

# What is Real about Electronic Cash?

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- Chaumian, pseudo-Chaumian, collision-based, etc. ecash
  - Like cash
    - Bearer certificate
    - Can be spent, respent
    - More or less untraceable
  - Unlike cash
    - Digital artifacts
      - thus easily cloned, copied
    - Mint gains intelligence about use
  - Security considerations
    - What does the mint care about?
    - Who else has the coin? Can I trust them?
    - User experience is *substantially* different from cash
    - Bimodal applicability -- best for high-value, or low-value sums

- **Book-entry systems**
  - Credit cards, phone payment, checks, etc.
    - Not like cash at all
      - Tracked, traced, analyzed etc.
      - Traditionally reasonably high-value
        - Only custom blocks ubiquity and low-value transactions
    - Can have user experience similar to cash
      - Users don't care much
    - Can have user experience better than cash

- Counterfeiting
  - Fought by limiting value
- User experience problems
  - Metal is heavy
  - Paper rips
    - does not deal with laundering well or other things that get it wet
  - They all have to be carried
    - Security of physical artifacts causes its own problems

- Local Cash

- Subway, highway tokens
  - “Quarters or tokens speed your trip”
- Limited scope smart cards
  - Oyster card etc.
- Scrip
  - Coupons, Canadian Tire Dollars
- eStamps
  - Other physical artifacts containing digital cash

- Interesting issues

- Can give preference to local populations
- Can provide limited or total untraceability
- Cross-scope issues
  - NH tokens (1 bit purchase, 2 bits in use, but work in NJ at 2 bit purchase and use)

# Edge Conditions and Pseudo-Ecash

- **Virtual artifact economies**
  - Linden dollars, WoW Gold, etc.
- **Loyalty Programs**
  - Airline miles, etc.
- **Other electronic payment systems**
  - Paypal, e-Gold, Cybercash, etc.
- **Large denomination bills**
  - No one is required to take them
  - Applies to small-denomination coins, too
- **Special-Purpose Cash-Equivalents**
  - Phone cards, merchandise cards (everything from iTunes to Macy's)
- **Barter**

# Reality is just a collective hunch

- True cash itself is consensus-reality
  - It isn't real
    - Not after it becomes representational
    - Maybe not before
- There isn't much difference between true cash and anything else, if the transaction clears
  - I could pay you in dollars, pesos, euros, publicly traded shares, or pork bellies
  - The question is whether you'd accept it.
- New electronic schemes create convenience and bother
  - Also risks and rewards
- The real issue is the risks and rewards of new payment systems.