The Optimal Number of Friends in the Information Age

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Note the following:

1 There are far too many beautiful, intelligent, useful, interesting, and worthy things to read, watch, listen to, eat, do etc. in the world. So many that one can never finish them all.

2 Therefore, from (1), one must never waste time with anything that is not among the most beautiful, intelligent, useful, interesting, and worthy.

3 These most beautiful, intelligent, useful, interesting, and worthy things are, however, inaccessible in practice to an isolated individual, since they are buried in orders of magnitude greater amounts of junk. Let N denote the total number of items and M the total number of worthy items where $M \ll N$. ($M = rN$ where $r \ll 1$.) Let P denote the maximum number of items an individual can process during a lifetime, with $N \gg M \gg P$. ($P = sM$ where $s \ll 1$.) For concreteness, let each item take T time to process and our lifespan be L. Then, $L = PT$.

Let t denote the time it takes to scan a certain item to decide whether it is worth spending time on. Let $t = kT$ where $k \ll 1$. Let us assume we choose freely and randomly among the N items in the world and try to determine and process those among the worthy M. The following constraint applies:

$$L = J\left[T + \frac{Nt}{M}\right] = JT\left[1 + \frac{Nk}{M}\right] = JT\left[1 + \frac{k}{r}\right]$$

where $J < P$ denotes items actually found worthy and processed. (We assume all items decided worthy are processed, since doing otherwise would be clearly suboptimal.)

Our purpose is of course to increase J assuming other parameters are given. $[1 + (k/r)]$ is the overhead factor. Now, in the real world I believe that it is the case that $k \gg r$. (If $k < r$, then there is no problem. You just scan $1/r$ times as many items as you have time to process, which on the average should yield enough worthy material. The scanning overhead is negligible if $k \ll r$ or at least acceptable if $k \sim r$.) But if $k \gg r$, then either you have to consume lots of junk or waste a lot of time scanning, both reducing the amount of worthy things you can process. I believe this is the case in real life.

4 Let us now assume that there are q individuals who share the same concept of worthiness. Let each agree to notify all others of all worthy items they determine. (The burden associated with this is negligible.) In that case the time alloted to scanning by each is reduced by $1/q$, so that the constraint becomes:

$$L = J\left[T + \frac{Nt}{Mq}\right] = JT\left[1 + \frac{Nk}{Mq}\right] = JT\left[1 + \frac{k}{rq}\right]$$

The larger q is, the better. But further increases in q have little benefit after $k/rq < 1$. Thus we may speak of an optimal value of q given by :

$$q = \frac{k}{r} = \frac{Nt}{MT}$$

which can be interpreted as the ratio of "the total amount of time needed to scan all the available items in the world" to "the total time needed to process all the worthy items in the world." This is how many friends you need (for this purpose, that is).

Note: In the above I assumed that there is a universal worthiness scale for everybody. The generalization to different priorities and tastes should follow easily. Future work may also include the problem of accessibility; in the above we have assumed we have instant access to all existing items, which is not the case in reality.

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