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The Not-So-Blind Watchmaker: Evolution by Design in Corporate Culture

KATE BARRETT
Associate Director, Cultural Anthropology, Olson

This paper provides a framework for "evolving" business, organizations and brands based on the mechanisms of evolution commonly discussed within academic anthropology. It begins with an analysis of the differences between the concept of "evolution" as evoked in corporate and academic settings. Then, placing the burden for resolving this discrepancy in the hands of practicing anthropologists, it offers a model for assessing business challenges and opportunities for growth based on the four primary mechanisms of evolutionary change: natural selection, mutation, flow, and drift. Positing industries as "species," the paper presents four case studies of financial services companies that used each of these mechanisms to achieve competitiveness and "evolve" the industry. It concludes with more general recommendations as to when and how each mechanism can address specific business and/or organizational challenges.

"PARDON ME, BUT WHAT DID YOU SAY?"

As someone new to the business world, I've had many moments of cognitive dissonance during my transition out of academia. But the most interesting – and challenging – shift has been language. The business world uses terms and concepts familiar to me, but in unexpected and unfamiliar ways.

Consider the example of "evolution." I work as an anthropologist for a marketing and communications firm, and we often field requests from clients to "evolve" their brand or message. We hear it internally as well: over the past year, our senior leaders made frequent reference to "evolving" our internal culture and organization.

Every time I hear this, I stop. What do you mean, "evolve" your organization? I did what every good cultural anthropologist does: I conducted primary and secondary research on the meaning of "evolution" in business contexts. Within the business literature, the references to evolution signal:

- A change for the better (Snee 2004)
- A change that makes us more competitive (McKenny, Copeland & Mason 1995)
- Slow, incremental change (Greiner 1972; Tushman & Romanelli 1985)
- Change through history (Sheth & Parvatiyar 1995; Churchill & Lewis 1983)
- Subtle change developed over a long period of time (Mezias & Glynn 1993)

In general, we can summarize the concept as a slow, incremental change to something better that yields a competitive advantage for our brand/firm/organization. This fits precisely with the general usage I've heard from clients and our internal leadership.

Alas, this is not what it means in academic anthropology. When we go back to the foundational literature on evolution, Darwin (2003[1859]) defines it as "descent with modification." In its purest form, evolution involves changes in the frequency of inherited characteristics across generations in response either to fluctuations in the environment, or mutations that result in variable reproductive success. Even in more synthetic versions of evolutionary theory, such as Durham (1990), the general model of descent from a common ancestral form remains central while expanding the notion of inheritance beyond biology.

The versions of "evolution" popular in business environments differ from academic definitions in three critical respects. First, in a scientific framework, evolution is not a goal-oriented process. It is not something you craft and direct. It is something we understand through the long lens of history, with winners awarded temporarily and only in retrospect. It is, as Dawkins (1996) argued, "blind" to the future. Second, the mechanisms that trigger evolution may not be slow, as generally assumed in the business usage. Evolution can proceed quite rapidly under certain circumstances, while admittedly moving gradually in others. To reframe such periods of rapid transition as fundamentally different – as "revolutionary" – robs evolution of tremendous strength and versatility and blinds us to questions of process. Finally, species evolve, not individuals. This was a key difference between Darwin and Lamarck, and now between science and business. Evolutionary processes exert selective pressure on individuals, producing changes in the properties of the population, but it is the latter that "evolves" over time.

Hence the cognitive dissonance that marked my first year in business. Initially, I responded by dismissing the requests and secretly chiding whoever in this industry misappropriated the concept without paying attention to the details. But conflict avoidance is only one way of handling dissonance, and admittedly, not the most productive. Semantics aside, there is something powerful in this concept that keeps it alive in the corporate world. Thus the challenge becomes one for us anthropologists: how do we take what we know about evolution and apply it in a rigorous, thoughtful way when responding to this request?

In the remainder of the paper, I will present a model for business contexts that builds on the four major processes for evolutionary change. I have selected examples from one industry – financial services – because, at core, an industry is the business equivalent of a species. Companies or brands are the individuals that respond to selective pressure, and help to move the industry forward. In each example, I discuss how the particular organization utilized a specific mechanism to become more fit and survive challenges within the industry, and thus "evolve" the "species." As with all theoretical extrapolations, it is not perfect, and for complex businesses, you can certainly make a case that the company itself is a "species," depending on your level of desired resolution. Nonetheless, I argue my framework provides a unique perspective on the challenge posed by brands and organizations seeking growth.

