**Trust and reliance in the cognitive institutions of cryptocurrency**

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The core business of cryptocurrencies can be described in terms of transitioning the monetary system from a basis of interpersonal (or institutional) trust to one of mechanistic reliance. Trust appears as the main, even the only, target of criticism in cryptocurrencies’ foundational documents. While Bitcoin’s white paper points to “the inherent weaknesses of the trust based model” of monetary transactions (Nakamoto, 2008, p. 1), Vitalik Buterin’s (2022) writings about Ethereum constantly refer to the goal of “trustlessness” achieved through a reliable mechanism, the market mechanism.

Many have maintained that trustlessness represents a mere ideal in cryptocurrency ecosystems (e.g. Bratspies, 2018), showing that cryptocurrency adoption, which represents a crucial condition for the emergence of network effects, spreads through interpersonal trust (Jalan et al., 2023). In this paper, we go a step further and criticize in principle the idea that trustlessness, if attainable, would represent a desirable ideal. To do so, we first characterize cryptocurrencies as “cognitive” institutions (Gallagher & Crisafi, 2009), a concept which builds on the philosophical idea of the “socially extended mind” (Gallagher, 2013). Cognitive institutions are those that “not just allow agents to perform certain cognitive processes in the social domain but, more importantly, without which some of the agents' cognitive processes would not exist or even be possible” (Petracca & Gallagher, 2020, p. 747). The cognitive processes externalized onto the cryptocurrency ecosystem concern everything related to the monitoring and verification of counterparts’ behaviors (to avoid the double-spending problem).

Some versions of the extended mind actively encourage the trading of trust for reliance. Clark’s concept of a “scaffolding institution” sees the constancy (i.e. reliability) of an institutional infrastructure as the source of its mind-extending potential (Clark, 1998). We question Clark’s functional idealization of trustlessness, showing that cryptocurrency ecosystems would produce undesirable outcomes if complete trustlessness were achieved (Gallagher & Petracca, 2022). We insist in particular on the contradiction inherent to framing the cryptocurrency ecosystem as a “community” (see Jackson, 2023) when in fact a reliance-based system crowds out what holds a community together.

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