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## Pratt Trees and a Random Fragmentation

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The Pratt tree for a prime  $p$  is defined recursively as the tree with root node  $p$ , and below  $p$  are links to the prime factors  $q$  of  $p - 1$ , below each  $q$  are links to the prime factors of  $q - 1$ , and so on. It was used by Pratt in 1975 to show that every prime has a short certificate (proof) of primality. We investigate the distribution of the height  $H(p)$  of the tree with root  $p$ , in particular illuminating the connection between  $H(p)$  and a random fragmentation process with Poisson–Dirichlet fragmentation law.

*This is joint work with Amin Coja-Oghlan.*