

The Most Intolerant Wins: The Dictatorship of the Small Minority

Nassim Nicholas Taleb

(Chapter from *Skin in the Game*)

How Europe will eat Halal — Why you don't have to smoke in the smoking section — Your food choices on the fall of the Saudi king — How to prevent a friend from working too hard — Omar Sharif 's conversion — How to make a market collapse

The best example I know that gives insights into the functioning of a complex system is with the following situation. It suffices for an intransigent minority—a certain type of intransigent minorities—to reach a minutely small level, say three or four percent of the total population, for the entire population to have to submit to their preferences. Further, an optical illusion comes with the dominance of the minority: a naive observer would be under the impression that the choices and preferences are those of the majority. If it seems absurd, it is because our scientific intuitions aren't calibrated for that (fughedabout scientific and academic intuitions and snap judgments; they don't work and your standard intellectualization fails with complex systems, though not your grandmothers' wisdom).

The main idea behind complex systems is that the ensemble behaves in way not predicted by the components. The interactions matter more than the nature of the units. Studying individual ants will *never* (one can safely say never for most such situations), never give us an idea on how the ant colony operates. For that, one needs to understand an ant colony as an ant colony, no less, no more, not a collection of ants. This is called an “emergent” property of the whole, by which *parts* and *whole* differ because what matters is the interactions between such parts. And interactions can obey very simple rules. The rule we discuss in this chapter is the *minority* rule.

The minority rule will show us how it all it takes is a small number of intolerant virtuous people with skin in the game, in the form of courage, for society to function properly.

This example of complexity hit me, ironically, as I was attending the New England Complex Systems institute summer barbecue. As the hosts were setting up the table and unpacking the drinks, a friend who was observant and only ate Kosher dropped by to say hello. I offered him a glass of that type of yellow sugared water with citric acid people sometimes call lemonade, almost certain that he would reject it owing to his dietary laws. He didn't. He drank the liquid called lemonade, and another Kosher person commented: “liquids around here are Kosher”. We looked at the carton container. There was a fine print: a tiny symbol, a *U* inside a circle, indicating that it was Kosher. The symbol will be detected by those who need to know and look for the minuscule print. As to others, like myself, I had been speaking prose all these years without knowing, drinking Kosher liquids without knowing they were Kosher liquids.



Figure 1 The lemonade container with the circled U indicating it is (literally) Kosher.

Criminals With Peanut Allergies

A strange idea hit me. The Kosher population represents less than three tenth of a percent of the residents of the United States. Yet, it appears that almost all drinks are Kosher. Why? Simply because going full Kosher allows the producer, grocer, restaurant, to not have to distinguish between Kosher and nonkosher for liquids, with special markers, separate aisles, separate inventories, different stocking sub-facilities. And the simple rule that changes the total is as follows:

A Kosher (or halal) eater will never eat nonkosher (or nonhalal) food , but a nonkosher eater isn't banned from eating kosher.

Or, rephrased in another domain:

A disabled person will not use the regular bathroom but a nondisabled person will use the bathroom for disabled people.

Granted, sometimes, in practice, we hesitate to use the bathroom with the disabled sign on it owing to some confusion –mistaking the rule for the one for parking cars, under the belief that the bathroom is reserved for exclusive use by the handicapped.

Someone with a peanut allergy will not eat products that touch peanuts but a person without such allergy can eat items without peanut traces in them.

Which explains why it is so hard to find peanuts on airplanes and why schools are peanut-free (which, in a way, increases the number of persons with peanut allergies as reduced exposure is one of the causes behind such allergies).

Let us apply the rule to domains where it can get entertaining:

An honest person will never commit criminal acts but a criminal will readily engage in legal acts.

Let us call such minority an *intransigent* group, and the majority a *flexible* one. And the rule is an asymmetry in choices.

I once pulled a prank on a friend. Years ago when Big Tobacco were hiding and repressing the evidence of harm from secondary smoking, New York had smoking and nonsmoking sections in restaurants (even airplanes had, absurdly, a smoking section). I once went to lunch with a friend visiting from Europe: the restaurant only had availability in the smoking sections. I convinced the friend that we needed to buy cigarettes as we *had to* smoke in the smoking section. He complied.

