

Caudaphobia - The Tragedy of the Tails

1. Main thesis - A sufficiently large, innumerate, and initially democratic population will incrementally and inevitably regulate itself into state of authoritarian servitude as it seeks through legislation and litigation to insulate itself from low probability risks. Corollary - The pace of such social degeneration is at least proportional to the size of the innumerate population.
2. This thesis is a companion to Garrett Hardin's "The Tragedy of the Commons" in that 'the Tails' also describes the inevitable consequences of seemingly benign incremental social actions each with unintended collateral effects that accumulate into disaster. Whereas Hardin's commons was destroyed by such individual ignorance (and greed?) in an environment of no/low social (i.e. state) intervention, we now have an entire social order being destroyed by exactly the opposite of too much social intervention voted and litigated into place by the ignorant and greedy.
3. The entire field of such problems in attempting to avoid/alleviate the effects of the tails - let us name it caudaphobia¹ - can only be solved by 1) teaching numeracy, 2) establishing a generally accepted moral order, 3) emplacing and embracing rapid/accurate social feedback mechanisms, and 4) decoupling the social system in-the-large so as to limit the extent of caudaphobic damage and permit rapid repair.
4. The genre of caudaphobic problems is the societal equivalent of 'the self-criticality of large scale systems' explicated in the field of systems science (also known as Catastrophe Theory). This states that, without exception, all large, complex, interconnected systems have failures whose intervals are inversely related to their magnitudes.
5. Caudology - the study and analysis - and Caudometry - the observation and measurement of the wider ranging social effects arising 'from the tails' of p.d.f.s, and the resulting costs and likelihood of success in attempting to reduce or eliminate the effects of such offensive tails. These disciplines should be formalized within the schools of economics, sociology, and political science.
6. Example: show how a constant but very low traffic accident rate (accidents/driven mile) 'guarantees' that a tightly coupled road system (e.g. a large city's freeways) will fail whenever enough people use it concurrently (i.e. present themselves to the possibility of accidents). The low chance of an accident is prescribed by the probability density function's (p.d.f.'s) tail, but the number of accidents is determined by the number of people 'in the tail'. In such tightly coupled cases the individually caudal event causes a system wide breakdown. Such cases may justify the effort to directly attack the caudal effect, or, more reasonably, to reconfigure the affected system to immunize it from such caudality. To the large segments of voters with low attention spans the simplistic and, therefore, appealing approach is the direct approach.

¹ From the Latin 'cauda' for tail, and the Greek 'phobia' meaning a "persistent, abnormal, and irrational fear of a specific thing or situation that compels one to avoid it, despite the awareness and reassurance that it is not dangerous." (dictionary.com)

7. Numeracy is the possession of a working or intuitive level of knowledge at a non-professional level about some very basic concepts from mathematics and the systems sciences that explicate observations of our surroundings, illuminate received reports, support clear communications, enable reasoned decisions, and thereby guide daily behavior to our own and society's benefit. The curriculum of numeracy includes elements from arithmetic, geometry, logic, probability, taxonomy, data presentation, complexity, estimation, control, utility, and decision making. In a free society numeracy is the indispensable twin of literacy in that to the extent that literacy lets you communicate thoughts and ideas, numeracy gives you the tools for critical thinking that enables you to generate worthwhile thoughts and ideas.
8. An innumerate person, on the other hand, is at the mercy of his more numerate handlers who, instead of information, dispense bits of semantically simple emotion which cannot be isolated and identified let alone examined. Yet in our society the deficit of innumeracy alone has received absolution from the stigma of ignorance. Show yourself to be illiterate and you are immediately among the recognizably disadvantaged, a victim of someone else's neglect, and the target of necessary state sponsored compassion. Admit innumeracy and your fellow innumerates instantly, and with some relief, accept that void as a shared, perfectly normal trait. Giving evidence of numeracy elicits no further concern beyond a commensurate confession with the inevitable appendix that such persons must also have large attendant deficits in the clearly more important social skills and also are very likely close relatives of idiot savants. The real societal effect of all this was best summarized in Thomas Jefferson's "A nation ignorant and free, that never was and never shall be."
9. The numerate citizen knows axiomatically that any characteristic of an individual, society, or nature manifests itself over a range of values represented by a distribution specifying how frequently or with what probability such values occur. Also, that the values distant from their everyday norms will turn up with very low likelihood.
10. Caudal events from the 'bad side' of the distribution describing any activity can no longer be left unaddressed with the simple dictum of 'next time let's all just be more careful'. Today the attempted elimination of such rare liabilities is always inaugurated by putting in place the social mechanisms to guarantee yet another 'right', the unstated implication being the impossible right of being insulated from any given caudal effect.
11. In a sufficiently large, complex, and tightly coupled social organization (e.g. a large metropolis) the unscrupulous or the innumerate activist, zealot, or lobbyist may always find and cite caudal events as evidence to justify the forging of any new social policy and its enforcement apparatus. In public debate when such evidence is shown to be vanishingly rare, the retort most impactful on an innumerate audience is, "Yes, but what if it happened to [you, your child, your mother, ...]?" This inevitably carries the day, for to argue against it would be conclusive evidence of heartlessness, discrimination, insensitivity, promoting exclusivity, putting the burden on the backs of poor, or, finally, 'playing God' - the *prima facie* evidence of political incorrectness.