The transition from summer to fall has been surprisingly fast this year. Of course, the actual astronomical transition took place as always with Earth’s slow and steady progress from the summer solstice to the autumnal equinox. No… what we mean by ‘surprisingly fast’ is that the mood of the country moved rapidly from summer-time fun to back-to-school serious over a very short period of time. It seemed that society was ready to put summer away quite quickly, even before Labor Day. The weather largely cooperated with this speedy shedding of summer frivolity. Perhaps it is the economy or the politics or the starting of the football season or whatever. Speaking of surprises and football, it is worth noting that the Detroit Lions are surprisingly good this season; and we don’t simply mean good in the four-weeks-into-the-season unheralded success followed by the regress-back-to-the-mean mediocrity. The Lions look like they have the makings to be a good team this year, but we’ll see in another 3 weeks.

And now onto the columns.

Things are not always what they seem. This is a common theme in stories about not judging a book by its cover. It should also be a theme when working with raw data. This month’s [Aristote2Digital](https://aristotle2digital.blogwyrm.com/?p=1670) looks at a generalization of the Z-score designed for multi-dimensional data sets with correlated data, called the Mahalanobis distance. The Mahalanobis distance is particularly useful is peeling away the cover of the book to find out how things really are.

Counterfactual conclusions are hard to deal with. How can one prove the claim that ‘If only this one thing would have been different the whole course of subsequent events would changed’. Nonetheless, this seems to be the province of the social scientist and the economist. And few topics provide a more polarizing landscape for counterfactual argumentation as does the national debt. [CommonCents](http://commoncents.blogwyrm.com/?p=1268) looks at the debt history and both sides of the current debate over spending.

The genius of Ludwig Boltzmann shines no brighter than in the equation of kinetic theory that bears his name. Sadly, that genius was not recognized in his own life perhaps because he was too far ahead of his time. This month’s column in [UndertheHood](https://underthehood.blogwyrm.com/?p=2119) looks at a process by which the Boltzmann equation can be coaxed into reproducing the equations of fluid mechanics through a specialized averaging process. This method provides enormous insight into how nature works and, perhaps, may have persuaded more of his contemporaries to embrace his ideas had it been more widely known.

Enjoy!