Two more things. First, the geography of the terrain, that is, the spatial structure, matters a bit; it makes a big difference whether the intransigents are in their own district or are mixed with the rest of the population. If the people following the minority rule lived in Ghettos, with their separate small economy, then the minority rule would not apply. But, when a population has an even spatial distribution, say the ratio of such a minority in a neighborhood is the same as that in the village, that in the village is the same as in the county, that in the county is the same as that in state, and that in the state is the same as nationwide, then the (flexible) majority will have to submit to the minority rule. Second, the cost structure matters quite a bit. It happens in our first example that making lemonade compliant with Kosher laws doesn't change the price by much, not enough to justify inventories. But if the manufacturing of Kosher lemonade cost substantially more, then the rule will be weakened in some nonlinear proportion to the difference in costs. If it cost ten times as much to make Kosher food, then the minority rule will not apply, except perhaps in some very rich neighborhoods.

Muslims have Kosher laws so to speak, but these are much narrower and apply only to meat. For Muslim and Jews have near-identical slaughter rules (all Kosher is halal for most Sunni Muslims, or was so in past centuries, but the reverse is not true). Note that these slaughter rules are skin-in-the-game driven, inherited from the ancient Eastern Mediterranean [discussed in Chapter] Greek and Semitic practice to only worship the gods if one has skin in the game, sacrifice meat to the divinity, and eat what's left. The Gods do not like cheap signaling.

Now consider this manifestation of the dictatorship of the minority. In the United Kingdom, where the (practicing) Muslim population is only three to four percent, a very high number of the meat we find is halal. Close to seventy percent of lamb imports from New Zealand are halal. Close to ten percent of the chain Subway carry halal-only stores (meaning no pork), in spite of the high costs from the loss of business of nonpork stores. The same holds in South Africa where, with the same proportion of Muslims, a disproportionately higher number of chicken is Halal certified. But in the U.K. and other Christian countries, halal is not neutral enough to reach a high level, as people may rebel against forceful abidance to other's religious norms. For instance, the 7th Century Christian Arab poet Al-Akhtal made a point to never eat halal meat, in his famous defiant poem boasting his Christianity: "I do not eat sacrificial flesh". (Al-Akhtal was reflecting the standard Christian reaction from three or four centuries earlier — Christians were tortured in pagan times by being forced to eat sacrificial meat, which they found sacrilegious. Many Christian martyrs starved to death.)

One can expect the same rejection of religious norms to take place in the West as the Muslim populations in Europe grows.

So the minority rule may produce a larger share of halal food in the stores than warranted by the proportion of halal eaters in the population, but with a headwind somewhere because some people may have a taboo against Moslem food. But with some non-religious Kashrut rules, so to speak, the share can be expected converge to closer to a hundred percent (or some high number). In the U.S. and Europe, "organic" food companies are selling more and more products precisely because of the minority rule and because ordinary and unlabeled food may be seen by some to contain pesticides, herbicides, and transgenic genetically modified organisms, "GMOs" with, according to them, unknown risks. (What we call GMOs in this context means transgenic food, entailing the transfer of genes from a foreign organism or species). Or it could be for some existential reasons, cautious behavior, or Burkean conservatism — some may not want to venture too far too fast from what their grandparents ate. Labeling something "organic" is a way to say that it contains no transgenic GMOs.

In promoting genetically modified food via all manner of lobbying, purchasing of congressmen, and overt scientific propaganda (with smear campaigns against such persons as yours truly), the big agricultural companies foolishly believed that all they needed was to win the majority. No, you idiots. As I said, your snap "scientific" judgment is too naive in these type of decisions. Consider that transgenic-GMO eaters will eat nonGMOs, but not the reverse. So it may suffice to have a tiny, say no more than five percent of evenly spatially distributed population of non-genetically modified eaters for the *entire* population to have to eat non-GMO food. How? Say you have a corporate event, a wedding, or a lavish party to celebrate the fall of the Saudi Arabian regime, the bankruptcy of the rent-seeking investment bank Goldman Sachs, or the public reviling of Ray Kotcher, chairman of Ketchum the public relation firm that smears scientists and scientific whistleblowers on behalf of big corporations. Do you need to send a questionnaire asking people if they eat or don't eat transgenic GMOs and reserve special meals accordingly? No. You just select everything non-GMO, provided the price difference is not consequential. And the price difference appears to be small enough to be negligible as (perishable) food costs in America are largely, about up to eighty or ninety percent, determined by distribution and storage, not the cost at the agricultural level. And as organic food (and designations such as "natural") is

in higher demand, from the minority rule, distribution costs decrease and the minority rule ends up accelerating in its effect.

