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Quasi-Darwinian Selection in Marketing Relationships

This article introduces quasi-Darwinian selection as a new explanatory paradigm for marketing relationships. In this paradigm, established relationships are viewed as survivors of a selection process whose parameters are the conduct of the partners, dependencies between the partners, and external adversities in the markets. Selection has the effect of culling certain combinations of these parameters, such as attempts at unilateral control when the partner is not dependent. The effect of selection is to carve out patterns that appear as associations between parameters, for example, between unilateral control and dependence. Traditionally, such associations have been interpreted as causal effects of one parameter on the other. This study shows that quasi-Darwinian selection may sometimes be the more correct explanation of an observed association. The guiding principle can be summarized by the motto "selection creates association." As an explanatory paradigm, selection may rival causation. The quasi-Darwinian framework applies to any type of marketing relationships in the business-to-business and business-to-consumer markets. Examples include all relationships in the supply chain, relationships between service providers and customers, and relationships between sales representatives and customers. The article develops the quasi-Darwinian framework in generality, but it emphasizes applications to business-to-business relationships. When associations between relationship parameters are carved out by selection, they can be interpreted as adaptations, and their descriptive meaning has normative implications; if partners in a relationship pattern their conduct according to these associations, on average, they may enhance the longevity of their relationship.

In the past two decades, there has been a shift from transaction-oriented marketing to relationship-oriented marketing (Wathne and Heide 2006). Marketers have realized that retaining partners and customers is often more economical than attracting new ones. Therefore, building and maintaining long-lasting relationships has become a focus of contemporary marketing practice and the subject of research in marketing. By providing efficient repeat exchanges and synergies, relationships can give partners financial and operational advantages. When this is the case, survival of the relationship is a rational pursuit of the participants.

However, not all such relationships survive. Several studies report failure rates in excess of 50% (e.g., Kale, Dyer, and Singh 2002). Vivid illustration is given by Narayandas and Rangan (2004), who examine in one of their case studies a failed relationship between a vendor (Peak Electronics) and a powerful original-equipment-manufacturer buyer (Ford). Initially, the relationship experienced a honeymoon phase in which "fledgling trust ... was built through [Peak's] performance" (Narayandas and Rangan 2004, p. 71), but "[t]hings began to change when, in the face of an unexpected downturn in car sales, Ford ordered only $700,000 instead of the promised $1.8 million worth of parts for the first six months" (Narayandas and Rangan 2004, p. 69), which led to "distrust [that] impaired and ultimately brought about the demise of the Peak–Ford relationship" (Narayandas and Rangan 2004, p. 71).

Risk and failure in marketing relationships are of managerial interest, but they are also of theoretical importance because they lend themselves as a bridge to the paradigm of Darwinian selection. Casting failure as selection opens up the toolbox of Darwinian theory that, in addition to selection, includes the concepts of variation, survival, and adaptation. Thus, in theorizing about failure, one obtains insight into survival. Relationships that survive have passed a process of "selection." They are adapted in the Darwinian sense; that is, they are likely to have arrived at modes of exchange that enable them to master the challenges posed regularly by their environments. We consider the term "adapted" a Darwinian translation of the term "established." Therefore, criteria for established relationships include perceived viability of the relationship by the partners and shared anticipation that normal problems can be solved.

The crucial point that gives the Darwinian paradigm its power is the insight that selection and survival are often quite systematic. To illustrate, consider two fundamental characteristics of marketing relationships: their reliance on one-sided action ("unilateral control") on the one hand and on mutual understandings ("bilateral norms") on the other hand. In general, a strong reliance on unilateral control combined with few bilateral norms is an indicator of risk to

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a relationship. Thus, selection is systematic and creates an adaptation characterized by (1) low unilateralism or (2) high unilateralism matched by high bilateralism. As a result, an empirical investigator who calculates correlations between measurements of the two constructs will observe a positive association, even if the natural variation of the two constructs exhibits no association at all. We refer to this effect of selection metaphorically as "quasi-Darwinian carpentry," or the chiseling away of selection on a population in such a way that previously nonexisting associations emerge.

Quasi-Darwinian carpentry is critical because it is an alternative to causality. Both quasi-Darwinian carpentry and causality are explanatory paradigms for observed associations, but they each apply in specific ways. The following are illustrations of two types of causality: (1) "Volatility increases the likelihood of opportunism (direct cause)," and (2) "bilateralism is effective only under conditions of volatility (normative cause)." If true, both entail observable associations among measurable constructs. In comparison, a statement of quasi-Darwinian selection would be "under high volatility, relationships with low dependence tend to fail." Again, this entails an observable association between measurable constructs (here, volatility and dependence), neither of which causes the other. Instead, the association has been carved out by selection; by weeding out relationships with low dependence in volatile environments, a positive association emerges between the two constructs. It would be a fallacy to interpret the association as meaning that high volatility causes high dependence.

The marketing literature on relationships uses at least four partly intertwined explanatory paradigms: causal processes, developmental progressions, descriptive taxonomy, and normative theory. An example of causal reasoning is that of Geyskens, Steenkamp, and Kumar's (1999) "structure–conduct–outcomes" model; examples of developmental approaches are those by Dwyer, Schurr, and Oh (1987), Heide (1994), Jap and Ganesan (2000), and Narayandas and Rangan (2004); an example of descriptive taxonomy is that of Cannon and Perreault (1999); and an example of normative theory is that of transaction cost analysis (TCA) (see, e.g., Rindfleisch and Heide 1997; Williamson 1991). To this list, we add the quasi-Darwinian paradigm.

The quasi-Darwinian framework we propose is built on an augmented version of social exchange theory (SET). The quasi-Darwinian view has a natural affinity to SET's notion of CL_{alt}, the so-called comparison level for alternatives. If a party's outcomes fall below CL_{alt}, there are viable external alternatives, and the party will abandon the relationship. Social exchange theory suggests that there are two drivers of human behavior in relationships; namely, parties want to achieve high levels of own outcomes and equitable outcomes in relation to the partner. The former leads to quasi-economic behaviors, and the latter leads to reciprocating behaviors (Emerson 1976, p. 341). Reciprocations can be positive and can help sustain a relationship, or they can be negative and put a relationship at risk. That negative reciprocations are often stronger than positive ones (Eyuboglu and Buja 1993) adds to the need for a quasi-Darwinian view.[1]

Social exchange theory provides three factors that affect survival and failure of relationships: conduct in the form of unilateral control and bilateral norms and dependence of the parties on each other. A fourth factor is borrowed from TCA in generalized form: external adversities that arise from the marketing environment.[2]

The perspective we develop contributes to the marketing literature as follows:

- It offers a new explanatory framework based on selection that augments the prevalent explanatory framework based on causation.
- It offers new hypotheses in the form of quasi-Darwinian selection patterns.
- It offers new rationales for existing hypotheses in the literature. For example, SET suggests that there is a positive association between parties' use of unilateral control and partners' dependence; in a quasi-Darwinian view, this association is a selection pattern.

The fundamental innovation of this article can be summarized by the phrase "selection creates association." Wherever a notion of failure applies, quasi-Darwinian carpentry may be at work, creating associations between attributes. To our knowledge, this principle has not been advanced by any relevant literature in marketing or management sciences. Although the social sciences literature has long been acquainted with the problem of so-called survivor bias that limits the ranges of observed attribute values (Aldrich and Ruef 2006, p. 32), survivor bias also limits the observed combinations of values among multiple attributes, thus creating associations among attributes. Survivor bias is not a mere sampling problem; it is the story called quasi-Darwinian carpentry.