THE MECHANISMS OF EVOLUTIONARY CHANGE

Across the anthropological literature, researchers posit four primary mechanisms that drive evolutionary change and speciation: natural selection; mutation; gene flow; and drift (see Kottak 1997; Durham 1990; Dobzhansky 1982 [1937]; Wolpoff 1997). Within these, drift and selection tend to have the greatest impact on population dynamics. While there are multiple ways in which each operates, they generally have unique dynamics and explain different outcomes.

Natural Selection

We should start where Darwin began, with natural selection (2003 [1859[). The concept of natural selection describes a gradual process of change through which forms that are better fit for a specific environment survive and reproduce with greater success than variants that are less successful in the competition over scarce strategic resources. Natural selection assumes three basic conditions. First, there must be some variation in phenotype (e.g, the external form or behavior of individuals within the population). Second, the variation must be heritable. Third, there must be differential reproductive success due to the variation.

There are numerous examples of natural selection, but my favorite remains Darwin's finches. On his voyage aboard *The Beagle*, Darwin noticed multiple versions of finches across the Galapagos Islands. When reviewing the data, Darwin postulated that the different forms of finches arose to exploit ecological niches across the islands, so that some survived due to their ability eat insects, others seed, some lived in trees, others on the ground. As the birds migrated across the islands, the subtle inherent variability within the ancestral species resulted in differential survival and reproduction based on which individuals could effectively utilize the available resource. Over time, the differences between colonies magnified and resulted in new species of finches, all quite distinct from each other.

With these principles in mind, what would natural selection look like in the financial services industry? Consider the case of Northwestern Mutual (Gurda 1983). Founded in 1857, it is one of the longest standing financial services companies in the United States, having survived everything from the Civil War to the Great Depression to our current economic downturn. Northwestern Mutual is known for its conservative approach to financial planning, having built its reputation on permanent life insurance. Moreover, the sales model is based on face-to-face interactions between clients and a network of brokers located across the country.

Over the years, the company has diversified its offerings to respond to changes in the "financial environment" in the US (see Gurda 1983, Chp. 2-3). First, as financial planning expanded beyond insurance to instruments like mutual funds, IRAs, and Roth accounts, Northwestern Mutual has expanded its offerings to include many of these instruments, along with holistic planning advice. Second, they have transformed classic permanent life insurance into a financial instrument with accessible cash value, allowing you to borrow against accumulated equity to cover expenses while living. Given the longer lifespan of Americans, and their need for financial flexibility later in life, this move increased Northwestern Mutual's competitiveness against traditional loan or investment tools.

Finally, they now supplement their broker network with a robust online platform in response to the changed way in which people look for financial planning information.

Interestingly, they were not the leader in implementing these changes. The strongly conservative, collective nature of the company resulted in a "wait and see" approach that protected them, shall we say, from the "poison berry" investments pursued by some of the competition. Nonetheless, these small, subtle changes that have allowed Northwestern Mutual to remain financially strong and competitive over the years and emerge as a leading force in the industry. Today, they are "evolving" financial services by blurring the lines between financial planning, insurance, and investments. Considering the recent economic meltdown, loss of pension funds, and potential demise of Social Security, this blending of insurance and wealth accumulation instruments may be a prescient step by Northwestern Mutual toward shifting how Americans think about long-term financial well-being.

Mutation

The initial challenge for Darwin's theory of natural selection always came down to a basic issue: what produces variation? Until we understood genetics, the source of difference remained elusive. The "modern synthesis" version of evolutionary theory (c.f., Dobzhansky 1982 [1937]) provides precisely this missing link. Specifically, mutations in the genetic code provide the key source of variation that natural selection acts upon. Within this scenario, mistakes or alterations in DNA or chromosome replication produce differences that affect survival and/or reproduction. In contrast to natural selection, mutation can impact species survival more rapidly. Additionally, it is critical to understand that these variations arise as accidents – they are not planned or coordinated, they simply happen.

