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I read the article “Small Is Beautiful, Big Is Inevitable” from the “For Good Measure” section of IEEE Security & Privacy Magazine vol. 9 no. 6 from November/December 2011. The major focus of this article was on the expansion of the amount of data and how that expansion will affect the security industry as a whole. The author chooses to skip over the fact that more data needs more people to secure it, instead opting to focus on aspects such as what work factor is manageable by humans, the ways in which data has grown, the ways in which public awareness has grown, and two rather differing ideas on how the massive amounts of data can affect those searching for data.

An interesting thing brought up in this article that I found noteworthy was that despite the article being about the massive expansion of data in recent years, the author chose not to focus on the need of more people to secure the data. Rather he spent a brief period discussing what workloads would be reasonable for people to be able to handle. He discusses that for humans to be able to cope with the amount, the work factor needs to stay below log(vol(data)) while training more people. A logarithmic curve is one of the least steep curves as the value increases past 1, which would keep the workload of each individual from skyrocketing. He also warns against letting computers do all of the defensive work.

He also discusses how much more data there is then there used to be. He starts with an example of a trend on how long it would take to fill the entirety of the world’s bandwidth with the entirety of the world’s storage. In 1986 it was two days, and grew at an exponential rate until 2007 when it reached 56, and the data has ended. This is even more impressive considering how much bandwidth has grown as well. Using this curve he estimates that in 2011, it will be 112 days. I don’t think it would take long at this rate until there is more data than can be passed through the networks in a year. I found this rather startling, because even though I was aware that more and more data was being created, I was unaware at the sheer scope.

Another interesting point brought up in this article was about public awareness. From 1950 to 2007 there has been much more mention of security than privacy, however interest in privacy has grown by 3.8 times, while security has only grown by 1.4 times. This seems to say that the public is more worried about security than privacy, but they concern about privacy is growing faster than concern about security. In addition to this, of the three pillars of security (Confidentiality, Integrity, and Availability), Confidentiality is by far the lowest mentioned, but has grown by over 328 times since 1950. When these two factors are combined it would seem like the public is taking more of an interest in the things that have had significantly less interest historically.

The article finishes with a bit of a disagreement. The author states that the increase in data can have one of two effects. The first is that attackers become a low cost commodity supplier of stolen data. The second is for them to carefully target specific data. I feel like both of these are likely to happen, because different people want different things, so there could be a demand for both.