This article proceeds as follows: We begin with an exposition of the theory of quasi-Darwinian selection, followed by a discussion of four factors that affect survival: unilateralism, bilateralism, dependence, and adversity. Using the association of unilateralism and bilateralism as an example, we state hypotheses that describe quasi-Darwinian carpentry; we also give theoretical evidence based on idealized scenarios of probability models that the proposed selection effects are robust. We then give evidence that quasi-Darwinian selection effects are likely in other pairs of factors as well. We conclude with a discussion of the theoretical contributions, the role of causality and adaptation, managerial implications, and limitations of this work and with suggestions for future empirical studies.

(A note on terminology: Because the quasi-Darwinian framework is general and encompasses relationships

[1]Our main references for SET are Thibaut and Kelley (1959) and Kelley and Thibaut (1978). However, there are also important versions of SET by Blau (1964, p. 92) and Walster, Walster, and Berscheid (1978), from whom we adopt the fundamental role of equity and reciprocation.

[2]This list of four factors is fundamental but not exhaustive. Future studies may add other forms of governance, such as contractualism, and structural properties, such as outcome correspondence (Kelley and Thibaut 1978).

between firms and individuals, we use the generic term "conduct" for unilateralism and bilateralism. In a business-to-business context, "conduct" translates to "governance." On occasion, we also use the term "behavior".)

Theory of Quasi-Darwinian Selection

The Darwinian perspective has had a long tradition in social sciences. In economics, an early precursor is Alchian (1950), followed later by Nelson and Winter's (1982) seminal work "Evolutionary Theory of Economic Change" and, starting in 1991, the *Journal of Evolutionary Economics* (e.g., Hodgson and Thorbjørn 2006). In sociology and management science, there are theories of demography, ecology, and evolution of organizations, which are relevant here insofar as they are about selection (Aldrich 1979; Aldrich and Pfeffer 1976; Aldrich and Ruef 2006; Carroll and Hannan 2004; Hannan and Freeman 1977, 1989; McKelvey 1982; McKelvey and Aldrich 1983; see also the special issue of *Strategic Management Journal* on "Evolutionary Perspectives on Strategy" [e.g., Barnett and Burgelman 1996; Barnett and Hansen 1996; Doz 1996]).

We begin by noting that the following fundamental concepts are not mere metaphors borrowed from biology; they are abstract concepts linked by axiomatic structure that has widespread applications, biology being just one of them (see Hannan and Freeman 1977, p. 961):

- Populations are composed of individuals or units of selection. In biology, these units are organisms; in economics, they are firms (Nelson and Winter 1982). In management sciences, they can be routines, processes, organizations, managers, or managerial activities (Aldrich and Ruef 2006, p. 28ff; Hodgson and Thorbjørn 2006). In marketing, they are relationships and their conducts/behaviors.[3]
- Variation is variability in the characteristics or traits of the units of selection. Although the causes of variation in relationships pose interesting questions, relevant here is only the undeniable fact of variation.[4]
- Selection is the elimination of units based on their interaction with the environment. In marketing, selection weeds out relationships or their behaviors. It leaves behind "adapted" or established units that have higher levels of survival-enhancing traits.[5]
- Adaptations are traits of the units that enhance the chance of survival.[6] An example is the avoidance of strong unilateralism combined with weak bilateralism. In general, units are not locked in to a single mode of survival. In this example, relationships can survive at many levels of unilateralism as long as the level of bilateralism is proportionately high.[7]
- Genes are the repositories of information that guide the functioning of units. For organizations and firms, the genetic material has been proposed to reside in routines and competences (Hannan and Freeman 1977; McKelvey 1982; McKelvey and Aldrich 1983; Nelson and Winter 1982). We adopt these proposals because they exhibit points of attack for selection: (1) Genetic material (routines, competences) can be rendered outdated by environmental changes, and (2) genetic material contributed by partners may be incompatible.

Concepts of Darwinian theory we do not rely on are as follows: First, we do not focus on evolution in the sense of development from simple to complex structures.[8] Although populations of relationships may evolve to greater complexity on a large time scale, we focus on the effects of selection that are visible within "a single generation." Second, we do not focus on heredity or the passing of genetic material to offspring through reproduction. Unlike biology, social sciences have no concept of reproduction and descent, though transmission, an interesting topic but not our concern, performs a similar function. Because of these differences to biology, we call our theory "quasi-Darwinian" and avoid the term "evolutionary" altogether.

For social phenomena, a theory of selection can be neutral to aspects of motivation and rationality in human behavior. For example, the partners' choices of unilateralism and bilateralism may be based on emotions, misperceptions, misunderstanding, incompetence, superstitions, coin tossing, learning the right or the wrong lessons, economic analysis based on valid or invalid assumptions, other attempts at rationality, or a blend of all of these.[9] Such factors create baseline variation that is handed to selection whose quasi-Darwinian carpentry leaves behind established or adapted variation.

In contrast to Darwinian theory, which allows only random changes in the genetic material, quasi-Darwinian theory allows the agents to change their genetic material (i.e., routines and competences) to their benefit or detriment. Marketing relationships can act against selection by aligning their conduct with adapted variation, for example, by avoiding high unilateralism combined with low bilateralism. Then again, they may not. Either way, they may do so randomly, emotionally, irrationally, or through feedback

[3]For example, Aldrich and Pfeffer (1976, p. 85) note that "the natural selection model can be applied not just to the survival or failure of entire organizations but also to the partial modification of structure and activities that falls short of elimination of the total organization."

[4]See Aldrich (1979, Chap. 4), Alrich and Ruef (2006, p. 18ff), and Hannan and Freeman (1977).

[5]See Aldrich (1979, Chap. 5) and Aldrich and Ruef (2006, p. 21ff). Selection does not maximize "fitness"; it chisels away at unfitness in a stochastic manner. In Barnett and Burgelman's (1996, p. 6) words, "selection processes often do not function as a smoothly and rapidly optimizing force." Adapted variation indicates average compatibility with survival, not optimality.

[6]For adaptation in evolutionary biology, see Mayr (2001, p. 150ff). See also the "Discussion" section.

[7]Compare this with Aldrich and Pfeffer (1979, p. 84): "Since the environment ... does not impose ... strict requirements for survival, many possible actions and structures are consistent with the survival of the organization" and, in our case, the relationship.

[8]There is a duplicity of meanings of the term "evolution." The expression "evolution of a relationship" refers to the development of an individual unit, whereas Darwinian evolution is concerned with populations.

[9]The positions on the importance of rationality vary in the literature. For some of the less favorably inclined voices, see Alchian (1950), Hannan and Freeman (1977), McKelvey and Aldrich (1983), and Aldrich and Ruef (2006). There are even voices that attribute a positive role to irrationality (Weick 1979).

and learning. Feedback and learning, which is "individual adaptation," contributes to a population that is adapted in the Darwinian sense, but the same holds for changes of conduct based on no insight or on the wrong reasons. Again, the theory is neutral to rationality. More fundamental to quasi-Darwinian theory is that it allows two simultaneous modes of achieving an adapted population: weeding out relationships and weeding out behaviors.

Darwinian theory is sometimes criticized as producing mere "just-so stories," or unverifiable explanations after the fact. Indeed, there is an epistemological difficulty in interpreting or "reverse engineering" traits as adaptations (Aldrich and Ruef 2006, p. 56; Dennett 1995, p. 212ff). In our case, this criticism can be addressed as follows: (1) The problem of correctly identifying adaptations in social exchange can be helped by the observation of failure (Barnett and Burgelman 1996); (2) even when failure is not observed, our theory makes specific predictions of nonstandard associations in populations of established relationships, so specific that they render direct causation an unlikely explanation; and (3) the theory has foundations in another, well-established theory (SET). In summary, the proposed quasi-Darwinian framework is theoretically well founded and rarely leaves doubt in identifying selection and adaptation phenomena in marketing relationships.