The blood cell variant that causes sickle-cell anemia provides a classic example of genetic mutation affecting survivability. Normal human red blood cells, Hb^A, help the body carry oxygen from the lungs to the rest of the body. The variant Hb^S causes blood cells to change shape and "sickle," reducing their effectiveness at oxygen transport and causing the cells to get stuck in the blood vessels. People who are homozygous for Hb^S often die before their reproductive years, especially in environments lacking high-end hematology clinics. Why, then, is Hb^S so prominent in West African populations, where upwards of 20% of the people carry Hb^S?

The answer lies in mosquitos, specifically, mosquitos that spread malaria. Individuals with normal blood – meaning, homozygous Hb^A – have a higher susceptibility to malaria than individuals who are heterozygous Hb^A and Hb^S. In plain language, having one version of the "defective" gene helps you survive malaria, which is critical in endemic environments. Thus a genetic mutation that can be fatal in some instances actually increases survivability in other contexts.

So what would this look like in the financial services industry? Companies talk about their DNA all the time. But the real key to "mutation" within an evolutionary framework is that the consequences are not intended – it is a change in the corporate culture that has unexpected results.

Barclays Bank in the UK provides a unique example of mutation enabling survival (Scott & Walsham 1998; Willcock 1993). Founded in 1896 through the merger of twenty family banks, Barclays has long been one of the pillars of the UK banking industry. After deregulation in the mid-1980s, Barclays faced significantly increased competition across new product lines, including mortgages and business loans. Followed almost immediately by a nationwide recession, Barclays announced in 1992 that it was forced to write off more than $4 billion in bad debt.

On the heels of this loss, Barclays initiated a new process for conducting risk assessment on its loans. Barclays developed a new computerized program, Lending Advisor, to systematize the process for assessing risk on all future loans. Certainly the new computer program increased accuracy and evaluation of financial health and liability, enabling Barclays to make more informed judgments about the credit-worthiness of a given loan application.

But the "mutation" to loan assessment program had unintended consequences for Barclays as well. Loan managers, used to writing applications from home, now faced long hours in the office chained to their desktop computers. The lack of paperwork resulted in significant layoffs among the administrative staff, thus eliminating an important status symbol for senior leadership. Corporate hierarchy flattened from eight to three levels. The employee pool became significantly younger through recruitment of people with computer skills, while Barclays' older managers (50+ years) were mostly let go. More importantly, the idea of a "job for life," once integral to a position at Barclays, became a thing of the past as all employees now earned their job every day.

In the end, the "mutation" initiated through the computer-based Loan Advisor program "evolved" the British banking industry. Long a bastion of nepotism and connections, the implementation of a computer program shifted the banking skill set from networks to data analysis and computer literacy. Barclays shift to an organizational structure based on financial lines versus geography, which was linked to the shift in the employee base and the assessment process, further pushed the industry toward expertise over social networks. In the end, competitors responded with similar changes, thus transforming one of the most conservative and "clubby" industries into one fully grounded in profits and data analytics.

Gene Flow

Gene flow describes the exchange of genetic material between previously isolated populations of the same species (Kottak 1997). The most typical way in which this happens is through migration – when populations (or members thereof) move within proximity of each other and interbreed. It is, in many ways, the opposite process as described in the case of Darwin's finches, when populations diverged due to geographic separation. Gene flow is an important source of variation within species because it brings greater diversity to the communal gene pool, thus making new combinations possible.

Consider the case of eye color in human populations. At the turn of the 1900s, the prevalence of blue eyes among non-Hispanic white Americans was nearly 60% (Grant 2002). By 2006, only 1 in 6 Americans (17%) had blue eyes. The change can be explained in part by two factors: migration and interbreeding. In the early 1900s, only 1 in 10 Americans were non-white, whereas a century later, the ratio was 1 in 3 (Belkin 2006). More people of color had migrated to the United States in the 20th

century than in previous centuries, changing both the ethnic – and eye color – composition of the overall population. More importantly, people increasingly marry across ethnic lines. Again, in 1900, 80% of Americans married within their ethnic group, thus preserving the double-recessive blue eyes within certain communities. Once people began marrying outside those groups into populations where brown eyes are the norm, darker-colored eyes began to dominate the landscape.

