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Behavioral Strategy: An Alternative Account of Superior Profitability?

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Abstract

Behavioral strategy completes the analyses of superior profitability by highlighting how non-economic but behavioral barriers generate an alternative source of strategic opportunities. Existing internal and external analysis frameworks fail to explain why strategic factors can be systematically mispriced and why large firms' structural and resource advantage are regularly disrupted by entrepreneurs. We argue that the systematic biases documented in the behavioral and organizational sciences in fact illuminate an alternative source of competitive advantage. Strategists could develop superior insights into the value of resources and recognize factors that are either under or over-valued while competitors remain blind to such possibilities. Our argument is illustrated by how three "underdogs" disrupted the incumbents in their industries by exploiting rivals' predictable biases and blind spots. We conclude by discussing how our ideas can be generalized as an alternative, behavioral approach for strategy.

Keywords: decision biases, strategic factor market, organizational learning, entrepreneurship

A fundamental question in Strategy is the determinants of superior profitability. How do we explain why some firms are more profitable than others? Two theoretical frameworks that address this question have been dominant in the past several decades: Porter's external analysis framework (i.e., Five Forces Framework) and the internal analysis framework (i.e., the Resource Based View of the Firm). In a nutshell, while the Porter framework emphasizes structural advantage (Porter, 1980; Puranam & Vanneste, 2016) in the product market as the key source of superior profitability, the internal framework shifts attention to the strategic factor market and to the control of VRIN (valuable, rare, inimitable and non-substitutable) resources and capabilities (Barney, 1991; Teece, Pisano, & Shuen, 1997).

Despite the widespread acceptance and adoption of these two theoretical frameworks in both teaching and research, two puzzles remain regarding these determinants of superior profits. First, if the relationship between having superior profit and acquiring certain VRIN resources or structural advantages is well known, the cost of acquiring these factors should reflect their value (Barney, 1986). This in turn implies competitive parity – failing to acquire these factors mean disadvantage but controlling them is not sufficient for generating abnormal return, because these factors could not have been acquired by foresight or design. To explain superior profit, we need a theory for why strategic factors are systematically mispriced in the first place, in the absence of random causes such as luck, serendipity or preadaptation (Barney, 1986; Cattani, 2005; Denrell, Fang, & Winter, 2003).

The second puzzle arises from the empirical observation that large firms are regularly disrupted. Conventional strategy frameworks usually do not do a good job explaining: (a) why these large firms' structural advantage and VRIN resources suddenly ceased to generate profit; and (b) how entrepreneurs who had neither structural advantage nor VRIN resources (who should not have entered in the first place according to conventional strategy frameworks) could disrupt their heavyweight competitors.

We propose an alternative source of superior profit that complements existing strategy frameworks: superior profit can result from having superior behavioral insights into the cognitive biases of one's competitors. Conventional strategy frameworks are mostly imported from economics where actors are assumed to be rational. But decades of research in behavioral and cognitive sciences have shown that people can sometimes be predictably irrational (Ariely, 2008; Bazerman & Moore, 2009; Kahneman, 2011; Thaler, 2015). We argue that these systematic biases in fact illuminate an alternative source of competitive advantage because they can imply predictable false expectations (Harrison & March, 1984), mispricing of important strategic factors (Zuckerman, 2012) or suboptimal responses to competitions and changes (Christensen, 1997). In this sense, strategists could develop superior insights into the value of resources and recognize factors that are either under or over-valued while competitors remain blind to such possibilities. Our account may also explain how some less resourceful strategists could nevertheless disrupt strong incumbents by exploiting their superior insights into the value of resources and strategic factors.

An analogy to our approach is how Michael Porter developed his famous Five Force framework. While most ideas in his 1980 book were well known in industrial economics, he turned those ideas on their head and advised firms to utilize this knowledge to gain monopoly. Similarly, our proposal is to turn the well-known suboptimal cognitive biases on their head as a way to gain superior insight and subsequently superior profits. For example, resources can be under- or over-valued due to biases such as homophily or overconfidence (Camerer & Lovo, 1999; McPherson, Smith-Lovin, & Cook, 2001) which may not be corrected for due to learning myopia or inertia to prior successes (Audia, Locke, & Smith, 2000; Levinthal & March, 1993). This is bad news to incumbents because they are likely to get stuck in local optimum. But this is good news to informed strategists who can then maneuver to gain an upper

hand based on their superior cognitive and behavioral understanding of the competitive landscape.