Big Ag (the large agricultural firms) did not realize that this is the equivalent of entering a game in which one needed to not just win more points than the adversary, but win ninety-seven percent of the total points just to be safe. It is strange, once again, to see Big Ag who spent hundreds of millions of dollars on research cum smear campaigns, with hundreds of these scientists who think of themselves as more intelligent than the rest of the population, miss such an elementary point about asymmetric choices.

Another example: do not think that the spread of automatic shifting cars is necessarily due to the majority of drivers initially preferring automatic; it can just be because those who can drive manual shifts can always drive automatic, but the reciprocal is not true [1].

The method of analysis employed here is called renormalization group, a powerful apparatus in mathematical physics that allows us to see how things scale up (or down). Let us examine it next – without mathematics.

Renormalization Group

Figure 2 shows four boxes exhibiting what is called fractal self-similarity. Each box contains four smaller boxes. Each one of the four boxes will contain four boxes, and so all the way down, and all the way up until we reach a certain level. There are two colors: yellow for the majority choice, and pink for the minority one.

Assume the smaller unit contains four people, a family of four. One of them is in the intransigent minority and eats only nonGMO food (which includes organic). The color of the box is pink and the others yellow. We “renormalize once” as we move up: the stubborn daughter manages to impose her rule on the four and the unit is now all pink, i.e. will opt for nonGMO. Now, step three, you have the family going to a barbecue party attended by three other families. As they are known to only eat nonGMO, the guests will cook only organic. The local grocery store realizing the neighborhood is only nonGMO switches to nonGMO to simplify life, which impacts the local wholesaler, and the stories continues and “renormalizes”.



Figure 2 Renormalization group: steps one through three (start from the top): Four boxes containing four boxes, with one of the boxes pink at step one, with successive applications of the minority rule.

By some coincidence, the day before the Boston barbecue, I was flaneuring in New York, and I dropped by the office of a friend I wanted to prevent from working, that is, engage in an activity that when abused, causes the loss of mental clarity, in addition to bad posture and loss of definition in the facial features. The French physicist Serge Galam happened to be visiting and chose the friend's office to kill time. Galam was first to apply these renormalization techniques to social matters and political science; his name was familiar as he is the author of the main book on the subject, which had then been sitting for months in an unopened Amazon box in my basement. He introduced me to his research and showed me a computer model of elections by which it suffices that some minority exceeds a certain level for its choices to prevail.

So the same illusion exists in political discussions, spread by the political "scientists": you think that because some extreme right or left wing party has, say, the support of ten percent of the population that their candidate would get ten percent of the votes. No: these baseline voters should be classified as "inflexible" and will always vote for their faction. But some of the flexible voters *can* also vote for that extreme faction, just as nonKosher people can eat Kosher, and these people are the ones to watch out for as they may swell the numbers of votes for the extreme party. Galam's models produced a bevy of counterintuitive effects in political science –and his predictions turned out to be way closer to real outcomes than the naive consensus.

The Veto

The fact we saw from the renormalization group the "veto" effect as a person in a group can steer choices. Rory Sutherland suggested that this explains why some fast-food chains, such as McDonald thrive, not because they offer a great product, but because they are not vetoed in a certain socio-economic group –and by a small proportions of people in that group at that. To put it in technical terms, it was a best worse-case divergence from expectations: a lower variance and lower mean.

When there are few choices, McDonald's appears to be a safe bet. It is also a safe bet in shady places with few regulars where the food variance from expectation can be consequential –I am writing these lines in Milan's central train station and as offensive as it can be to a visitor from far away, McDonald's is one of the few restaurants there. Shockingly, one sees Italians there seeking refuge from a risky meal.

Pizza is the same story: it is commonly accepted food and outside a fancy party nobody will be blamed for ordering it.

Rory wrote to me about the asymmetry beer-wine and the choices made for parties: "Once you have ten percent or more women at a party, you cannot serve only beer. But most men will drink wine. So you only need one set of glasses if you serve only wine — the universal donor, to use the language of blood groups."