Four Factors Affecting Survival

Drawing on SET and one element of TCA, we discuss four survival-affecting factors in light of the quasi-Darwinian framework: unilateralism, bilateralism, dependence, and environmental adversity (see n. 2). The discussion in this section is conditional, or ceteris paribus—that is, one factor at a time, holding everything else fixed. We state hypotheses as simple comparisons between survived and failed relationships, speaking to the situation that failure has been observed. These conditional hypotheses are preliminaries for the discussion of quasi-Darwinian carpentry in the subsequent sections.

Unilateral Control: The Malign View

Unilateral control is the intervention by one party with a dictate of the partner's actions ("behavior control"; Kelley and Thibaut 1978) or with an action that affects the partner's or own outcomes ("fate control" or "reflexive control," respectively; Kelley and Thibaut 1978; see also Eyuboglu, Buja, and Didow 1992). Less formally, unilateral control is the exertion of power and, as such, has a long tradition in the marketing literature (e.g., El-Ansary and Stern 1972; Frazier 1983).

We include in unilateral control only interventions that have actually been exerted, following Frazier's (1999, p. 229) criticism of the "control construct": "Influence attempts to gain control are one thing. Gaining actual control is another." However, there is a need to account for potentiality. The premise of unilateral control as achieved intervention is that a party has the ability to impose on the partner (Heide 1994; Weitz and Jap 1995), but it may choose not to use it or not to use it to the fullest extent. Thus, it is of interest to determine enabling and limiting factors for unilateral control, a topic we pursue subsequently.

It is sometimes argued that power is not always coercive and does not always lead to contention by the weaker party. This benign view is appropriate if power means the ability to control. However, unilateral control as exercised power calls for a malign view. The reason is that exercised power negatively impinges on SET's two fundamental drivers of relationships—the desires for high levels of own outcomes and equitable levels of partner's outcomes—thus diminishing the survival chances of relationships. This works out as follows:

- *Depressed outcomes*: If A exerts unilateral control over B in the form of fate control, A keeps B's outcomes at depressed levels and, thus, close to CL_{alt}. However, keeping B's outcomes close to CL_{alt} increases the risk that B's outcomes will fall below its CL_{alt} because of miscalculations on A's side. If this occurs, B will find a more favorable external alternative, and the relationship dissolves.
- *Violated equity*: If A exerts unilateral control in the form of reflexive control, A keeps own outcomes at elevated levels. Party B may perceive A's self-dealing actions as violating equity,[10] giving B cause to look for alternatives outside the relationship and explore its own CL_{alt}. Such efforts may yield unexpected alternatives and, again, result in dissolution of the relationship.

In summary, we adopt a generic malign view of unilateral control as detrimental to the survival of relationships:

P_1: Increased unilateral control lowers the survival chances of relationships.

Support for this proposition can be found in the work of Frazier and Summers (1986, p. 175). Further qualitative aspects to the exertion of unilateral control exist, all of which are detrimental to the survival of relationships: awareness of exposure, dependence, and violated autonomy by weaker parties when complying with imposed unilateral control (Thibaut and Kelley 1959, p. 134); costs of self-monitoring when trying to avoid offending the partner (Thibaut and Kelley 1959, p. 118ff); and stifled cooperation and resistance by the weaker party and ensuing conflict. An upside of unilateralism is its efficiency, which is achieved by avoiding time-consuming consensus building.

Although these effects belong to individual psychology, they hold for all marketing relationships because even encounters between firms involve boundary personnel to whom these effects apply. Personnel may react subjectively to a partner's unilateralism, as did the son of the founder of RCI when General Electric (GE) unilaterally withdrew exclusivity arrangements: "Being ... hotheaded, at first I threatened to terminate the relationship" (Narayandas and Rangan 2004, p. 70).

[10]This is certainly the case when A's gain is B's loss as a result of a zero-sum situation, but even when A's unilateralism raises B's outcomes as a result of outcome correspondence (Kelley and Thibaut 1978), it does not bode well for B because of a potential future reversion to a zero-sum situation.

Bilateral Norms: A Beneficial Substitute for Unilateral Control

Bilateralism is the reliance on bilateral norms—that is, "shared expectations regarding behavior" (Cannon, Achrol, and Gundlach 2000, p. 180; see also Axelrod 1986; Macneil 1980). Bilateral norms require time to develop as they emerge from repeated and successful exchanges (Gundlach and Achrol 1993). In time, customs become norms, and "the usual ... becomes the right" (Waller and Hill 1954, p. 49, cited in Thibaut and Kelley 1959, p. 128).[11] From Macneil's (1980) list of 28 norms, Cannon, Achrol, and Gundlach (2000) distill 5: flexibility, solidarity, mutuality, harmonization of conflict, and restraint in the use of power. These norms are the basis of mutual expectations that infuse predictability and reliance in a relationship.

This view, which arose from Macneil's (1980) relational exchange theory, is complemented by SET's view of relationships as creating outcomes for the partners. Under bilateralism, any action by either A or B that contributes more to A's than B's outcomes creates a debt that A owes B (as when B exceeds A's expectations or when A disappoints B's). Unlike an act of unilateralism, the exchange is understood to have generated an unspecified IOU (Blau 1964, p. 93) that adds to B's outcomes and thus preserves equity. The IOUs help the survival of the relationship by lessening B's urge to search actively for external alternatives. Absent the IOUs, B's total outcomes may be lowered to the point that they fall below its CL_{alt}. When B realizes this, the relationship with A is likely to dissolve. In summary,

P_2: Increased bilateral norms raise the survival chances of relationships.

Of the two types of conduct, unilateralism is primary. Parties "are more interested in gauging each other in the initial stages than in articulating formal expectations about the nature of relationship outcomes" (Narayandas and Rangan 2004, pp. 67, 70). If the relationship survives unilateral explorations of boundaries, it is because, in time, bilateral norms substitute for unilateral control and compensate for its problems (Bello and Gilliland 1997; Lai and Nevin 1995); this has been thoroughly worked out by Thibaut and Kelley (1959, Chap. 8): "[N]orms provide a means of controlling behavior without entailing the costs,... resistances, conflicts, and power losses involved in the ... exercise of ... power" (ibid., p. 147). "Both [the] weaker and stronger ... stand to gain from the introduction of mutually acceptable rules which introduce regularity and control into the relationship without recourse to the direct ... application of power," and "acceptance of supra-individual, depersonalized values as the basis for behavior has functional value both for the actor and the one dependent on his actions" (ibid., p. 131). We summarize by distinguishing two benefits of norms:

- A weaker party can appeal to norms even in the absence of any ability to reinforce its will. Thus, norms can be a welcome source of control for the less powerful.
- A stronger party can appeal to norms instead of reinforcing its will. Thus, norms can be a welcome way to avoid overuse of power, conflict, and costs of enforcement.

By avoiding the costs of unilateralism, bilateralism works against quasi-Darwinian selection and enhances the chances of survival of relationships.

The Internal Environment: Dependence

Social exchange theory quantifies dependence as outcomes in excess of CL_{alt}, meaning that a party is dependent to the degree to which outcomes from the current relationship exceed outcomes from the best external alternatives.[12] Outcomes in excess of CL_{alt} capture two aspects of dependence proposed by Emerson (1962). First, the excess measures how undesirable it is to replace a partner; thus, it embeds replaceability of a partner. Second, the excess also measures how motivated a party is to remain in the relationship; thus, it embeds motivational investment of a party.

Because SET's outcomes include economic and noneconomic aspects, it is conceivable that the noneconomic component of outcomes reduces overall outcomes of an economically viable relationship to the point at which alternatives become viable, or it may give an economically marginal relationship sufficient lift to make it viable overall. Whatever the mix of economic and noneconomic components of outcomes, a high degree of dependence, as measured by outcomes in excess of CL_{alt}, acts as glue in a relationship.

P_3: Greater dependence of either party increases the likelihood of survival of relationships.