In a business context, evolution through "gene flow" is most evident in merger-and-acquisition scenarios. In these cases, the "corporate DNA" of one group mixes with the "DNA" of an acquired company to create something new. Citigroup is a perfect example of this in the financial services industry. Founded in 1812 as the City Bank of New York, the bank spent its first one 150 years growing through expansion into new markets, and through new product lines and financial offerings. The 1980s saw a significant shift in direction, with Citicorp initiating a slew of mergers and acquisitions – from Diners Club, to savings & loan institutions, the Travelers Group, Schroder & Associates, The Associates, and continuing with international and local acquisitions through the first decade of the 21st century. By 2011, Citigroup (the new holding company) is one of the largest banks in the world, with 275,000 employees in more than 100 countries and nearly $2 trillion in assets (Forbes 2011).

In the wake of these acquisitions, Citigroup redefined the financial industry for many of its traditional competitors. Their forays into consumer credit, mortgages, financial planning, and private banking inspired a parallel scramble for growth-through-acquisition by competitors ranging from American Express to Wells Fargo. The lasting impact on the financial industry was clear when, in the wake of the 2008 crisis, Citigroup was declared "too large to fail." Their growth strategy fundamentally "evolved" the financial industry, with unclear results as of now. What does seem clear is this: while gene flow fundamentally changes a population by creating greater diversity, "interbreeding" within the financial industry provided sufficient diversity so that these mega-organizations survived (or needed to survive) the otherwise fatal blow of the mortgage crisis.

Genetic Drift

The final mechanism that produces evolutionary change is genetic drift: a change in gene frequency resulting from chance or random, non-predictable events. The most typical way in which this happens is through natural disasters – tornadoes, typhoons, wildfires, etc. But drift can occur through over-predation or relocation as well, when populations are drastically reduced in number, or a small group breaks away and becomes isolated. Drift differs from natural selection in that it is totally random: the individuals who survive do so not because they are more "fit" (as in the case of Darwin's finches), but because they were lucky. In all cases, the impact is to lower the genetic diversity of the remaining population, thus amplifying any heritable weaknesses or strengths.

One classic example genetic drift is what we call the "bottleneck effect," evidenced through the case of Northern Elephant Seals. At one time, hundreds of thousands of these seals inhabited the waters off the coast of California. During the 1800s, mass slaughters reduced the northern population to approximately 50 individuals. The southern colony, near Mexico, fared better in the hunts. Granted protected status in the 1920s, the population has since rebounded, but genetic evidence demonstrates significantly reduced variation in the northern population compared to their southern cousins. While

they are successful for now, we do not yet know what will be the long-term impact of the genetic homogeneity on the community's survival.

The case of Cantor Fitzgerald provides a heartbreaking example of "drift" in a business context (Barbash 2003). Founded in 1945 as an investment bank and brokerage firm, Cantor Fitzgerald was one of the first companies to integrate computer-based trading into its practice in the early 1970s. Over the next few decades, they made their name as a computer-based bond brokerage, becoming one of the leading firms in the world for trading bonds and government securities. By 2000, they were clearing $50 trillion in securities on a yearly basis.

And then came the 9/11 attacks. Cantor Fitzgerald occupied floors 101 through 105 of Tower One at the World Trade Center. On that single day, the firm lost 658 of its 960 New York-based employees, the most devastating loss for any individual company. With few exceptions, those who showed up for work that day perished in the building. To say the least, this random, unpredictable event fundamentally changed the "gene pool" of the company.

Following the devastation of its New York headquarters, Cantor Fitzgerald survived by reaching out to its satellite offices, notably London. Given only a few days to set up shop before the bond markets re-opened, and with competitors hot on their heels to seize the opportunity for new business, the remaining leadership made the pivotal decision to focus only on those divisions in which they had sufficient employees to conduct business. They narrowed their scope to corporate bonds, foreign exchange, mortgage-backed securities, and zero coupons, letting all other divisions fold for the time being (Barbash 2003:53). In focusing on its strengths, Cantor Fitzgerald survived the decimation of its "gene pool," and rose again to the top spot in the bond brokerage world. They have made significant efforts to once again diversify their offerings, efforts that paid off in the financial meltdown in 2008 by providing protective margin against losses in the mortgage divisions (Craig 2011).

