Issue 122 – Ground Hog Day Risks

Despite it being the shortest month of the year, February never lacks for excitement as it is usually brimming with activity. Whether the cause is cabin fever and the winter blues, or the fact that we are finally rid of the hangover from the frenzy associated with secular Christmas, there’s no getting around the fact that it packs a lot of action in only 4 weeks. Sadly, this February is providing more than the usual excitement due to Valentine’s Day, President’s Day, and the Super Bowl. Europe stands at a crisis with the invasion of Ukraine by Russia. The Blog Wyrm staff prays for a quick end to the violence and hopes that justice prevails but we are too jaded to think that the world will ever end up looking the same. If there is any silver lining in this unprovoked and naked aggression it is that we may finally be getting the wake-up call we need to realign our own sense of priorities and risks. While we’ve been wrapped up in petty concerns about appearances and tones and have run in fear from risks that generations ago would have been shrugged away, real villains have been heaping injustice after injustice on the world at large. Hopefully, each of us will first take a moment to realize that all evil needs to succeed is for good people to do nothing and then turn, in real friendship and charity, to helping one another rather than looking for those minutest of details that divide us.

Now onto the columns.

[[Aristotle2Digital](http://aristotle2digital.blogwyrm.com/?p=1423)](http://aristotle2digital.blogwyrm.com/?p=1423) presents the fifth part of its investigation into Monte Carlo evaluation of integrals by surveying some of the use cases in which multidimensional integrals arise and the reasons why they can be difficult to solve. One of the surprising results is the role that the number of dimensions play in determining the sharpness of a given integrand and how our ordinary intuition can fail spectacularly in the face of many degrees of freedom.

What could be better than the big game? How about a thought-provoking analysis in this month’s [CommonCents](http://commoncents.blogwyrm.com/?p=936) of the incentives for and against doping cast in terms of behavioral economics and game theory? Depending on the rules of the game, even those players who are least likely to cheat may find an overwhelming pressure to take performance enhancing drugs if for no other reason than to level the playing field with those players who have no issue in indulging an illegal advantage. That result is certainly a touchdown effort worthy of replay on the highlight reels.

After some buildup in previous posts, the day has finally arrived when [UndertheHood](http://underthehood.blogwyrm.com/?p=1663) introduces the classical concept of entropy. Contrary to the ‘common knowledge’, classical entropy is not associated with disorder nor does it give rise to the second law of thermodynamics. Rather it is an extrinsic parameter that is canonically conjugate to the temperature and which is conserved during a reversible cycle. It comes out of the second law and its form is suggest by the structure of the Carnot cycle.

Enjoy!