The proposition applies to both partners of a relationship; either's dependence contributes to cohesion. It follows that the survival probability of a relationship is a function $s(D_A, D_B)$ that is increasing in both D_A (A's dependence on B) and D_B (vice versa). If survival chances depend only on the sum $D_A + D_B$—that is, $s(D_A, D_B) = f(D_A + D_B)$—we can follow the literature (Gundlach and Cadotte 1994) and form a notion of "total dependence" or "interdependence" by adding the dependences of the partners. For practical purposes, we assume that total dependence is indeed $D_A + D_B$.

We follow Narayandas and Rangan (2004) in abandoning the assumption that asymmetry of dependence is a priori corrosive. In general, weaker parties initiate relationships with stronger parties; the latter are often lethargic and need to be motivated by partners who go the extra mile. As a result, stable relationships can emerge under asymmetric dependence. Importantly, asymmetry of dependence should not be confused with outcome noncorrespondence (Kelley and Thibaut 1978), two issues that do not imply each other.

[11]Although relationships may begin with a "honeymoon" phase, their upbeat mood can be short lived and must be distinguished from bilateralism tested in prior experience.

[12]Alternatives outside the relationships are not limited to finding another partner. An example is in-house manufacturing, as Heide and John (1992; see their variable %INTERN) suggest.

The External Environment: Environmental Adversity

The external environment can generate difficulties for firms in various forms: leanness[13] stemming from tightening of markets, unpredictability stemming from turbulence in the markets, and complexity stemming from an increasing number and diversity of environmental actors (Achrol, Reve, and Stern 1983; Achrol and Stern 1988; Aldrich 1979). Other types of adversities can arise from changes in the legal, political, and media environments: law suits, activities by government bodies, investigative journalism, and negative consumer reporting. Such factors are in evidence in the dramatic breakup of the long-standing Ford–Firestone relationship in 2001, triggered by rollover accidents of sport-utility vehicles (Greenwald 2001).

We put these qualitative dimensions under the umbrella term "environmental adversity," or "adversity" for short, which denotes changes in external conditions that render outcomes from the relationship volatile and often unsatisfactory. Such adverse changes increase the likelihood that outcomes will fall below CL_{alt} and that the relationship will dissolve. In the example of the Ford–Firestone relationship, noneconomic aspects of outcomes came to dominate to the point at which dropping the relationship seemed preferable to preserving it.

The concept of adversity implies adverse change; thus, chronic leanness and chronic complexity do not count as adversity; instead, they are part of the normal environmental conditions. For example, in the Ford–Peak relationship (Narayandas and Rangan 2004), Ford would not have made unrealistic promises of orders to Peak had the markets been lean for the previous five years, and similarly, in the Ford–Firestone relationship, Ford would not have turned into a difficult partner without the rollover accidents.

Before stating the next proposition, we note that adversity tends to arise in one party's external environment. It affects the other party indirectly by affecting the relationship. For buyer–seller relationships, we can draw on Achrol, Reve, and Stern's (1983) distinction between input and output sectors. Adversity tends to arise in one sector and spill over into the other sector through the relationship. In the Ford–Firestone case, adversity began with problems on Ford's side, but it ultimately drove Firestone to abandon the relationship.

P_4: Greater adversity in either party's external environment decreases the likelihood of survival of relationships.

Templates of Selection Hypotheses Exemplified by Unilateralism and Bilateralism

In this section, we discuss quasi-Darwinian carpentry, the phenomenon that selection can limit the combinations of values that two or more constructs attain. We state what we call "selection hypotheses" for a first pair of constructs, unilateralism and bilateralism. In subsequent sections, we state hypotheses of identical form for different pairs of constructs. Rather than repeating ourselves, we then simply say that "selection hypotheses hold for constructs X and Y." We theoretically support the proposed hypotheses with model calculations that quantify selection effects in idealized hypothetical scenarios.

A Theoretical Illustration of Selection on Uni- and Bilateralism

On first consideration, the SET view of bilateralism as a substitute for unilateralism might suggest a zero-sum effect and, thus, an inverse relationship between the two behaviors. If a relationship requires a certain level of coordination, in principle, it could be attained with a mix of unilateralism or bilateralism whereby less of the former calls for more of the latter, and vice versa. Such a zero-sum effect may exist, but there is too much variation in the level of needed coordination among relationships for the effect to be visible.

Instead, a different effect takes hold. Quasi-Darwinian selection chips away at relationships that exhibit a combination of high unilateralism and low bilateralism, because high unilateralism affects survival negatively, and low bilateralism fails to compensate. Conversely, a loss of survival chances due to an increment in unilateralism can be compensated by an increment in bilateralism.

This compensation effect can be illustrated with an idealized scenario formulated in random variable language. Assuming, for example, that measures U and B of both conducts are limited to the unit interval [0, 1], we suppose a drastic form of selection in that all relationships with $B < U$ are eliminated, expressing the idea that a level of B below U is insufficient to compensate for the survival-diminishing effects of U. The situation is depicted in the left frame of Figure 1, in which the dark gray triangle represents the failed relationships (and thus, the light gray triangle represents the survived relationships). If we assume that relationships are generated such that U and B are independently and uniformly distributed, the selection effect results in a population of survived (established, adapted) relationships with a uniform distribution on the triangle designated by $B \geq U$ and a population of failed relationships with a uniform distribution on the triangle designated by $B < U$.

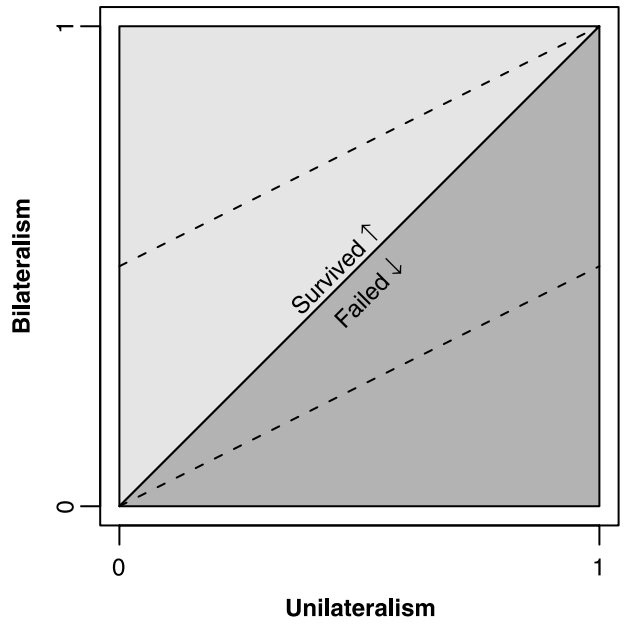
It is now possible to calculate analytically exact correlations between U and B for the two populations. Surprisingly, for survived relationships, the correlation has a relatively high value of .5. Even more surprisingly, the same holds for failed relationships. However, the two variables were stochastically independent before selection.

Means and Variances in the Idealized Scenario

Figure 1 illustrates the unconventional association quasi-Darwinian selection may produce. The association is positive for survived and failed relationships, but it differs in the level of bilateralism and in the type of heteroskedasticity. For survivors, the regression of B on U is linear, whereas the "error structure" is heteroskedastic with decreasing "error variance":

[13]The literature uses the reverse: "munificence." We prefer all constructs to point in the negative direction.

FIGURE 1
Illustration of Quasi-Darwinian Carpentry with Unilateralism U and Bilateralism B



Notes: Light gray area: survived; dark gray area: failed; dashed lines: regressions of B on U for survived and failed separately.

$$E[B|U, \text{Survival}] = .5 + .5U, \quad V[B|U, \text{Survival}]^{1/2} \sim (1 - U).$$

For failures, the association has the same positive slope but an intercept that is lower by .5, and the error variance increases:

$$E[B|U, \text{Failure}] = .5U, \quad V[B|U, \text{Failure}]^{1/2} \sim U.$$

The two regression lines are depicted in Figure 1 (dashed lines). Note that survived relationships match increased levels of U on average with an increased level of B. However, this is not particular to survivors; failed relationships do the same. In both cases, the slopes of the regressions of B on U are .5 and, thus, positive. The difference between survived and failed relationships is elsewhere: (1) At each level of U, the average level of B is higher by .5 for the survived relationships, and (2) for increased levels of U, the conditional variance of B is decreased for survived relationships and increased for failed relationships. Thus, the differences between survived and failed relationships cannot be described by correlations and regression slopes; instead, the differences are in levels and in heteroskedasticities. However, the positive correlations for both survived and failed relationships are a result of quasi-Darwinian carpentry. Adding to the strangeness of these effects is the fact that the variables were chosen independently before selection and thus had a zero correlation.

