Abstract: Experiments in Proof of Personhood—where each person has a single, unique identity—have increasingly been touted as a mechanism for tracing information provenance, distributing Universal Basic Income, and facilitating democratic governance over systems of artificial intelligence. This paper chronicles Idena's experiment in Proof of Personhood from launch in August 2019 to a crisis in May 2022, which prompted a pivot towards a novel experiment in sublinear identity staking. We show how despite verifying humans, hidden pools rapidly emerged—some cooperative, but most controlled by "puppeteers" who, at best, remunerated participants for periodically proving their uniqueness in exchange for access to their secret keys and controlling their accounts. Instead of fostering an egalitarian network of unique identities, the protocol fractured into hidden subnetworks vying for control over an economic pie with economies of scale trending towards oligopoly, undermining the protocol's security and ambitions for democratic governance (one-person, one-vote) and UBI rewards (one-person, one reward). By giving humans economic incentives to periodically differentiate themselves from bots—even as low as $2 to $14 every few weeks—the protocol gave more informed, resourceful humans financial incentives to puppeteer less informed humans like bots. Notably, by May 2022, 23 entities constituting less than 0.6% of the network's distinct entities controlled at least ~40% of accounts and the distribution of almost half (~48%) the network rewards. More striking, 3 entities controlled ~19% accounts and ~24% rewards. An off-chain system trending towards oligopoly subsumed an on-chain egalitarian system, quietly and opaquely. Achieving de jure sybil-resistance (filtering humans from bots) revealed a deeper challenge of de-facto sybil resistance (filtering humans acting like bots), which could not coherently or computationally be disentangled from the problem of collusion-resistance.

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