Efficient! Critique of … Kahneman & Prospect Theory

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Are Humans Rational?

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Elements of the Critique

- Overconfidence & Stock Picking
- Betting & Prospect Theory
- Auction for $100
- Paradigm:
  - *Logicist Agent-Based Economics* (LABE)

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Overconfidence & Stock Picking …

Overconfidence of Stock Pickers (& Entrepreneurs)

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Subjective confidence in a judgment is not a reasoned evaluation of the probability that this judgment is correct. Confidence is a feeling, which reflects the coherence of the information and the cognitive ease of processing it. It is wise to take admissions of uncertainty seriously, but declarations of high confidence mainly tell you that an individual has constructed a coherent story in his mind, not necessarily that the story is true.

The Illusion of Stock-Picking Skill

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Since then, my questions about the stock market have hardened into a larger puzzle: a major industry appears to be built largely on an *illusion of skill*. Billions of shares are traded every day, with many people buying each stock and others selling it to them. It is not unusual for more than 100 million shares of a single stock to change hands in one day. Most of the buyers and sellers know that they have

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Efficient Market Hypothesis

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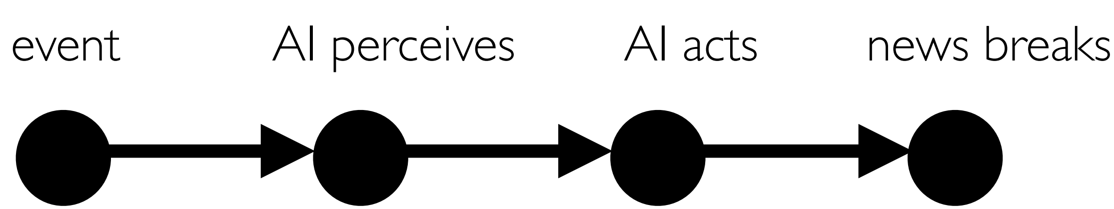

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Oh, & we have the counter-example of Jim Simons …

Medallion Fund

Renaissance's most famous portfolio, the Medallion fund, is considered to be one of the most successful hedge funds ever that has averaged a 71.8% annual return, before fees, from 1994 through mid-2014.[8] This fund is closed to outside investors since 1993 and is available only to current and past employees and their families. The firm bought out the last investor in the Medallion fund in 2005 and the investor community has not seen its returns since then.[7] About 100 of Renaissance's 275 o so employees are what it calls “qualified purchasers”, meaning they generally have at least $5 million in assets to invest. The remaining are "accredited investors", generally worth at least $1 million.[8]

> "Since its inception in March 1988, Simons' flagship $3.3 billion Medallion fund, has amassed annual returns of 35.6 percent, compared with 17.9 percent for the Standard & Poor's 500 index. For the 11 full years ended December 1999, Medallion's cumulative returns are an eye-popping 2,478.6 percent. Among all offshore funds over that same period, according to the database run by veteran hedge fund observer Antoine Bernheim, the next-best performer was Soros' Quantum Fund, with a 1,710.1 percent return (see table, page 44). "Simons is No. 1," says Bernheim. "Ahead of George Soros. Ahead of Mark Kingdon. Ahead of Bruce Kovner. Ahead of Monroe Trout."
>
> — "The Secret World of Jim Simons" 2000

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Medallion as a retirement fund [edit]

> "[Renaissance] won the [Labor Department]'s permission to put pieces of Medallion inside Roth IRAs. That means no taxes -- ever -- on the future earnings of a fund that averaged a 71.8 percent annual return, before fees, from 1994 through mid-2014."
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> — Rubin and Collins. June 16, 2015. *Bloomberg*

https://www.bloomberg.com/news/articles/2019-03-07/jim-simons-reveals-clues-to-medallion-fund-s-long-unrivaled-run

$100 Auction …

LABE applied to? …

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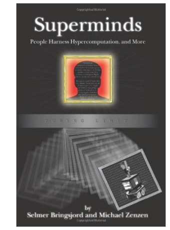

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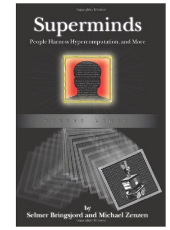

