Latticework - I

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St. John's College in Annapolis, Maryland is an unusual place. Students are rarely lectured, they are never given any tests and there are no electives. In fact, there are no professors at St. John's. Students spend their entire four years reading and discussing a range of great books.

During their freshman year the focus is on the ancient Greeks (Homer, Sophocles, Aristophanes and the like). As sophomores they fixate on the Roman, medieval and Renaissance periods (Chaucer, Dante, Machiavelli, Shakespeare et cetera). They move on to the 17^{th} and 18^{th} centuries during their third year (Hobbes, Cervantes, Milton, Bernoulli et cetera). Finally, it's all concluded in their senior year with reading more recent works like the United States Constitution, Various Supreme Court opinions, Darwin's Origin of Species and poems by the likes of T. S. Elliott and Yeats.

Students get a broad-based education. They get nearly all their input directly from the original source. When learning about Physics and Astronomy they read the direct words of Newton and Galileo. On mathematics, the readings include the formidable words of Euclid, Pascal and Archimedes. These great books are the real teachers at St. John's.

The common theme that emerges in interviews with alumni is how their years at St. John's taught them how to think. One emerges from St. John's with a broad cross-section of worldly wisdom and an unusual ability to analyze new information in the context of all that worldly wisdom.

The notion of worldly wisdom comes up often when Warren Buffett's partner Charlie Munger is talking about the art of investing. Charlie gave one of his rare speeches to students at the University of Southern California's School of Business in 1994. That speech unified the seemingly disparate notions of Worldly Wisdom, Success Investing and The Latticework of Mental Models.

Two of my favorite quotes from that remarkable speech are:

"To a man with only a hammer, every problem looks like a nail."

And …

"What is elementary worldly wisdom? Well, the first rule is that you can't really know anything if you just remembered isolated facts and try and bang 'em back. If the facts don't hang together on a latticework of theory, you don't have them in a usable form. You've got to have models in your head. And you've got to array your experience – both vicarious and direct – on this latticework of models."

One of the fascinating things about investing for me is that it is perhaps one of the broadest of disciplines. When you look at any business today and then try to extrapolate what that business looks like 5, 10 or 20 years from now, it starts to get very murky. The number of factors that can affect the future prospects of any business are mind-boggling. At the same time, if one does not have a clear perspective on what that business really looks like in a few years, then one will likely join the ranks of 90+% of professional fund managers and individual investors whose portfolios regularly underperform the major indices.

The MBA's minted out of the nation's best business schools represent the person with the hammer. They have analytic tools coming out of their ears when they graduate. They can all make Excel dance and tear financial statements apart in their sleep. However, the financial statements of any business simply tells us about the past. Making investment decisions based on past financials is akin to driving a car with a sole fixation on the rear-view mirror.

Since the future drivers of most businesses are a function of a myriad of factors, one needs to draw upon a wide array of mental models to try to build a picture of what factors really matter. Getting a pulse of the factors that matter most is fundamental to investing success. And one of the only ways of getting to those critical drivers is to have a very broad base of worldly wisdom and experience to develop a latticework of mental models. It is this latticework that should lead to a convergence decision on whether a given investment is a good one to make.

Let's consider Berkshire Hathaway's investment in Coca Cola common stock in 1988. Virtually all of Berkshire's investments are made by Warren Buffett in consultation with Charlie Munger. Their modus operandi is one where Buffett comes up with investment ideas and calls Charlie who applies his broad worldly wisdom and latticework of mental models and usually shoots nearly all of them down.

From 1984-87, Berkshire Hathaway was sitting on over $1 Billion in cash and did not make a single investment in any public-equity. Then, in 1987, they invested about $1.2 Billion in Coca-Cola Common stock – buying every share they could get their hands on over a six month period. Berkshire ended up owning about 6% of Cola Cola. Amazingly, they invested 25% of Berkshire Hathaway's entire book value in a single company. Since 1987, Berkshire has not bought (or sold) a single additional share of Coca Cola. Berkshire bought its stake at a split-adjusted $6/share and has earned over a nine fold return on its investment over the last 14 years – excluding dividends. Its Coke investment has outperformed the market by a massive margin.