This strategy of the best lower bound might have been played by the Khazars looking to chose between Islam, Judaism, and Christianity. Legend has it that three high ranking delegations (bishops, rabbis and sheikhs) came to make the sales pitch. They asked the Christians: if you were forced to chose between

Judaism and Islam, which one would you pick? Judaism, they replied. Then they asked the Muslim: which of the two, Christianity or Judaism. Judaism, the Muslim said. Judaism it was and the tribe converted.

Lingua Franca

If a meeting is taking place in Germany in the Teutonic-looking conference room of a corporation that is sufficiently international or European, and one of the persons in the room doesn't speak German, the entire meeting will be run in... English, the brand of inelegant English used in corporations across the world. That way they can equally offend their Teutonic ancestors and the English language^[2]. It all started with the asymmetric rule that those who are nonnative in English know (bad) English, but the reverse (English speakers knowing other languages) is less likely. French was supposed to be the language of diplomacy as civil servants coming from aristocratic background used it –while their more vulgar compatriots involved in commerce relied on English. In the rivalry between the two languages, English won as commerce grew to dominate modern life; the victory it has nothing to do with the prestige of France or the efforts of their civil servants in promoting their more or less beautiful Latinized and logically spelled language over the orthographically confusing one of trans-Channel meat-pie eaters.

We can thus get some intuition on how the emergence of *lingua franca* languages can come from minority rules—and that is a point that is not visible to linguists. Aramaic is a Semitic language which succeeded Canaanite (that is, Phoenician-Hebrew) in the Levant and resembles Arabic; it was the language Jesus Christ spoke. The reason it came to dominate the Levant and Egypt isn't because of any particular imperial Semitic power or the fact that they have interesting noses. It was the Persians –who speak an Indo-European language –who spread Aramaic, the language of Assyria, Syria, and Babylon. Persians taught Egyptians a language that was not their own. Simply, when the Persians invaded Babylon they found an administration with scribes who could only use Aramaic and didn't know Persian, so Aramaic became the state language. If your secretary can only take dictation in Aramaic, Aramaic is what you will use. This led to the oddity of Aramaic being used in Mongolia, as records were maintained in the Syriac alphabet (Syriac is the Eastern dialect of Aramaic). And centuries later, the story would repeat itself in reverse, with the Arabs using Greek in their early administration in the seventh and eighth's centuries. For during the Hellenistic era, Greek replaced Aramaic as the *lingua franca* in the Levant, and the scribes of Damascus maintained their records in Greek. But it was not the Greeks who spread Greek around the Mediterranean –Alexander (himself not Greek but Macedonian and spoke a different dialect of Greek) did not lead to an immediate deep cultural Hellenization. It was the Romans who accelerated the spreading of Greek, as they used it in their administration across the Eastern empire.

A French Canadian friend from Montreal, Jean-Louis Rheault, commented as follows, bemoaning the loss of language of French Canadians outside narrowly provincial areas. He said: "In Canada, when we say bilingual, it is English speaking and when we say "French speaking" it becomes bilingual."

Decentralize, Again

Another attribute of decentralization, and one that the “intellectuals” opposing an exit of Britain from the European Union (Brexit) don’t get. If one needs, say a three pct. threshold in a political unit for the minority rule to take its effect, and *on average* the stubborn minority represents three pct. of the population, with variations around the average, then some states will be subject to the rule, but not others. If on the other hand we merged all states in one, then the minority rule will prevail all across. This is the reason the U.S.A. works so well as, I have been repeating to everyone who listens, we are a federation, not a republic. To use the language of *Antifragile*, decentralization is *convex* to variations.

Genes vs Languages

Looking at genetic data in the Eastern Mediterranean with my collaborator the geneticist Pierre Zalloua, we noticed that both invaders, Turks and Arabs left little genes and in the case of Turkey, the tribes from East and Central Asia brought an entirely new language. Turkey, shockingly, still has the populations of Asia Minor you read about in history books, but with new names. Further, Zalloua and his colleagues have shown that Canaanites from 3700 years ago represent more than nine tenth of the genes of current residents of the state of Lebanon, with only a tiny amount of new genes added, in spite of about every possible army having dropped by for sightseeing and some pillaging.[1] While Turks are Mediterraneans who speak an East Asian language, the French (North of Avignon) are largely of Northern European stock, yet they speak a Mediterranean language.