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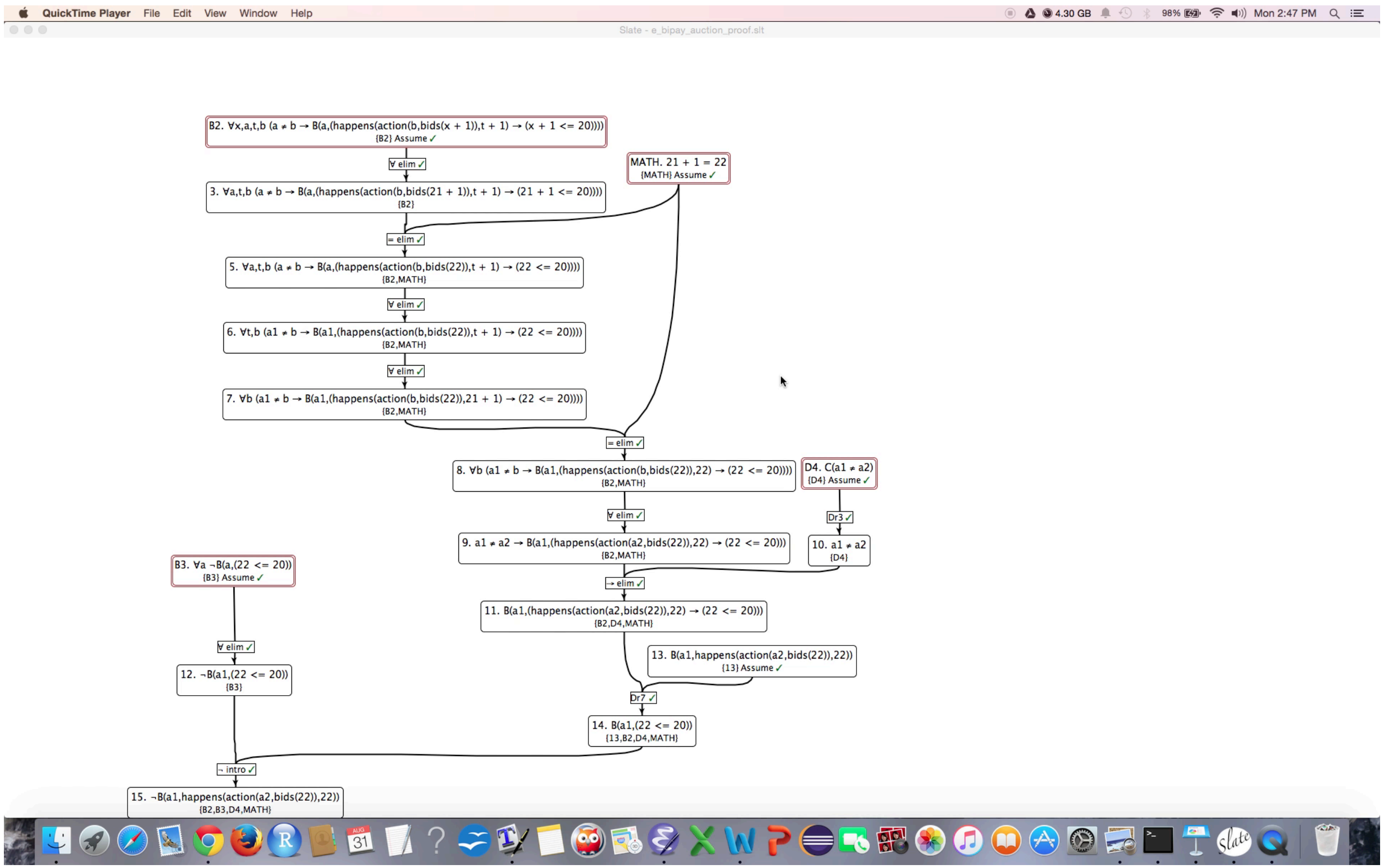
Conclusions

- How will human-level agents behave in the deviant bi-pay auction?
  - Two cases:
    - If naïve:
      - Lacking the time to thoroughly determine the answer to the question of whether to participate in the bi-pay auction, they substitute the easier question of whether to participate in a *normal* auction ... and the answer is YES!
    - If sophisticated:
      - Gamble that others won't participate and win auction with early (low) bid.

Implementation of These Conclusions



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