanne Pepper. *China's Education Reform in the 1980: Policies, Issues, and Historical Perspectives*. Institute of East Asian Studies University of California at Berkele, 1990.

[19] Kenneth Lieberthal. *Governing China: From Revolution Through Reform*. W.W. Norton and Company, Inc., 1995.

[20] Jinglin. *Education in Post-Mao China*. Praeger Publishers, 1993.

[21] Sheilagh Ogilvie. *The European Guilds: An Economic Analysis*. Princeton University Press, 2019.

[22] Katie Rawson and Elliot Shore. *Dining Out: A Global History of Restaurants*. Breakton Books, 2019.

[23] Constance Ewing Cook. *Lobbying for Higher Education: How Colleges and Universities Influence Federal Policy*. Vanderbilt University Press, 1998.

[24] Bronislaw Malinowski. *Sex and Repression in Savage Society*. Routledge, 1927.

[25] Paul Starr. *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry*. Basic Books, Inc., New York, 1982.

[26] A. Zancajo A. Verger C. Fontdevila. *Privatization of Education: A Political Economy of Global Education Reform*. Teachers College Press, New York, 2016.

[27] Jeannette M. Hussey Lillian B. Miller Frederick Voss. *The Lazzaroni: Science and Scientists in The Mid Nineteenth Century America*. Smithsonian Institution Press, 1972.

[28] Elliot A. Krause. *Death of Guilds:Professions, States, and The Advance of Capitalism, 1930 to The Present*. Yale University Press, New Haven and London, 1996.

[29] Kasia Boddy. *Boxing: A Cultural History*. Breakton Books, 2008.

[30] Wendy Gamber. *The Boardinghouse in Nineteenth-Century America*. The Johns Hopkins University Press, 2007.

[31] Dolores Hayden. *The Grand Domestic Revolution*. The MIT Press, 1995.

[32] *Agriculture in World History*. Routledge, 2010.

Articles

[33] Richard M. Ryan and Edward L. Deci. "Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions". In: *Contemporary Educational Psychology 25, 54–67 doi:10.1006/ceps.1999.1020,* (2000).

[34] Sanchez Barea. "Education and the Muslim Culture in the Medieval Arab Madrid". In: *Procedia Social and Behavioral Sciences 15 (2011) 2869–2874* (2011).

[35] George Makdisi. "Scholasticism and Humanism in Classical Islam and the Christain West". In: *Journal of the American Oriental Society Vol. 109, No. 2* ().

[36] Benjamin Justice. ""The Great Contest": The American Philosophical Society Education Prize of 1795 and the Problem of American Education". In: *American Journal of Education , Vol. 114, No. 2* (2008).

[37] Piet van der Ploeg. "The Quincy Method". In: *American Journal of SociologyVolume 6, Number 1* (1900).

[38] Michael B. Katz. "The "New Departure" in Quincy, 1873 -1881: The Nature of Nineteenth-Century Eductaional Reform". In: *The New England Quarterly* (1967).

[39] Piet van der Ploeg. "Dalto Plan: Origins and Theory of Dalton Education". In: *Encyclopedia of Educational Theories and Philosophies, vol 1 (pp.207-208)* (2014).

[40] Kandan Talebi. "John Dewey - Philosopher and Educational Reformer". In: *European Journal of Education Studies, Vol. 1, Issue 1* (2015).

[41] David F. Labaree. "Progressivism, Schools and Schools of Education: An American Romance". In: *Paedagogica Historica, Vol. 41, Nos. 1 and 2* (2005).

[42] Harland G. Bloland. "Associations in-Action: The-Washington), D.C. Higher Education Community." In: *Association for the Study of Higher Education.; ERIC Clearinghouse-on Higher-Education, Washington, D.C.* (1985).

[43] Dorothy Terry. "Guilds in The Middle Agese". In: *Batoche Books* (2000).

[44] Ronald Hamowy. "The Early Development of Medical Licensing Laws in the United States, 1875-1900". In: *Deportment of History, University of Alberta* (1978).

[45] National Research Council. "National Science Education Standards". In: *The National Academies, ISBN: 0-309-54985-X* (1996).

[46] Wayne Wignes. "Departitioned Housing and its Applications". In: *www.departitioned.com* (2021).

[47] Barak Y. Orbach*. "Prizefighting and the Birth of Movie Censorship". In: *Yale Journal of Law & the Humanities, Vol. 21, Iss. 2, Art. 3* (2009).

[48] Sheri Berman. "Civil Society and the Collapse of the Weimar Republic". In: *elifesciences.org: DOI: 10.7554/eLife.37321* (1997).

[49] Theodore Kaczynski. "Industrial Society and Its Future". In: *N/A* (1995).

[50] Harland G. Bloland. "Associations in-Action: The-Washington), D.C. Higher Education Community." In: *Association for the Study of Higher Education.; ERIC Clearinghouse-on Higher-Education, Washington, D.C.* (1985).

[51] George C. Leef and Roxana D. Burris. "Can College Accreditation Live Up to its Promse?" In: *American Council of Trustees and Alumni* (1974).

[52] Niels A Kloosterman et al. "Humans strategically shift decision bias by flexibly adjusting sensory evidence accumulation". In: *www.departitioned.com* (2019).

[53] Congressional Research Service. "Federal Grants to State and Local Governments: A Historical Perspective on Contemporary Issues". In: *Congressional Research Service* (2019).

[54] A.S. Wells A. Lopez J. Scott and J.J. Holme. "Charter Schools as Postmodern Paradox: Rethinking Social Stratification in an Age of Deregulated School Choice". In: *Harvard Educational Review Vol. 69 NO. 2* (1999).

[55] Agustina S. Paglayan. "Civil War, State Condolidation, and the Spread of Mass Education". In: *Stanford University. Available @:https://riseprogramme.org/sites/default/files/publications/Paglayan%203.pdf* (2017).

[56] Joint Interim Special Committee on Public Education Appropriatio. "Report on Adequacy of Public Education Funding As Required by Article VIII, Section 8, of the Oregon Constitution". In: *N/A* (2018).