



**HONEYBEE PUBLICATION #39  
NOVEMBER 2015**

**QUESTIONS FROM THE SANTA FE INSTITUTE**

Hello Honeybees!

As many of you know, I am a longtime fan (and more recent trustee) of the [Santa Fe Institute](#), devoted to “searching for order in the complexity of evolving worlds.” Part of the ongoing work of Honeybee is to identify new questions and new “mental models” to put to use in the service of better analysis, decision making, and outcomes; there is no more fertile ground for this search than the study of complex adaptive systems. I often say that I go to SFI not in search of answers, but in search of better questions. In this issue, then, we share just a few of the key questions that we’ve been able to explore with SFI’s help.

***“...try to love the questions themselves,  
like locked rooms and like books that are now written  
in a very foreign tongue...the point is, to live everything.  
Live the questions now.”***

***- Rainer Maria Rilke***

**KEY ISSUE #1: THE ROLES OF TRUST & SCALE IN EXCHANGE**

*This year’s fall Business Network meeting at SFI focused on Money and Currency, with a particular emphasis on Bitcoin, and was organized by Bill Miller and Michael Mauboussin. I had done a little work on Bitcoin as research for [The Nature of Investing](#), and felt intrigued by many of its mechanical aspects. However, I was deeply troubled by the central philosophical premise, that the current system “suffers from the inherent weaknesses of the trust based model.... What is needed is an electronic payment system based on cryptographic proof instead of trust.” (the full Bitcoin document is [here](#).) Though we might indeed be over-reliant on intermediaries these days, I am not so sure that*

*exchange without trust is a great thing. In fact, cryptocurrencies are not really trustless: you trust the technology and the network as opposed to trusting your trading partner or intermediary. Still, I'm not convinced that this is a worthy swap.*

***He who does not trust enough, will not be trusted."***

***-Lao Tzu***

- **Implications for speculators:** While the point was made over and over again that we are still in the highly speculative era for Bitcoin and other cryptocurrencies, it was clear that investor interest was high. One simple investment case for Bitcoin involves comparing the total value of all Bitcoin right now (just below \$5 billion), to that of gold (about \$8 trillion). Both are considered alternate stores of value, both are perhaps more transportable than cash, both are potentially more private... if Bitcoin becomes a serious alternative for the "store of value" function, well, you can do the math.
- **Implications for intermediaries:** Woah, look out. If your business depends on holding funds for a week until they clear, or charging high fees to move money around, or verifying signatures for legal documents with a cost-intensive process, beware. It's been the norm so sometimes we forget to ask, why does it cost me \$20 and a whole week's time to send money to another country? One speaker likened this evolution to the telecom business... do you remember having to explain the \$700 phone charge from a hotel on your expense report, because you had a conference call in NY while you were in Brussels? Anyone under 30 has no idea what I am talking about.
- **Implications for exchange:** I am especially intrigued by the links between privacy, security and trust. Perhaps we can only have 2 out of 3? We can have a private network, and a secure one – like Bitcoin – but without intermediaries who can (legally) interface with our current systems, trust is a bottleneck. There may be trust within the Bitcoin system, but less trust of the Bitcoin system. Without that broader trust of the system – merchants who will accept Bitcoin for payment, or traders who will engage in buying & selling of the currency – its utility is limited. On this front, I was most encouraged by the increased legitimacy and ease of use for various Bitcoin intermediaries. Yes, you lose privacy when using these services, but you gain connection to the rest of our financial systems – at this point, it's your choice, you can have the benefits of privacy or the benefits of integration & utility, but not both.
- **Implications for systems thinkers and disruptors:** Is Bitcoin a biomimetic currency? Well. It's pretty close – closer than our national currencies, anyway. It's not centrally controlled, moves around without false borders, and has modular construction. The system in some ways is less efficient than other currencies (the blockchain is an energy-intensive process), but this is also what makes it more robust. More broadly speaking, it's a healthy thing for any system to have multiple currencies as a source of diversity and redundancy. On a related note, many of us

now have a string of mini-credits – airline miles, IOU's, gift cards, pre-paid Starbucks accounts, local time bank shares... we've already moved past a cash-reliant system, and are slowly moving beyond a US-dollar reliant system as well. Technological tools are making it easier to manage these multiple currencies, so one of the big reasons for US dollar reliance is fading.