Hypotheses for Quasi-Darwinian Carpentry

On the basis of the intuitions gained from the scenario of Figure 1, we state four hypotheses. Of these, the first two assume the observation of both survived and failed relationships. The remaining two hypotheses describe the effects of selection on survived relationships alone. Similar hypotheses could be formed for failed relationships. Thus, the following statements constitute the selection hypotheses for unilateralism and bilateralism:

H_{1a}: The ratio of surviving to failing relationships ("odds of survival") increases for increasing bilateralism and decreasing unilateralism.

H_{1b}: At all levels of unilateralism, the average level of bilateralism is higher for survived relationships than for failed ones.

H_{1c}: For survived relationships, unilateralism and bilateralism are positively associated.

H_{1d}: For survived relationships, the conditional variance of B decreases for increasing U.

As we stated previously, this hypothesis provides a template for similar hypotheses that follow. To avoid repetition, H_{1a}–H_{1d} could be stated in the following abbreviated form:

H_1: Selection hypotheses hold for unilateralism and bilateralism in the sense that high levels of unilateralism combined with low levels of bilateralism put the relationship at risk.

Obvious ways to test such hypotheses empirically include logistic regression (H_{1a}), two-sample tests (H_{1b}), correlation and regression (H_{1c}), and heteroskedasticity tests (H_{1d}). With H_{1d} in mind, it would be useful if such tests were routinely reported in the literature.

Selection Lifts Correlation: Theoretical Scenario Calculations (Part 1)

In the scenario in Figure 1, we made the unrealistic assumption that unilateralism and bilateralism are independent (and, thus, uncorrelated) before selection. In this and the next subsections, we show that the qualitative insights from the scenario do not significantly depend on this assumption. This matters because it cannot be assumed that the levels of unilateralism and bilateralism emerge independently in the early stages of a relationship. Therefore, we consider a scenario that provides flexibility for choosing baseline correlations before selection, while allowing analytic calculations. The scenario consists of a bivariate Gaussian baseline distribution for U and B with arbitrary correlation ρ before selection. We are not advocating the bivariate Gaussian as a realistic model but rather as a test scenario that should confirm and refine the insights gained from the scenario of a uniformly distributed baseline.

We again assume hard selection in which relationships with $B < U$ fail. Thus, the joint distribution of U and B for survived relationships is a diagonally truncated bivariate Gaussian that puts all its mass in the upper-left half-plane. The correlation ρ_s for survived relationships after selection is then a function of the baseline correlation ρ before selection, as follows:

$$\rho_s = \frac{\alpha + (1-\alpha)\rho}{(1-\alpha) + \alpha\rho},$$

where $\alpha = 1/\pi \approx 1/3.1416 \approx .3183$.[14] A plot of ρ_s against ρ appears in Figure 2. The vertical distance of the curve from the diagonal represents the lift $\rho_s - \rho$ exerted by selection. Here are some facts: If the baseline correlation ρ is zero (U and B are independent before selection), the correlation ρ_s after selection is .467, which is close to the value of .5 for the triangle distribution of Figure 1. The correlation after selection is positive for all baseline correlations greater than –.467. The greatest lift from ρ to ρ_s is for $\rho = -.248$, where $\rho_s = +.248$, and thus $\rho_s - \rho = .496$. We conclude that selection gives the association between U and B a strong and robust lift in the positive direction.[15]

Selection Creates Heteroskedasticity: Theoretical Scenario Calculations (Part 2)

We now show that in the same Gaussian preselection scenario for (U, B), selection produces heteroskedasticity with shrinking conditional variance. Indeed, an analytic calculation shows that the conditional variance of bilateralism for survived relationships is as follows:

$$V[B|U, \text{Survival}] = \sigma^2\left[1 - F\left(\frac{1-\rho}{\sigma}U\right)\right],$$

where cor(B, U) = ρ and $V[B|U] = \sigma^2 = 1 - \rho^2$ are, respectively, the correlation and conditional variance before selection. The nature of the function F(t) is irrelevant other than that it is a cumulative distribution function that ascends from zero to one.[16] This alone demonstrates that the conditional variance after selection begins at the maximal value σ^2 for U near $-\infty$ and descends to zero for U near $+\infty$. Figure 3 graphs the conditional variance of B given U after selection. For $\rho = 0$, for example, at U = 0, the reduction of the conditional standard deviation is to $.6028\sigma$, and at U = 3, it is to $.2656\sigma$. In summary, heteroskedasticity in the form of left-to-right reduction of the conditional variance is a robust phenomenon that occurs at all levels of preselection correlation.

Selection Hypotheses for Other Constructs

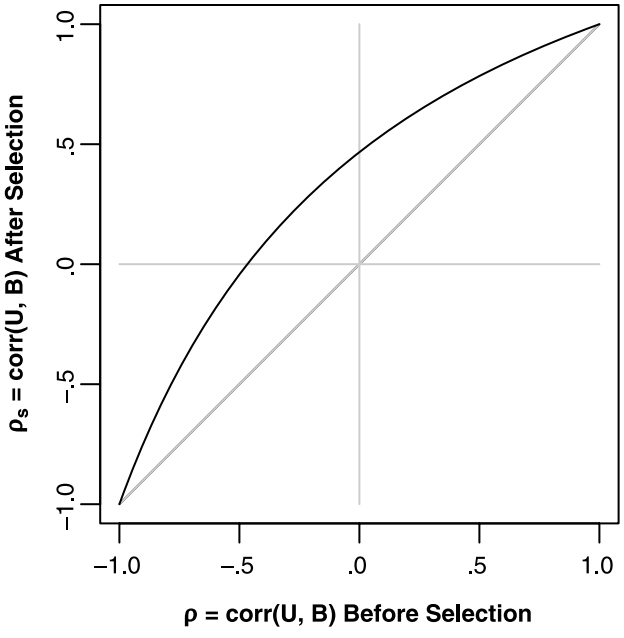
We can generalize the preceding arguments as follows: Quasi-Darwinian carpentry between two constructs can be expected when there is a combination of high or low levels of the constructs that is detrimental to relationships. This argument provides the underpinnings for several more selection hypotheses. Recall that when a construct is a con-

[14]The derivations are available on request.

[15]Counterintuitively, identical facts hold for failed relationships.

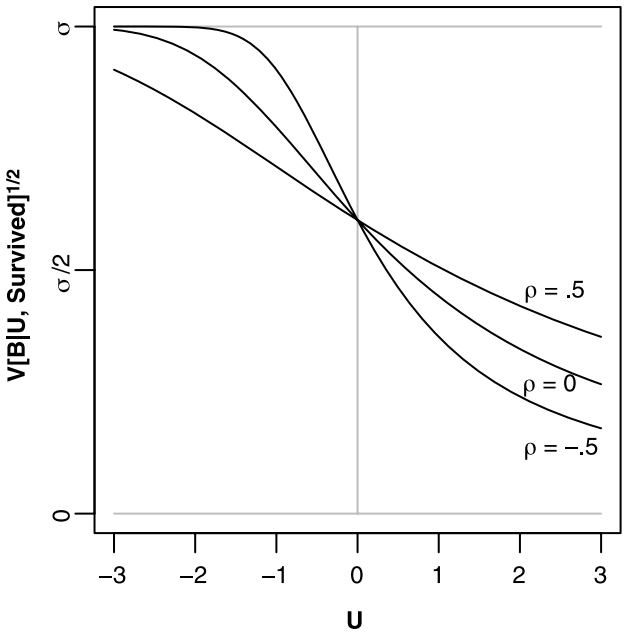
[16]It is $F(t) = \psi(t)[\psi(t) - t]$, where $\psi(t) = \varphi(t)/[1 - \Phi(t)]$, and $\varphi(t)$ and $\Phi(t)$ are the standard Gaussian density and cumulative distribution function, respectively.