To illustrate this approach, we present three case studies: the cases of Moneyball in Major League Baseball (MLB, Lewis, 2003), Capital One in credit card financing (Chang, 2005) and DFJ, a venture capital firm in Silicon Valley (Liu, Vlaev, Fang, Denrell, & Chater, 2017). In each one of these three cases, an “underdog” (i.e., a least resourceful MLB team, a naïve entrepreneur or a peripheral venture capitalist) disrupted the incumbents in their industry by exploiting the cognitive and behavioral insights they gained. They then grew and thrived with little resistance thanks to incumbents’ blind spots and inertia. Even though in some cases the competitive advantage may not have lasted, the fact that these underdogs were able to outcompete the venerable incumbents at all was remarkable. After a detailed discussion of these three illustrations, we conclude by discussing how our ideas can be generalized as an alternative, behavioral approach for strategy.

The Case of Moneyball: A Tale of (not) Judging Talents by the Look

Acquiring talents is one of the most important tasks in business. This is even more so in the top three professional sports in the United States, where players are direct inputs to a team’s professional success both in the competitive arena as well as in advertising. These professional sports also generate substantial business activities - average team values are 1.4 billion USD in National Basketball Association (NBA), 1.5 billion USD in Major League Baseball (MLB) and 2.4 billion USD in National Football League (NFL), according to [Forbes](#). The story of the Oakland Athletics (the A's), a team in the American League West of MLB, illustrates how a team with little resources can nevertheless develop superior insights into the value of its resources (i.e., players) and exploit this gap in knowledge to outsmart its much richer rivals.

Despite being one of the poorest teams in MLB (e.g., one third of the payroll compared to the New York Yankees), the A's managed to earn the highest winning percentages during 1999-2003. Its number of wins in the American League West for most of the years from 1999 to the present is within the top two. How can a team so poor win so many games? According to the bestseller *Moneyball* (Lewis, 2003), Billy Beane, the General Manager of the As, exploited a widely shared, stereotype bias in MLB. Many team managers and scouts in MLB believed that superior talents should have a certain "look". If a candidate player looks more similar to such a stereotype, he is more likely to be considered more talented and hireable.

To be fair, since there is a positive (though imperfect) correlation between the look and future performances, this stereotype belief is a useful heuristic for scouts to shortlist superior talents among thousands of candidates. The problem arises when many scouts adopted the same approach. An imperfect correlation implies two possible errors (Gilovich, 2008): a false positive one (i.e., some players who have the look are overrated) and a false negative error (i.e., some players who do not have the look are underestimated). In MLB, the false positive error can be fixed – overrated players may be hired, and then terminated once their deficiency is discovered. In fact, this is the career history of Billy Beane – while he looked the part in high school, he floundered in MLB and his career as a player was short lived.

The second, false negative error, is potentially more persistent as it is not visible: undervalued players are not hired so teams rarely have the opportunities to follow a player who succeed despite not fitting the stereotype. Because teams do not see these players they are unable to truly evaluate the effectiveness of the stereotype heuristics. Moreover, the diffusion of this heuristic creates an endogenous sampling bias: most MLB players now share the look because they make the cut based on their looks in the first place. This further reduces the samples available to falsify the stereotype heuristic. Instead, team end up placing false confidence on the robustness of this hiring approach because the validity of hiring based on

stereotype is seemingly supported multiple times – a confirmation bias (Nickerson, 1998). Furthermore, many scouts were retired players whose career benefited from having the look. This created strong identity and normative pressures against experimenting alternative hiring approaches. The implication is that a once partially useful stereotype heuristic now becomes a bias in MLB.

Once this bias is apparent *ex post*, a clear strategy would be to hire against the stereotype. More specifically, one could gain advantage by hiring players who contribute more to team winnings than their look (and salary) implies and firing those who contribute less than their look implies. This is what Billy Beane did in the A's – he hired statisticians to help identify these mis-valued players by formally analyzing data that were previously ignored.