Coca Cola has billions of customers around the world who are intimately familiar with its products and consume it every day. In 1988, it had over 20 Wall Street analysts following the stock (most analysts were bearish on Coke's future prospects). How can a company in such a limelight be undervalued to such a large degree? By Buffett's own admittance, Berkshire made the investment in Coke relying primarily on Coke's past annual reports. He and Charlie never spoke to Coke management and indeed Coke's board learnt about Buffett's purchase when he had nearly completed acquiring his stake. What did Buffett and Charlie see in Coke that over a billion people couldn't see?

Here is a cross-section of some of the factors that went into their building a latticework of mental models on Coke.

1. Buffett is a huge sugar-addict and had been a lifelong passionate consumer of Pepsi Cola – until 1987. He used to add cherry syrup to his Pepsi before Cherry Coke was concocted. When he was 7 years, he used to count the discarded bottle caps around vending machines and carefully tabulate which drink people were having the most. He remembers being astounded with the overwhelming numbers of Coke caps (over 80%) relative to the numbers for all other drinks.

2. Buffett is rumored to have a subscription to *Advertising Age* magazine. He asked himself what it would cost to replicate the Coca Cola brand in a few years. The conclusion Charlie and he reached was that it probably could not be done – even with $100 Billion given to the best marketing team on Earth. At the time, one could have bought the entire Coca Cola company for under $20 Billion. So, here was a company whose brand alone was worth well over $100 Billion and the entire company could be bought for under $20 Billion.

3. Buffett poured over the last 80 years of Coca Cola annual reports. He found that, like a software company, their gross margin on their syrup sold to bottlers is well over 80%. Coke's future success was a function of the number of servings of coke sold worldwide. The more the servings, the more the cash flow. He found that over the last 80 years, their syrup volumes sold has risen every single year. The last 80 years included many ugly world events – World War I, the great depression, World War II, The Korean War, The Vietnam War, The Cold War, numerous recessions, being kicked out of India in the 1970s et cetera. Through all of that Coke has grown every single year. The question Munger and Buffett posed to each other was simple – What volume of syrup might The Coca Cola Company conservatively be expected to ship in the year 2000…2025…2050? They probably came up with some mouth-watering numbers, then extrapolated free cash flow (about 1 cent per 8 ounce serving) and finally arrived at a present value of all that future cash flow.

4. In 1886, when Coke was first concocted, it sold for 5 cents per 8 ounce serving. Today, one can buy 8 ounces of Coke on sale for under 17 cents. If Coke's pricing had moved in lockstep with inflation, we'd be paying several dollars for a single can. This is a very unusual product whose unit price has declined dramatically over the years. Very few consumer products have demonstrated the level of decline in prices that Coke has over the last century.

5. Billions of people around the world have yet to have their first Coke. In addition, the daily per capita consumption of bottled beverages around the world is miniscule compared to the United States and Europe. However, it has repeatedly risen dramatically in various countries as per capita incomes have risen. We are likely to see big increases in per capita incomes in the third world over the coming decades.

The typical hammer wielding Wall Street analyst fixated on the next few quarters, not the next half century when trying to figure out any given company. No Wall Street analyst's mental model of Coke in 1988 was comprised of the latticework that Munger and Buffett fixated upon. Individual investors will do well if they only made investments within their circle of competence based on an independent latticework of mental models. When all your mental models all converge at about the same intrinsic value for a given business – and that value is well above the price of the business, back up the truck.

Next month we'll delve further into how Charlie Munger got this enormous worldly wisdom – and how you can broaden your perspective as well – without enrolling at St. John's. Finally, St' John's website (www.sjca.edu) lists the entire four-year Great Books program in detail and I'd recommend reading Robert Hagstrom's outstanding book, *Latticework* – which I referenced for this article.

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