## KEY ISSUE #2: QUESTION THE QUESTIONS

*At the SFI short course this year, we delved into the complexity in social systems. As many researchers noted, people are so messy – much tougher to analyze than the data they generate! From my own time managing people as well as managing money, I'd have to concur – people are harder. Luckily we are also fascinating, and sometimes really funny.*

- **What is the nature of your question?** Though investors love definitive answers, there is great power in being able to say, "it depends". If you are answering a narrow question, where there is one fixed "mountaintop" of an answer, you want to approach it with deep specialization, a consistent process, and a clear map. This kind of analysis (which is sometimes just a calculation) can be linear and everlasting. If you are answering a "mountain range" kind of question, things vary across the landscape, and you need some more diversity and adaptability in your approach. If you are answering an "ocean waves" kind of question, you've added the shifting dimension of time, so you need to be able to surf with great agility (or hide out beneath the waves). You want tools for ALL of these situations, and we need to be able to distinguish them from one another.

Translating to investment research...

- **Compiling an accurate financial model = mountaintop**
  - **Understanding the basics of various industries = mountain range**
  - **Active portfolio management = ocean waves**
- **How can we consider cooperation more thoughtfully?** Cooperation is an element that is often ignored in conventional economic & financial theory, with the misplaced assumption that it is not in our own best interests. In complex adaptive systems, we've shown that cooperation is harder when conditions are either too harsh or too rich – the benefits of cooperating in these extremes are outweighed by perceived risk or cost.

Translating to business and investing....

- **Is it possible that our work environments are simultaneously too harsh and too rich?** Many investment teams are awash in resources, so there's not a lot of incentive to pool them. At the same time, we often feel deep scarcity when it comes to perceived opportunity or prestige – the zero-sum mindset persists, which also is intensely anti-cooperative.
- **How can we recalibrate to value cooperation?** I will never forget the first time someone called me "nice" at work, and it was most definitely not a compliment. But think about it honestly, how much of your success is 100% yours, no help from anyone else, no luck involved? The lone hero

narrative is compelling... it's just not true. Valuing only competition leads to sub-par results.

- **What type of network is relevant to your context?** Many of you will already know of SFI's work on [cities](#), led by Geoffrey West and Luis Bettencourt. One terrific set of explorations here relates to the intersection and interaction of physical systems, like city infrastructure, and social systems, like people and our activities.

Translating to business and investing....

- **What does it mean that our financial markets are used for so many different purposes now?** I believe the mechanics and objectives of traders are much different from those of investors, yet we all interface with the same markets. Does this shared interface become more fragile or more robust due to these multiple uses? How do we lose out when we assume our own approaches and incentives are universal? This is one reason few active managers understood the potential of ETF's early on.
- **When do smaller scaled systems fall along the same curve, and when do they diverge?** If I'm looking to biological ecosystems as models, for example, can I really apply that wisdom at a company or individual level? What are the risks of this translation to different scales? I'm worried that every startup analysis I see uses Google and Facebook as their main points of reference.

### KEY ISSUE #3 – WHAT IS 21<sup>ST</sup> CENTURY LITERACY?

*As I've listened to the wide variety of scientists, experts, and practitioners at SFI events this year, I've kept a running list of areas that I want to explore in more depth. As you can guess from the notes above, this list is ever-expanding. Abstracting from the specifics, there are several forms of literacy that emerge – interestingly, these parallel the [multiple forms of capital](#) that we've explored in past Honeybee issues.*

- **Numeracy & statistical literacy**
- **Ethical literacy**
- **Cultural literacy**
- **Empathetic literacy**
- **Questioning ability/critical thought**
- **Translational skill**

If I were in charge of a big hiring program these days, I would skip the quizzes on DCF calculations and look for evidence of the qualities on this list instead. More HOW and less WHAT.

## **TO LEARN MORE:**

*Interested in learning more about the SFI Business Network? Some detail is [here](#), or please ping me if you'd like a firsthand account. If you are looking for profound insights that can alter long-term understanding of our world (financial and otherwise), this is one of the highest ROI groups around.*

## **COMING UP NEXT:**

*Please be on the lookout in coming weeks for our year-end Honeybee Fund giving report, as well as our 2015 Book List. (If you are finding it hard to wait, last year's issues can be found [here](#)).*

***“Gratitude is happiness doubled by wonder.”***

***- Gilbert Chesterton***

***Happy Thanksgiving to all!***