But applying a statistical approach is insufficient to explain the success of the A's. Such an approach, called Sabermetrics by MLB fans, existed long before Billy Beane adopted it and the 2003 publication of *Moneyball*. Moreover, there is no barrier in adopting this statistical approach – baseball data is publicly available and talents in statistical analysis are abundant. Why did other teams fail to adopt the A's approach before and even after 2003, when the stereotype heuristic was proven flawed?

In other words, why did Billy Beane succeed in exploiting his superior understanding of the value of his players while others could not? First, hiring against the stereotype and norms is risky. Yet Billy Beane was himself a player with a failed career and this personal experience makes him very credible in convincing the stakeholders to adopt an alternative approach to hiring. Second, the A's is one of the poorest teams in MLB. This means that they had to try a different approach to win – following the conventional approach promises low performances due to lack of resources. Coupled with low resource is low expectations – owners, fans and other stakeholder can tolerate more experimentation as they have little to lose anyway. For a much richer team such as the New York Yankees, the incentives to innovate is much less as

they could afford to buy their way out. At the same time, expectations to win are sky high which further reduces the motivation to experiment.

To conclude, Billy Beane took advantage of the stereotype bias and exploited the mispricing of specific players as identified by data analytics. This strategic opportunity, apparent ex post, was largely ignored by competitors because they are either unable to see the false negatives in their hiring (Gilovich, 2008) or trapped in the “iron cage” due to their identities, norms and inertia (DiMaggio & Powell, 1983).

The Case of Capital One: A Tale of Falsifying Conventional Wisdom

Credit card financing before 1980 was once dominated by large banks, such as Citi, Bank of America and Chase. Banks issued cards to existing customers with proven track records and once these “low hanging fruit” were exploited, they expanded the business by soliciting new customers through direct mailing campaigns, and profits grew steadily. The creditworthiness of new applicants was computed based on data on debt-income ratio and credit scores. Applicants whose ratios/scores are above banks’ cutoff point were offered credit cards with unified APR (Annual Percentage Rate) and annual fee.

Richard Fairbank, the founder of Capital One, was puzzled by this business model in credit cards financing when he studied for his MBA at Stanford in the early 80s: “the fact that everyone had the same price (same APR and annual fee) for credit cards in a risk-based business was strange”. He realized that higher risk customers were subsidized by lower risk ones. Moreover, potentially profitable customers (e.g., with poor but now improved scores or young applicants with no credit history) were likely overlooked because it was almost impossible for them to get an approval from any bank. This observation inspired Fairbank to develop a simple proposal: “mass customization”, i.e., each credit card customer should be charged with different APR and annual fees depending on his or her actual risk profile.

Fairbank also believed that information technologies could facilitate the implementation of this proposal by systematically collecting and analysing the large volume of customer data.

Fairbank identified a status quo bias of the incumbent banks. Banks developed a routine to select customers who are more likely to repay their loan. It worked reasonably well so there was little motivation for the incumbents to try alternative approaches. More importantly, introducing varying APR and annual fees not only means dramatic changes in incumbent's existing IT systems and decision structure, but it could also attract complains from existing customers who could have received a less favourable rate. Competitors could also respond by stealing these unhappy customers by offering the original status quo. Fairbank received universally negative feedback when he pitched his proposal to the large banks, with comments such as "this is not the way we do things here", "interesting but this means we have to reinvent the system to implement your proposal", or simply "this is too risky".

Disapprovals from the incumbents' were a blessing for Fairbank in hindsight. He realised that "when the world changes, often the last people to know are the ones that are most deeply involved in the old way". This is the incumbent bias that he later set out to exploit with a threefold strategy. First, he negotiated a deal with Signet, a mid-size, regional bank. Fairbank was paid purely by the profit generated through new credit card customers solicited by Fairbank's approach. In exchange Fairbank gained full control of the credit card business division. This proposal is mutually beneficial – Signet had little to lose and Fairbank had an independent set up that is essential for implementing his innovative idea.