FIGURE 2
The Effects of Selection on a Gaussian Baseline Distribution with cor(U, B) = ρ



Notes: Correlation ρ_s after selection as a function of the correlation ρ before selection.

FIGURE 3
The Effects of Selection on a Gaussian Baseline Distribution with cor(U, B) = ρ



Notes: The conditional standard deviation of B given U for survived.

duct, quasi-Darwinian selection works in two ways: (1) Relationships can fail, or (2) the parties' conducts can fail.

Not all associations we describe subsequently have the form of simple selection hypotheses. In two cases, selection combines with causation, exemplifying novel ways of reasoning about correlations and interactions.

Unilateralism and Dependence

Social exchange theory explains the link between dependence and unilateral control. According to Emerson (1962, p. 32), "dependence of one party provides the basis for the power of the other," because to the extent that the party's outcomes exceed its CL_{alt}, it is locked in to the relationship. If dependence is the basis for potential control (power), it is also the basis for exerted and achieved control. The statement that B's dependence is the basis for A's unilateral control has two implications: (1) A owes its ability to exert unilateral control to B's dependence, and (2) A can exert unilateral control only to the extent of B's dependence. Therefore, B's dependence is both the enabling and the limiting factor of A's unilateral control over B.

Although this SET proposition seems axiomatic, it can be derived from a quasi-Darwinian argument. If A attempts unilateral behaviors but B is not sufficiently dependent on A, one of two things will occur: (1) B will put A in its place (as did RCI in the GE–RCI relationship), or (2) the relationship will dissolve (as in the Peak–Ford relationship). Thus, either the conduct or the relationship is weeded out, which makes this a case of both suppression of behaviors and selection of relationships. From this follows SET's "axiom" that a partner's dependence enables and limits own unilateralism. If B is dependent, A can use unilateralism but does not have to, and if B is not dependent, A cannot successfully use unilateralism.

However, judging dependence can be difficult, and misjudging dependence does occur, as Narayandas and Rangan (2004) demonstrate. For example, GE misjudged its power when it withdrew exclusivity arrangements from RCI, and RCI proved resourceful by cultivating an alternative supplier, thus establishing power parity with its much larger partner. Similarly, Peak misjudged its power when it tried to force Ford's hands, and the relationship failed. In general, a relationship's survival is at risk when one party exerts unilateral control that has no basis in the partner's dependence.

> H_2: Selection hypotheses hold for A's unilateralism and B's dependence in the sense that A's use of unilateralism in the absence of B's dependence puts the relationship at risk.

H_2 implies a positive association between A's unilateralism and B's dependence. This is compatible with the work of Heide and John (1992, p. 38), who use a contributing factor to a supplier's dependence: "the percentage of the supplier's total sales of the product accounted for by the buyer" (i.e., their variable BCONC). Although the variable was outside their TCA focus and listed among "other variables," it was by far the strongest contributor to unilateral control (i.e., their variable BUY CONT; t = 4.210 with n = 121; ibid., p. 40), causing the authors to apply post hoc reasoning about the effects of "sheer power."

We turn to the relationship between A's unilateralism and A's own dependence on B. Whereas B's dependence is strongly linked to A's unilateralism, A's own dependence is much less so. However, it can be argued that it also plays a role because A's dependence enables B to reciprocate with unilateralism if A uses its available unilateralism. These effects, which play out under high symmetric dependence, are well documented in SET; "each member's ability to make demands is matched by the other's ability to resist those demands" (Thibaut and Kelley 1959, p. 114), but if the relationship survives initial negotiations, the partners will "rather quickly determine a 'zone of conformity'" (ibid., p. 115). This implies again that either the relationship or the conduct is weeded out. Despite the indirect nature of this effect, we should expect a weak selection signature, as follows:

> H_3: Weak selection hypotheses hold for A's unilateralism and A's independence in that A's use of unilateralism in the presence of A's dependence puts the relationship at risk.

H_3 implies a negative association between A's unilateralism and A's dependence, consistent with Heide and John (1992, p. 40), who show a significant effect among a contributor to A's independence, the percentage of a buyer's requirements produced internally (%INTERN, t = 2.474), and a contributor to unilateral control (BUY CONT).

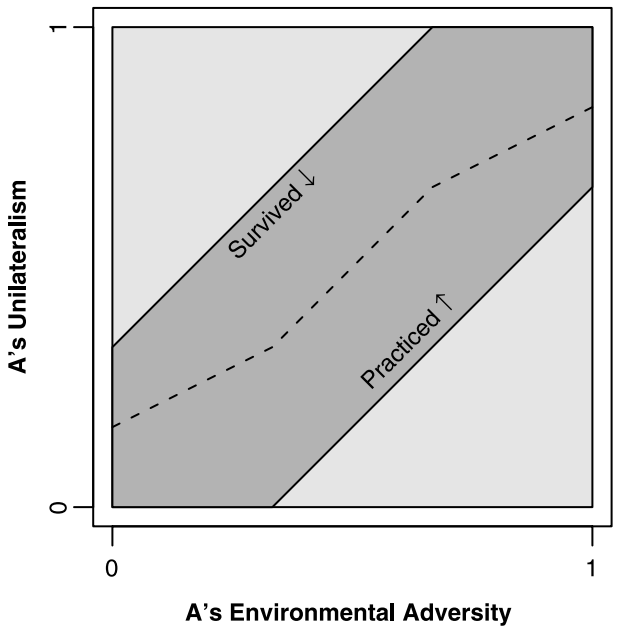
Unilateralism and Adversity: Interplay of Selection and Causation

This combination of constructs is not amenable to a simple selection hypothesis and, instead, needs to be described in terms of both selection and causation. Causation is present because environmental adversity is likely to foster unilateralism. If Party A is exposed to greater adversity, it will be more concerned with own survival than with the survival of the relationship. Thus, A's priorities change, and A is more likely to try experimentation, much of which is necessarily self-centered and, therefore, unilateral. It could then be argued that fanning unilateralism is one of the destructive aspects of adversity.

Then again, Partner B's view matters. Seeing A struggle, B may muster a degree of understanding and give A the benefit of the doubt (following attribution theory; Heider 1982). In terms of SET, B sees A's outcomes deteriorate for reasons that are not under A's control; thus, B's desire for equity will not be violated when A asks B to share in lowered outcomes. Partner B accepts this only grudgingly because high outcomes remain the priority, but B cannot deny the reality of A's situation. This is where selection enters. The same acceptance that B has for A's unilateralism does not exist when the waters are calm and A is doing just fine. Therefore, unilateral conduct by A when it does not face adversity is not easily forgiven by B, which represents a condition of increased risk to the relationship.

In summary, under greater adversity, a party's unilateralism is elevated because of causation, and under lesser adversity, the party's unilateralism is depressed because of selection. Figure 4 depicts this in a stylized scenario in which adversity (A) causes unilateralism $U \geq A - \frac{1}{3}$, and survival occurs when $U \leq A + \frac{1}{3}$. We chose the margins $\pm\frac{1}{3}$

FIGURE 4
Interplay of Selection and Causation for A's Exposure to Adversity and A's Unilateralism



Notes: The dark diagonal area is the intersection that survived selection and has practiced levels of A's unilateralism.

to create a nonempty intersection of the two conditions; this is the dark diagonal band in Figure 4. The result is a conventional positive association.