So:

Genes follow majority rules; languages minority rule

Languages travel; genes less so

This shows us the recent mistake to build racial theories on language, dividing people into “Aryans” and “Semites”, based on linguistic considerations. While the subject was central to the German Nazis, the practice continues today in one form or another, often benign. For the great irony is that Nordic supremacists (“Aryan”), while anti-Semitic, used the classical Greeks to give themselves a pedigree and a link to a glorious civilization, but didn’t realize that the Greeks and their Mediterranean “Semitic” neighbors were actually genetically close to one another. It has been recently shown that both ancient Greeks and Bronze age Levantines share an Anatolian origin. It just happened that the languages diverged.

[1] There is a current controversy in the U.K. as the Normand left more texts and pictures in history books than genes there.

The One-Way Street of Religions

In the same manner, the spread of Islam in the Near East where Christianity was heavily entrenched (it was born there) can be attributed to two simple asymmetries. The original Islamic rulers weren't particularly interested in converting Christians as these provided them with tax revenues –the proselytism of Islam did not address those called “people of the book”, i.e. individuals of Abrahamic faith. In fact, my ancestors who survived thirteen centuries under Muslim rule saw advantages in not being Muslim: mostly in the avoidance of military conscription.

The two asymmetric rules were as follows. First, if a non Muslim man under the rule of Islam marries a Muslim woman, he needs to convert to Islam –and if *either* parents of a child happens to be Muslim, the child will be Muslim[3]. Second, becoming Muslim is irreversible, as apostasy is the heaviest crime under the religion, sanctioned by the death penalty. The famous Egyptian actor Omar Sharif, born Mikhael Demetri Shalhoub, was of Lebanese Christian origins. He converted to Islam to marry a famous Egyptian actress and had to change his name to an Arabic one. He later divorced, but did not revert to the faith of his ancestors.

Under these two asymmetric rules, one can do simple simulations and see how a small Islamic group occupying Christian (Coptic) Egypt can lead, over the centuries, to the Copts becoming a tiny minority. All one needs is a small rate of interfaith marriages. Likewise, one can see how Judaism doesn't spread and tends to stay in the minority, as the religion has opposite rules: the mother is required to be Jewish, causing interfaith marriages to leave the community. An even stronger asymmetry than that of Judaism explains the depletion in the Near East of three Gnostic faiths: the Druze, the Ezidi, and the Mandeans (Gnostic religions are those with *mysteries* and *knowledge* that is typically accessible to only a minority of elders, with the rest of the members in the dark about the details of the faith). Unlike Islam that requires either parents to be Muslim, and Judaism that asks for at least the mother to have the faith, these three religions require *both* parents to be of the faith, otherwise the person says *toodaloo* to the community.

Egypt has a flat terrain. The distribution of the population presents homogeneous mixtures there, which permits renormalization (i.e. allows the asymmetric rule to prevail) –we saw earlier in the chapter that for Kosher rules to work, one needed Jews to be somewhat spread out across the country. But in places such as Lebanon, Galilee, and Northern Syria, with mountainous terrain, Christians and other Non Sunni Muslims remained concentrated. Christians not being exposed to Muslims, experienced no intermarriage.

Egypt's Copts suffered from another problem: the irreversibility of Islamic conversions. Many Copts during Islamic rule converted to Islam when it was merely an administrative procedure, something that helps one land a job or handle a problem that requires Islamic jurisprudence. One does not have to really believe in it since Islam doesn't conflict markedly with Orthodox Christianity. Little by little a Christian or Jewish family bearing the marrano-style conversion becomes truly converted, as, a couple of generations later, the descendants forget the arrangement of their ancestors.