Second, Fairbank only hired people from outside the banking industry to design and test the right approach of mass customization. Experienced employees from the banking industry can be useful in the short run but they would likely have internalized all conventional wisdom – decision heuristics that are useful in stable environment. As such, experience in the banking industry was seen as biased. Instead, hiring was mainly targeted at those who were

outsiders, naïve and free from the possible constraints of conventional wisdom and norms, harnessing “the power of an objective ignorant view of the world from someone who really didn’t know anything about credit card business”.

Third, Fairbank believed in experimentations. For instance, Capital One tested interviewing loan applicants as an evaluation process. They accepted those applicants with the highest interview scores as well as the bottom ones by design in an experiment. Capital One found no statistical difference in the loan repayment record between the two groups in the next three years, thereby proving that interviews were neither necessary nor informative. To search for a winning combination of loan offers, Capital One ran varying deals with direct marketing. After two years of numerous tests and failures, Fairbank finally found an attractive combination: a 9.9% APR (half of industry standard) with a hassle-free balance transfer. This proved to be a success after introduced nation-wide and the business expanded with customized deals routinely introduced.

As another illustration, consider customers who asked to leave with an outsider offer. These customers would be randomly assigned with one of the three responses: (a) decline by calling it a bluff; (b) make the same counteroffer; (c) meet the customer half way. Then Capital One would build a regression model to predict how different customer profiles predict the lowest offer that will make them stay with Capital One. This analysis can then enable a strong decision support system – staff on the phone will have an immediate recommendation for a particular calling in – for this specific customer the system will show, for example, an empirically verified response such as “negotiate down to 17.5%”. This is just one of the 7,000 experiments Capital One did in 1997.

Importantly, Fairbank established a culture that the firm is run like a scientific lab - employees are rewarded when their ideas worked as evidenced by tests rather than by their experience or seniority. Incumbents may be able to imitate Fairbank’s specific scheme (e.g., a

low introductory rate with balance transfer), but they may find it hard to catch up with the continuous innovations by Capital One that is fuelled by its culture of testing and falsifying conventional wisdom systematically.

To conclude, incumbent in credit card business in the 80s suffered from two important biases that Fairbank managed to exploit. First is a status quo bias – incumbents’ under-explored (March, 1991) because they were too satisfied with their business model but they in fact got stuck in a local optimum (Levinthal & March, 1993). Second is incumbents’ dilemma – even if some banks recognized the necessity of change, their prior successes, existing systems and culture held them back: large banks like Citi and Chase failed to respond to the challenges from Capital One and did nothing for almost two years. The inertia from these “Goliaths” was sufficient for Capital One to grow from nowhere and disrupted successfully the venerable credit card industry.

The Case of DFJ: A Tale of Searching for Homerun Startups by Becoming A Magnet

The goal of venture capitalists is clear – finding a homerun startup that many other competitors overlook or do not have access to invest. This is like searching for a needle in a haystack – tens of thousands of startups are established every year and it is almost impossible to identify who will become the next big thing ex ante. Even when some of them are obviously promising, they may attract multiple biddings from competitors so the venture capitalist’s expected profit would be diluted.

Some successful venture capitalists overcome this challenge by becoming the “brokers” in social networks by recombining information from their own multiple social and professional cliques that otherwise would not have been in contact. This increases the odds of finding higher quality startups or even homeruns in two ways. First, because the ideas they approach are typically from their own elite networks, the average quality is higher than otherwise. Second,

competition is reduced because the network connections make the interactions a repeated game. This is how the first generation of venture capitalist became successful in Silicon Valley.

However, this posed a challenge to latecomers such as Draper Fisher Jurvetson (DFJ), a US venture capital firm. DFJ realized from the beginning that they had to adopt a different approach otherwise they had no chance of beating the incumbents, i.e., the elite network brokers. DFJ identified a weakness of the elite network approach, i.e., the homophily bias. While this approach has been proven successful, the ideas they have access to tend to be homogeneous and uniform as the cliques they connect tend to be similar to them and think alike. This implies that the elite venture capitalists may systematically underestimate atypical ideas or those developed by people outside the elite networks. This behavioral insight was then translated into three specific strategies to compete against the network brokers.

