There is an old sentiment cautioning against confusing the magic with the magician that might be worth bringing back to public discourse in this new age of tribalism and emotional infantilization. The ‘triggering’ event that prompts this assertion is the exhibited outrage and boycott demands leveled against the eminent release of the [Hogwarts Legacy](https://en.wikipedia.org/wiki/Hogwarts_Legacy) videogame later this year. We here at Blog Wyrm neither think that the Harry Potter franchise is the best thing since sliced bread nor do we think of it was the work of the devil. Likewise, we neither find its primary architect and author, J.K. Rowling as either paragon or pariah. We have no dog in this hunt, but we do have a vested interest in civil discourse. We are not childish enough to confuse her political opinions with the entertainment she creates. In other words, we are capable, as all emotionally mature people should be, of separating her magic (literary, such as it is) from her role as magician. Any autonomous person in this world should be able to recognize that we don’t all have to be friends in order for all of us to be able to cooperate with and tolerate each other. Only the most stunted and privileged and deluded amongst us can entertain the fantasy that we need to boycott anything mildly connected with an opinion we don’t like. Guilt by association, far from being mature, is backwards in its thinking and, in this highly connected world, would implicate us all.

Now onto the columns.

It seems that everywhere we turn these days we encounter popular articles, blogs, posts, and videos talking about the profound implications of AI or machine learning, often with the further context involving some flavor of neural network. One glance at these popular press pieces would convince the naïve that the human mind is obsolete and that there is nothing that these algorithms can’t do. Of course this is nonsense, but a proper appreciation for just why it is nonsense hinges on the fact that the vast majority of people know nothing about neural networks of any kind. This month’s [[Aristotle2Digital](http://aristotle2digital.blogwyrm.com/?p=1532)](http://aristotle2digital.blogwyrm.com/?p=1541) begins a detailed look at neural networks from scratch, using simple python code with no black boxes applied to a standard computer vision problem. The aim here is to provide a proper framework for understand the advantages and limitations of what are effectively complex statistical fitting techniques that only resemble intelligence when one fails to ‘peek behind the curtains’.

There is an age-old tension between human desires for autonomy and free choice and for centralized control and order. These tensions often present themselves in the writ-large struggle between collectivism and capitalism which have dominated much of the political discussions of the last 170 years, give or take. But these tensions also frequently show up, writ small, in the individual decisions that businesses make. The amazing turnaround of Barnes and Noble booksellers is one such writ-small adventure which this month’s [[CommonCents](http://commoncents.blogwyrm.com/?p=1025)](http://commoncents.blogwyrm.com/?p=1030) column discusses. The economic expansion that Barnes and Noble now enjoys is largely due to decisions about the balance between central control held by the corporate offices and the ability of each individual store to tailor and adapt to its customer base.

Simple ideas are often the best, particularly when they can be applied to complex situations. Take the air in a room, there are over a trillion, trillion, trillion gas molecules surrounding us, each moving in some random direction with some random speed, distributed, of course, according to the Maxwell-Boltzmann distribution, as past columns have discussed. However, much of the behavior of the air can be described in a relatively small number of variables such as temperature, pressure, bulk speed and density. [[UndertheHood](http://underthehood.blogwyrm.com/?p=1897)](http://underthehood.blogwyrm.com/?p=1904) introduces another critical description of a gas: the mean free path. The mean free path tells us, on average, an individual molecule travels before colliding with one of its fellows. For such a simple concept, the mean free path helps to organize much of our understanding of how matter moves and interacts with itself.

Enjoy!