So all Islam did was out-stubborn Christianity, which itself won thanks to its own stubbornness. For, before Islam, the original spread of Christianity in the Roman empire can be largely seen due to... the

blinding intolerance of Christians, their unconditional, aggressive and proselyting recalcitrance. Roman pagans were initially tolerant of Christians, as the tradition was to share gods with other members of the empire. But they wondered why these Nazarenes didn't want to give and take gods and offer that Jesus fellow to the Roman pantheon in exchange for some other gods. What, our gods aren't good enough for them? But Christians were intolerant of Roman paganism. The "persecutions" of the Christians had vastly more to do with the intolerance of the Christians for the pantheon and local gods, than the reverse. What we read is history written by the Christian side, not the Greco-Roman one. [4]

We know too little about the Roman side during the rise of Christianity, as hagiographies have dominated the discourse: we have for instance the narrative of the martyr Saint Catherine, who kept converting her jailors until she was beheaded, except that... she may have never existed. There are endless histories of Christian martyrs and saints –but very little about the other side, Pagan heroes. All we have is the bit we know about the reversion to Christianity during the emperor Julian's apostasy and the writings of his entourage of Syrian-Greek pagans such as Libanius Antiochus. Julian had tried to go back to Ancient Paganism in vain: it was like trying to keep a balloon under water. And it was not because the majority was pagan as historians mistakenly think: it was because the Christian side was too unyielding. Christianity had great minds such as Gregorius of Nazianzen and Basil of Caesaria, but nothing to match the great orator Libanius, not even close. (My heuristic is that the more pagan, the more brilliant one's mind, and the higher one's ability to handle nuances and ambiguity. Purely monotheistic religious such as Protestant Christianity, Salafi Islam, or fundamentalist atheism accommodate literalist and mediocre minds that cannot handle ambiguity.)

In fact we can observe in the history of Mediterranean "religions" or, rather, rituals and systems of behavior and belief, a drift dictated by the intolerant, actually bringing the system closer to what we can call a religion. Judaism might have almost lost because of the mother-rule and the confinement to a tribal base, but Christianity ruled, and for the very same reasons, Islam did. Islam? there have been many *Islams*, the final accretion quite different from the earlier ones. For Islam itself is ending up being taken over (in the Sunni branch) by the purists simply because these were more intolerant than the rest: the Wahhabis, founders of Saudi Arabia, were the ones who destroyed the shrines, and to impose the maximally intolerant rule, in a manner that was later imitated by "ISIS" (the Islamic State of Iraq and Syria/the Levant). Every single accretion of Sunni Islam seems to be there to accommodate the most intolerant of its branches.

Imposing Virtue on Others

This idea of one-sidedness can help us debunk a few more misconceptions. How do books get banned? Certainly not because they offend the average person –most persons are passive and don't really care, or don't care enough to request the banning. It looks like, from past episodes, that all it takes is a few (motivated) activists for the banning of some books, or the black-listing of some people. The great philosopher and logician Bertrand Russell lost his job at the City University of New York owing to a letter by an angry –and stubborn –mother who did not wish to have her daughter in the same room as the fellow with dissolute lifestyle and unruly ideas. [5]

The same seems to apply to prohibitions –at least the prohibition of alcohol in the United States which led to interesting Mafia stories.

Let us conjecture that the formation of moral values in society doesn't come from the evolution of the consensus. No, it is the most intolerant person who imposes virtue on others precisely because of that intolerance. The same can apply to civil rights.

An insight as to how the mechanisms of religion and transmission of morals obey the same renormalization dynamics as dietary laws –and how we can show that morality is more likely to be something enforced by a minority. We saw earlier in the chapter the asymmetry between obeying and breaking rules: a law-abiding (or rule abiding) fellow always follows the rules, but a felon or someone with looser sets of principles will not *always* break the rules. Likewise we discussed the strong asymmetric effects of the *halal* dietary laws. Let us merge the two. It turns out that, in classical Arabic, the term *halal* has one opposite: *haram*. Violating legal and moral rules –any rule — is called *haram*. It is the exact same interdict that governs food intake and *all* other human behaviors, like sleeping with the wife of the neighbor, lending with interest (without partaking of downside of the borrower) or killing one's landlord for pleasure. *Haram* is *haram* and is asymmetric.

From that we can see that once a moral rule is established, it would suffice to have a small intransigent minority of geographically distributed followers to dictate the norm in society. The sad news, as we will see in the next chapter, is that one person looking at mankind as an aggregate may mistakenly believe that humans are spontaneously becoming more moral, better, more gentle, have better breath, when it applies to only a small proportion of mankind.