H_4: A's unilateralism and A's exposure to adversity are positively associated.

Bilateralism and Total Dependence: Interplay of Selection and Causation

The literature has two opposing views of the association between bilateralism and dependence. The first holds that high symmetric dependence is the most conducive and that asymmetric dependence is the most detrimental to bilateral norms (see, e.g., Heide 1994, H_1 and H_2, p. 79; Lusch and Brown 1996, H_5 and H_6, p. 24). However, Narayandas and Rangan (2004, p. 74) state that "a balanced power situation at the beginning of a relationship does not guarantee that a virtuous cycle of commitment and trust will prevail," and "healthy relationships can be built and sustained regardless of initial power asymmetries." Support for this second view can be drawn from SET. Under high symmetric dependence, unilateral control is available to both parties and, if used, may throw the relationship into a tailspin of negative reciprocations. Under asymmetric dependence, the weaker party may set aside safeguarding and jump-start a cycle of positive reciprocations. For example, RCI's founder (in his son's words) had no reason "to expect that GE would keep its end of the bargain. Yet he plunged into the relationship with literally no safety net; he had no choice," and he succeeded (Narayandas and Rangan 2004, p. 66).[17]

Social exchange theory has the following to say about the connection between dependence and bilateralism:

1. Dependence and bilateralism are two fundamental forces of cohesion in relationships. If both are at low levels, survival chances are lowered.[18]

2. Bilateralism is a source of control for weaker parties, and thus they need it more (Thibaut and Kelley 1959, p. 131ff). It is a pervasive feature of social organizations to protect weaker members with norms, and the weaker members are those most in need of this protection. It follows that A's dependence is the basis of A's need for bilateral norms.[19]

From these two points, we now try to infer the association between dependence and bilateralism. As an aid for thinking through the interplay, we again use an idealized scenario analogous to Figure 1 for total dependence (D) and bilateralism (B):

- *Selection*: A condition for increased failure rate is given by a combination of low D and low B; thus, we characterize survival in a stylized way as $B + D \geq 1$.
- *Causation*: The parties' need for bilateralism is caused by their dependence. We translate this statement in stylized form to the requirement that $B \geq D$, meaning that a relationship will seek a level of bilateralism in excess of its level of total dependence.

The two conditions appear in Figure 5. The upper-right triangle represents the relationships $B + D \geq 1$ that survived quasi-Darwinian selection ("survived"). The upper-left triangle represents the combinations $B \geq D$ that satisfy the need for bilateralism ("sought"). If we assume that established relationships not only survive but also satisfy their bilateral needs, they can be found in the intersection of the triangles; that is, in the small triangle at the top, shaded dark: $B \geq \max(1 - D, D)$. If we assume uniform distributions throughout, the broken dashed line shows the regression of B on D in the intersection:

$$E[B|D] = \max(1 - D/2, 1/2 + D/2). \quad (1)$$

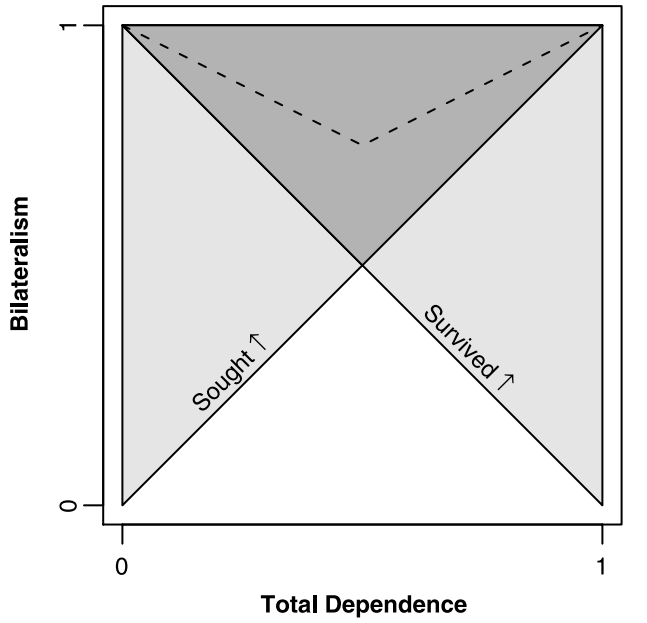
Thus, the interplay of selection and causation creates a nonlinear association between bilateralism and total depen-

[17]See also P_3 in Narayandas and Rangan (2004). Social exchange theory contradicts TCA, which holds that under asymmetric dependence, there is "little or no incentive to show flexibility, because no guarantee exists that such action will be reciprocated" (Heide 1994, p. 79).

[18]Other forces of relationship cohesion exist—for example, contractualism and outcome correspondence (see n. 2). Our discussion of dependence and bilateralism is ceteris paribus with regard to such other factors.

[19]Special instances of this general proposition are found in the work of Dwyer, Schurr, and Oh (1987, p. 14), who state with reference to one contributor to dependence that "the buyer's anticipation of high switching costs gives rise to the buyer's interest in maintaining a quality relationship," and Bello, Chelariu, and Zang (2003, p. 5), who state that "[u]nder conditions of high dependence, manufacturers are expected to make the necessary efforts ... by being flexible to the needs of [their] distributor" (see also Narayandas and Rangan 2004, P_2).

FIGURE 5
Interplay of Selection and Causation for Total Dependence and Bilateralism



Notes: The dark triangle is the intersection that survived selection and satisfied the need for bilateralism.

dence: The descending part of the broken line is due to selection, and the ascending part is due to causation. This is meaningful because low dependence is the domain of selection, and high dependence is the domain of causation. The essence of this exercise can be stated in the following hypothesis, which encompasses the effects of both selection and causation but in a manner different from H_4:

H_5: If a population of relationships spans the range from very low to very high total dependence, the association between bilateralism and total dependence will be nonlinear or, more specifically, convex.

The possibility of highly bilateral relationships with low symmetric dependence is an unusual prediction of the quasi-Darwinian theory, though it is consistent with Cannon and Perreault's (1999, p. 455) findings.

If the association of the idealized scenario is interpreted as a function of the two dependences D_A and D_B through $D = D_A + D_B$ and if the broken line function (Equation 1) is denoted by f(D), then $f(D_A + D_B)$ forms a surface that would render a $D_A \times D_B$ product interaction significant with a positive coefficient. This gives the interaction between D_A and D_B a new meaning; specifically, the lift for high symmetric dependence is due to causation, and the lift for low symmetric dependence is due to selection. As for main effects, this idealized scenario has none because of its symmetries, but any departure from axial symmetry about D = 1/2 introduces main effects in D_A and D_B. For example, more mass on the right would produce positive main effects in both dependences as the right arm of the broken line becomes dominant.

The literature offers some empirical results about dependence and bilateralism: Bello, Chelariu, and Zang (2003) find a positive main effect of own dependence (D_A) on bilateralism (D_B is not in their equation). Bello and Gilliland (1997, p. 28) use a component of mutual dependence ("Human investment" = manufacturers' training and distributors' learning) that also shows a significant, positive association with bilateralism. In our interpretation, these main effects point to a preponderance of high-dependence relationships for which need-based causation prevails. Heide's (1994) model describes a component of bilateralism (flexibility) as a function of D_A and D_B; the fitted surface is a saddle with high bilateralism for low and high symmetric dependence, in agreement with the current theory. Lusch and Brown's (1996) equation has an adjustment for two proxies of bilateralism (long-term orientation and normative contracts), which, if reversed, reveals a saddle similar to Heide's (1994), again in agreement with the current theory.

Bilateralism and Environmental Adversity: A Paradox

According to Noordewier, John, and Nevin (1990), TCA makes the normative statement that bilateralism is beneficial only under conditions of uncertainty, a form of environmental adversity. Similarly, relational exchange theory (Macneil 1980) implies that under conditions of increased adversity, highly bilateral relationships enjoy an advantage. This advantage is supposedly due to an increased ability to adapt and negotiate adjustments.