First, DFJ only focused on emerging field that was too risky for the incumbents to engage. For example, when the nanotechnology emerged in early 2000, DFJ publicized themselves as a leading investor in this field and promised to evaluate every proposal submitted to them. Note that this approach is the opposite to the conventional, secretive approach of most other venture capitalists. DFJ overcomes the homophily bias by opening up, attracting a large volume of business proposals from the widest possible range of sources, including those out of reach by even the most connected network brokers. As DFJ put it: “We want to become a powerful magnet so the needles find us”.

Second, DFJ learned from a large volume of proposals, believing that a technological breakthrough is more likely to happen in an area where many people are working on the same thing. While hiring many qualified evaluators to go through each business proposal submitted is costly, this enhances the likelihood that DFJ identifies the next big *trend*, and the eventual winning start-up in the trend.

Third and finally, after selecting proposal based on the identified trend, DFJ still needs to ensure the final stage of selection is free from the homophily bias and consistent with their goal, i.e., scoring on the most extreme ideas that promise a homerun startup. To achieve this, DFJ set a default rule: they invest in a start-up as long as at least one partner feels very strongly about the idea, and avoids unanimity in investment decisions. Because it is very costly to implement the “magnet strategy” and the “learning from large volume strategy”, DFJ has to make sure they invest in the most radical ideas with potentially exceptional returns to justify the additional investment. By definition, radical ideas are against conventional wisdom and are likely to be discounted. If all partners agree on the potential of an idea, this idea is perhaps not radical enough. Moreover, competition will be more intense when commercializing such idea because other venture capitalists may see it coming too. DFJ instead believes that “the basis for investment decisions is not compromise but strong beliefs by individual partners”.

To conclude, incumbents in Silly Valley when DFJ was established suffer from several potential biases, notable, the homophily bias. To beat the incumbent venture capitalists, DFJ turned the homophily bias on its head and developed a set of coherent strategies to exploit incumbent’s blind spot. When others act as brokers and link elites from different cliques to enhance the average quality of business proposals, DFJ acts as a magnet to attract large volume of ideas to generate the maximum variance. When others operate secretly to protect their connections and insights, DFJ opens up and learns the next big trend using the wisdom of the crowd. When others make investment decisions based on consensus, DFJ agrees on the basis of disagreement. The case of DFJ shows how cognitive biases can become useful guide for turning own weakness into strength and competitors’ strength into weakness.

Conclusion

Decades of research in behavioral sciences shows that people do not always behave rationally (Bazerman & Moore, 2009; Kahneman, 2011; March & Heath, 1994). Less explored is how to overcome these biases to gain competitive advantage and increase performance. We presented three cases to show how the behavioral insights and superior understanding of the competitive landscape can lead to superior profitability. While behavioral theories are often descriptive, we believe that they can in fact be normatively useful - strategists could benefit from decades of behavioral literature on socio-cognitive biases and develop superior understanding of competitive asymmetry – i.e., when competitors are systematically biased. In other words, our approach turns behavioral theories on their head: we use the generative mechanisms of existing behavioral theories to generate an alternative source of opportunities and superior profit.

Our cases suggest further that identifying cognitive biases is not sufficient for gaining advantage unless a strategist could also develop a second order behavioral insight (Keynes, 1936) – why others are more biased than the strategist. More generally, to profit from a behavioral opportunity, an asymmetry between a strategist and the rest is necessary (Benner & Zenger, 2016; Massey & Thaler, 2013; Shleifer & Vishny, 1997): the strategist has to stumble *less* on biases such as learning myopia, incumbents' dilemma or inertia compared to others. Otherwise behavioral opportunities may exist but imply competitive parity (i.e., many can identify the inefficiencies and exploit them) or the opportunities may be left unexploited (i.e., opportunities are identified but no one is insensitive enough to act against inertia and other social constraints). In other words, a strategist needs to have not only a behavioral theory of others (i.e., predicting when others make mistakes) but also a behavioral theory of asymmetries (i.e., predicting when the biases and constraints apply only to others).