The Stability of the Minority Rule, A Probabilistic Argument

A probabilistic argument in favor of the minority rule dictating societal values is as follows. Wherever you look across societies and histories, you tend to find the same general moral laws prevailing, with some, but not significant, variations: *do not steal* (at least not from within the tribe); *do not hunt orphans for pleasure*; *do not gratuitously beat up passers by for training, use instead a boxing bags* (unless you are Spartan and even then you can only kill a limited number of helots for training purposes), and similar interdicts. And we can see these rules evolving over time to become more universal, expanding to a broader set, to progressively include slaves, other tribes, other species (animals, economists), etc. And one property of these laws: they are black-and-white, binary, discrete, and allow no shadow. You cannot steal “a little bit” or murder “moderately”. You cannot keep Kosher and eat “just a little bit” of pork on Sunday barbecues.

Now it would be vastly more likely that these values emerged from a minority than the majority. Why? Take the following two theses:

Outcomes are paradoxically more stable under the minority rule — the variance of the results is lower and the rule is more likely to be emerge independently across populations.

What emerges from the minority rule is more likely to be black-and-white.

An example. Consider that an evil person wants to poison the collective by putting some product into soda cans. He has two options. The first is cyanide, which obeys a minority rule: a drop of poison (higher than a small threshold) makes the entire liquid poisonous. The second is a “majority”-style poison; it requires more than half the liquid to be poisonous in order to kill. Now look at the inverse problem, a collection of dead people after a dinner party, and you need to investigate the cause. The local Sherlock Holmes would assert that conditional on the outcome that *all people drinking the soda having been killed*, the evil man opted for the first not the second option. Simply, the majority rule leads to fluctuations around the average, with a high rate of survival.

The black-and-white character of these societal laws can be explained with the following. Assume that under a certain regime, when you mix white and dark blue in various combinations, you don’t get variations of light blue, but dark blue. Such a regime is vastly more likely to produce dark blue than another rule that allows more shades of blue.

Popper’s Paradox

I was at a large multi-table dinner party, the kind of situation where you have to choose between the vegetarian risotto and the non-vegetarian option when I noticed that my neighbor had his food catered (including silverware) on a tray reminiscent of airplane fare. The dishes were sealed with aluminum foil. He was evidently ultra-Kosher. It did not bother him to be seated with prosciutto eaters who, in addition, mix butter and meat in the same dishes. He just wanted to be left alone to follow his own preferences.

For Jews and Muslim minorities such as Shiites, Sufis, and associated religions such as Druze and Alawis, the aim is for people to leave them alone so they can satisfy their own dietary preferences –largely, with historical exceptions here and there. But had my neighbor been a Sunni Salafi, he would have required the entire room to be eating Halal. Perhaps the entire building. Perhaps the entire town. Hopefully the entire country. Hopefully the entire planet. Indeed, given the total lack of separation between church and state, and between the holy and the profane (Chapter x), to him Haram (the opposite of Halal) means literally illegal. The entire room was committing a legal violation.

As I am writing these lines, people are disputing whether the freedom of the enlightened West can be undermined by the intrusive policies that would be needed to fight fundamentalists. As I am writing these lines, people are disputing whether the freedom of the enlightened West can be undermined by the intrusive policies that would be needed to fight Salafi fundamentalists.

Clearly can democracy –by definition the majority — tolerate enemies? The question is as follows: “Would you agree to deny the freedom of speech to every political party that has in its charter the banning the freedom of speech?” Let’s go one step further, “Should a society that has elected to be tolerant be intolerant about intolerance?”

This is in fact the incoherence that Kurt Gödel (the grandmaster of logical rigor) detected in the constitution while taking the naturalization exam. Legend has it that Gödel started arguing with the judge and Einstein, who was his witness during the process, saved him.

I wrote about people with logical flaws asking me if one should be “skeptical about skepticism”; I used a similar answer as Popper when was asked if “one could falsify falsification”.

We can answer these points using the minority rule. Yes, an intolerant minority can control and destroy democracy. Actually, as we saw, it *will* eventually destroy our world.

So, we need to be more than intolerant with *some* intolerant minorities. It is not permissible to use “American values” or “Western principles” in treating intolerant Salafism (which denies other peoples’ right to have their own religion). The West is currently in the process of committing suicide.