Granted, the "drift" which Cantor Fitzgerald suffered was an extreme scenario. Nonetheless, it "evolved" the industry in three ways. First, competitors gained ground by seizing the opportunities made available through shed divisions and capacity problems at Cantor Fitzgerald. Increased competition has, in general, balanced the process for all parties in the trades. Second, the speed with which Cantor Fitzgerald had to rebuild forced innovation in communication technologies between the New York and satellite offices. While some began as makeshift work-arounds, several proved sufficiently robust to survive longer term. Finally, Cantor Fitzgerald changed their pay structure (from year-end bonuses to larger salaries) to hedge against the initial volatility in their situation and to attract talent wary of their survivability. Ironically, this small change protected Cantor Fitzgerald from the government scrutiny over Wall Street mega-bonuses.

RETHINKING THE REQUEST

With these four mechanisms in mind, we can return now to the request to "evolve" a business, organization, or brand. Each mechanism provides a different pathway for change dependent on the situation, and some guidance on how to make this transformation positive. Here are the take-away lessons:

Natural selection: In a business context, natural selection requires a constant eye to the changing environment – both internal and external – so that the organization or brand can accurately see the available resources and exploit them. This is more akin to creating a day-to-day work culture in which everyone proactively seeks out opportunities and finds creative ways to benefit from them. In addition to regular competitive and positioning reviews, organization can create cultural space for exploring these open spaces and "ecological niches." Some examples include: innovation time platforms that give employees a certain amount of job release to pursue a new idea; pro bono clients that fuel our imagination and push our skills; multiple lines for advancement that allow for "gurus" (skill experts) and "leaders" (management experts); or cross-division movement to encourage both a holistic understanding of complex business processes as well as to bring different perspectives to specific challenges. Each scenario provides opportunities for different companies to find and exploit a niche within their industry, and thus move the industry in a new direction.

Mutation: As I stated previously, "mutation" in a business environment "evolves" an industry through the unexpected consequence of a change. The challenge from a planning perspective then becomes how to plan for that which, by definition, is unexpected. At one level, it is an impossible task. However, developing a keen awareness of systemic processes and dynamics within an organization or industry enables you to be attuned to subtle shifts as they happen. While you may not be able to control everything, you should not be caught off-guard by something that was foreseeable. Thus whether you are changing a computer system or a review process, an email platform or job description, there will be ripple effects in every aspect of the business. Knowing what these are, who will be affected, and how to manage or prepare for those consequences is pivotal to staying alive. And never forget: in biology, most mutations prove fatal and a species evolves through the elimination of those variants.

Gene Flow: Gene flow demonstrates the importance of alliances and partnerships for staying successful and competitive. The example discussed here was a merger-and-acquisition situation, but it need not be so intense. Think about collaborations within your category, or beyond it. For example, opening Starbucks shops within Target stores has proved a highly successful pairing. And think about alliances and collaborations with your community – how can your clients and end-users become your greatest advocates? How can engaging them in the design and planning process inspire their loyalty and passion? What can you learn from intermingling with your clients and customers? These kinds of pairings and collaborations can dramatically transform an industry, whether it produces companies "too big to fail," as we saw here, or turns a hated chore into Mom's favorite part of the day. The key to successful gene flow is knowing when and with whom to partner for the greatest impact.

Genetic Drift: Genetic drift offers two lessons for organizations. First, never assume survival indicates success. Sometimes it indicates luck, and you must always stay alert to what is happening in your environment. Second, when you find yourself cut off or attacked, amplify your strengths. You must be sufficiently aware of your weaknesses to manage or moderate them, but focus your efforts on multiplying and enhancing your strengths. These will serve you better in the long run. This is precisely what enabled Cantor Fitzgerald to survive a horrific situation – making the difficult choices to let some divisions fold in order to protect the remaining business. For clients with complex portfolios, drift may

offer an opportunity to return to or create a new set of core capabilities, to streamline, and to regain focus on fewer platforms.

Confusion is often a great instructor if we can sit long enough with the frustration to understand its source. For me, the cognitive dissonance I experienced fielding requests to "evolve" a business or brand inspired me to think critically about how evolution works, and to apply those mechanisms to various business challenges. This paper presents a very initial pass at my approach, and I would welcome the opportunity to test these ideas in other industries and on other cases. That noted, the challenge of bringing rigor and theoretical structure to a common request is part of the joy in this crazy partnership between anthropology and business, and it is incumbent upon us as ethnographers to meet that challenge in ways that uphold the values of our academic training.

NOTES

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