Our theory has important implications for existing strategy theories. Conventional strategic frameworks suggest that superior profitability can be a result of having strong entry

barriers, superior positioning or VRIN resources and capabilities. Yet theoretically we still do not have a clear explanation for why their prices failed to reflect their value in the first place, and why many firm in possession of these assets still fail. This suggests that conventional theories are incomplete when explaining the source of superior profitability. Our approach proposes that behavioral barriers are important sources for explaining performance differences. Due to cognitive biases, important strategic factors can be systematically mispriced and such inefficiencies can persist leading to sustained superior profitability for the informed.

References

- Ariely, D. (2008). *Predictably Irrational: The Hidden Forces that Shape Our Decisions*. London, UK: Harper Collins.
- Audia, P. G., Locke, E. A., & Smith, K. G. (2000). The paradox of success: An archival and a laboratory study of strategic persistence following radical environmental change. *The Academy of Management Journal*, *43*(5), 837-853.
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99-120.
- Barney, J. B. (1986). Strategic factor markets: Expectations, luck, and business strategy. *Management Science*, *32*(10), 1231-1241.
- Bazerman, M. H., & Moore, D. A. (2009). *Judgment in Managerial Decision Making* (7th ed.). New York, NY: Wiley
- Benner, M. J., & Zenger, T. (2016). The lemons problem in markets for strategy. *Strategy Science*, *1*(2), 71-89.
- Camerer, C., & Lovallo, D. A. N. (1999). Overconfidence and excess entry: An experimental approach. *American Economic Review*, *89*(1), 306-318.
- Cattani, G. (2005). Preadaptation, firm heterogeneity, and technological performance: A study on the evolution of fiber optics, 1970-1995. *Organization Science*, *16*(6), 563-580.
- Chang, V. (2005). Capital One Financial Corporation: Setting and Shaping Strategy: Stanford-Graduate School of Business, case SM-135.
- Christensen, C. M. (1997). *The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail*. Cambridge, MA: Harvard Business School Press.
- Denrell, J., Fang, C., & Winter, S. G. (2003). The economics of strategic opportunity. *Strategic Management Journal*, *24*(10), 977-990.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), 147-160.
- Gilovich, T. (2008). *How We Know What Isn't So*. New York, NY: Simonand Schuster.
- Harrison, J. R., & March, J. G. (1984). Decision making and postdecision surprises. *Administrative Science Quarterly*, *29*(1), 26-42.
- Kahneman, D. (2011). *Thinking, Fast and Slow*. London, UK: Penguin.

- Keynes, J. M. (1936). *General Theory of Employment, Interest and Money*: New York, NY: Harcourt Brace and Co.
- Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal*, *14*(8), 95-112.
- Lewis, M. M. (2003). *Moneyball: The Art of Winning an Unfair Game*. New York, NY: WW Norton & Company.
- Liu, C., Vlaev, I., Fang, C., Denrell, J., & Chater, N. (2017). Strategizing with biases: Engineering choice contexts for better decisions using the Mindspace approach. *California Management Review*, *59*(3), 135-161.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, *2*(1), 71-87.
- March, J. G., & Heath, C. (1994). *A primer on decision making: How decisions happen*: Simon and Schuster.
- Massey, C., & Thaler, R. H. (2013). The loser's curse: Decision making and market efficiency in the National Football League draft. *Management Science*, *59*(7), 1479-1495.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, *27*(1), 415-444.
- Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, *2*(2), 175-220.
- Porter, M. E. (1980). *Competitive Strategies: Techniques for Analyzing Industries and Competitors*. New York, NY: Free Press.
- Puranam, P., & Vanneste, B. (2016). *Corporate Strategy: Tools for Analysis and Decision-making*. Cambridge, UK: Cambridge University Press.
- Shleifer, A., & Vishny, R. W. (1997). The limits of arbitrage. *The Journal of Finance*, *52*(1), 35-55.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509-533.
- Thaler, R. H. (2015). *Misbehaving: The Making of Behavioral Economics*. New York, NY: WW Norton & Company.
- Zuckerman, E. W. (2012). Construction, concentration, and (dis) continuities in social valuations. *Annual Review of Sociology*, *38*(1), 223-245.