The Irreverence of Markets and Science

Now consider markets. We can say that markets aren’t the sum of market participants, but price changes reflect the activities of the most *motivated* buyer and seller. Yes, the most motivated rules. Indeed this is something that only traders seem to understand: why a price can drop by ten percent because of a single seller. All you need is a stubborn seller. Markets react in a way that is disproportional to the impetus. The overall stock markets represent currently more than thirty trillions dollars but a single order in 2008, only fifty billion, that is less than two tenth of a percent of the total, caused them to drop by close to ten percent, causing losses of around three trillion. It was an order activated by the Parisian Bank Société Générale who discovered a hidden acquisition by a rogue trader and wanted to reverse the purchase. Why did the market react so disproportionately? Because the order was one-way –stubborn — there was desire to sell but no way to change one’s mind. My personal adage is:

The market is like a large movie theatre with a small door.

And the best way to detect a sucker (say the usual finance journalist) is to see if his focus is on the size of the door or on that of the theater. Stampedes happen in cinemas, say when someone shouts “fire”, because those who want to be out do not want to stay in, exactly the same unconditionality we saw with Kosher observance.

Science acts similarly. We will return later with a discussion of how the minority rule is behind Karl Popper’s approach to science. But let us for now discuss the more entertaining Feynman. *What do You Care What Other People Think?* is the title of a book of anecdotes by the great Richard Feynman, the most irreverent and playful scientist of his day. As reflected in the title of the book, Feynman conveys in it the idea of the fundamental irreverence of science, acting through a similar mechanism as the Kosher asymmetry. How? Science isn’t the sum of what scientists think, but exactly as with markets, a procedure that is highly skewed. Once you debunk something, it is now wrong (that is how science operates but let’s ignore disciplines such as economics and political science that are more like pompous

entertainment). Had science operated by majority consensus we would be still stuck in the Middle Ages and Einstein would have ended as he started, a patent clerk with fruitless side hobbies.

Alexander said that it was preferable to have an army of sheep led by a lion to an army of lions led by a sheep. Alexander (or no doubt he who produced this probably apocryphal saying) understood the value of the active, intolerant, and courageous minority. Hannibal terrorized Rome for a decade and a half with a tiny army of mercenaries, winning twenty-two battles against the Romans, battles in which he was outnumbered each time. He was inspired by a version of this maxim. At the battle of Cannae, he remarked to Gisco who complained that the Carthaginians were outnumbered by the Romans: "There is one thing that's more wonderful than their numbers ... in all that vast number there is not one man called Gisco.[6]"[i]

Unus sed leo: only one but a lion.

This large payoff from stubborn courage is not just in the military. The entire growth of society, whether economic or moral, comes from a small number of people. So we close this chapter with a remark about the role of skin in the game in the condition of society. Society doesn't evolve by consensus, voting, majority, committees, verbose meeting, academic conferences, and polling; only a few people suffice to disproportionately move the needle. All one needs is an asymmetric rule somewhere. And asymmetry is present in about everything.

Notes

[1] Thank Amir-Reza Amini.

[2] Thank Arnie Schwarzvogel.

[3] Note some minor variations across regions and Islamic sects. The original rule is that if a Muslim woman marries a Non Muslim man, he needs to convert. In practice, in many countries, both need to do so.

[4] *The various modes of worship, which prevailed in the Roman world, were all considered by the people, as equally true; by the philosopher, as equally false; and by the magistrate, as equally useful. And thus toleration produced not only mutual indulgence, but even religious concord.* Gibbon

[5] "Never doubt that a small group of thoughtful citizens can change the world. Indeed, it is the only thing that ever has." — Margaret Mead

[6] The Carthaginians seem to be short in name variety: there are plenty of Hamilcars and Hadsrupals confusing historians. Likewise there appear to be many Giscos, including the character in Flaubert's *Salambo*.

[i] <https://books.google.com/books?id=VzMGAAAAQAAJ&pg=PA269&lpg=PA269&dq=gisco+battle+of+cannae&source=bl&ots=2ybmCD6EaT&sig=lqU71NF46YOpnOSXDfZUsQco200&hl=en&sa=X&ved=0CC4Q6AEwAmoVChMI7vnU8-2tyAIVRjw-Ch3DhQkM#v=onepage&q=gisco%20battle%20of%20cannae&f=false>