Unfortunately, this conclusion can be challenged. A pointer is given by Bello and Gilliland (1997), who, without recourse to a larger theoretical framework, make a commonsense prediction about a negative association between one type of adversity, volatility, and one type of bilateralism, flexibility. They propose (p. 29) that volatility "disrupts the routinization necessary for shared understandings." This link between routinization and bilateralism is fundamental because routinization is the basis on which bilateralism builds. We recall that routines may be considered part of the "genetic material" of relationships.

Environmental adversity is then the monkey wrench that renders routines and, thus, bilateralism dysfunctional because "organizations [are] typically much better at the task of self-maintenance in a constant environment than they are at major change" (Nelson and Winter 1982, p. 9). Under persistent adversity, neither routinization nor bilateralism develops, and under emerging adversity, both become obsolete. Bilateral norms function to accommodate "normal" variation in the external environments for which the relationship has a store of experience. In contrast, as Narayandas and Rangan (2004, p. 74) infer from their case studies, "Internal and external changes can derail even a well-set relationship." In summary, high levels of adversity are incompatible with high levels of bilateralism, and the greater the adversity, the more bilateralism is depressed.

H_6: Selection hypotheses hold for adversity and bilateralism in the sense that high levels of bilateralism are unlikely to survive under high levels of adversity.

H_6 implies a negative association between adversity and bilateralism, and indeed Bello and Gilliland (1997) find a significant, negative association between one form of adversity, market volatility, and one form of bilateralism, flexibility.

Dependence and Environmental Adversity

Dependence is a universal glue for relationships and can compensate for any detriment to their survival, including environmental adversity. It follows that low dependence combined with high adversity constitutes a condition with increased likelihood of failure for the relationship. If Partner A is struck by adversity and not very dependent on Partner B, Partner A will be more likely to be tempted by external alternatives and have few obstacles to abandoning the relationship. It is less likely that the relationship will continue at a low intensity, and it is more likely to become an "on-and-off relationship." In other words, the partners approach market transaction and cease to exist as an identifiable relationship.

H_7: Selection hypotheses hold for adversity and dependence in that a party's low dependence combined with high adversity in its own markets puts the relationship at risk.

This implies a positive association between A's dependence and adversity in A's markets.

Discussion

Theoretical Contributions

The quasi-Darwinian framework is an explanatory paradigm that should be considered side by side with the conventional paradigms of causal explanation. Whether selection or causation or a blend of the two provides a proper explanation is a question that must be decided on a case-by-case basis. As an explanatory paradigm, quasi-Darwinian carpentry is a fundamental alternative for interpreting relationships in future studies, and its recognition may be reason for reevaluating and reinterpreting empirical findings in prior literature. Some of the telltale signs of quasi-Darwinian carpentry have been identified in this article, and finding them in empirical work may indicate the proper choice of explanatory framework. The prevalence of selection effects in practice is an open question, but this article lays out theoretical reasons for expecting them in several contexts.

The pairing of selection with causation has an immediate impact on how associations between constructs X and Y are explained. Whereas arguing for a positive association with causation is of the form "more of X $\rightarrow$ more of Y," arguing with selection is of the form "much of X and little of Y $\rightarrow$ failure" or "little of X and much of Y $\rightarrow$ failure" (all clauses are stochastically softened in terms of averages and probabilities). On its own, selection results in an association and in heteroskedasticity (with decreasing or increasing conditional variances). Failure conditions in terms of two constructs X and Y imply sparsity in one of the four corners of an X–Y plot, as in Figure 1. Even the sparsity in two opposite corners of a seemingly conventional association may need some thought about the possibility that the two corners might be sparse for different reasons—one due to causation, and the other due to selection—as in Figure 4. Finally, countervailing effects of causation and selection might result in nonlinearities and interactions, as in Figure 5.

Some of our selection arguments are based on theoretical considerations of probability distributions. These are meant as illustration and not as realistic models. As Hannan and Freeman (1977, p. 961) argue, idealized mathematical scenarios are useful for the qualitative insight they provide, not their detailed realism.

Causal explanation has two forms—direct causation, in which condition X motivates behavior Y, and normative causation, in which agents choose behavior Y under condition X to optimize outcomes. Selection also has two forms—one that weeds out relationships and another that weeds out behaviors. Causation and selection call for base theories of human nature or culture from which motivations, normative rationality, and success and failure can be derived, and in both cases, the theory of choice is currently some version of SET.

It would be tempting to consider TCA a competitor for the role of base theory, but as a theory of economic transaction and organization, its focus is not as squarely on relationships as is that of SET. In particular, the notion of dependence in relationships has a more natural home in SET than in TCA. Social exchange theory's notion of dependence is holistic, whereas TCA seems to speak only to that part of dependence that is under a party's control—namely, its transaction-specific investments. However, there is a component of dependence that is not under the agent's control—namely, conditions that make a partner difficult to replace, such as unique competences, efficiencies, products, and services. (Whereas TCA lacks this second component of dependence, SET lacks the distinction between the two components.)

The result of selection is adaptation, which, in the current context, applies to populations, not to individuals. Our meaning of the term is derived from the theory of evolution and refers to traits selected in a population by internal and external environmental pressures. The traditional meaning of the term, derived from physiology, refers to an adjustment response of an organ to its environment. This quasi-physiological meaning is used, for example, in Hallén, Johanson, and Seyed-Mohamed (1991), who examine mutual "adaptation" of customers and suppliers to each other under dependence. Despite their productive use of SET and reference to adaptation, the similarities to our work are merely superficial. Quasi-physiological adaptations in relationships can contribute to survival and, thus, to quasi-Darwinian adaptation, but they are neither the unique nor necessarily the essential ingredient of the latter. Survival can result from successful actions and practices based on the right or the wrong or no reasons (i.e., "dumb luck"). What counts is only the result—that is, practices compatible with survival. We conclude by noting that TCA's notion of adaptation is also of the quasi-physiological/non–Darwinian kind because it refers to adjustments that agents make in response to their environments.

Managerial Implications

We want to impress on managers the perspective of potential failure of relationships. In commonsense terms, this perspective may boil down to general wisdoms, such as "don't take your partner for granted" and "go the extra mile." We limit our discussion to survival-affecting factors that are under managers' control.

Unilateral behaviors may be expedient when available, but they almost always entail costs. Thus, one-sided acts should always be cast bilaterally by having them generate an IOU for the partner, which is reassuring and maintains equity in the relationship. Unilateralism is most destructive when it is based on erroneous assumptions about a partner's dependence, but such errors are rather common because the realistic assessment of dependence and power is often difficult. Narayandas and Rangan (2004) illustrate the overestimation of own power. In the Peak–Ford relationship, Peak overplayed its hand, and in the GE–RCI relationship, when GE unilaterally withdrew exclusivity arrangements, it, too, overplayed its hand.

Bilateral efforts must be used by weak parties to get a relationship off the ground. There is no choice other than trying to jump-start a desirable relationship with one-sided offerings and by surpassing the powerful partner's expectations (against TCA's safeguarding principle). Powerful parties are often passive and need to be motivated by the weaker partner. A problem with bilateralism is its fragile nature. It holds up only to "normal" environmental adversities, whereas anything outside the normal range may break what seemed to be tested practices.

A party's dependence is under its own control to the degree that it derives from investments in the relationship. Such investments can be of an economic nature (TCA style), or they can consist of intangibles, such as a long-term record of difficult-to-replace bilateral practices (SET style). Such practices tend to raise the partner's dependence as well.

In general, environmental adversity in own markets is not under a firm's control, but it may be the one condition under which a partner tolerates unilateralism to a degree because asking a partner to share in lower outcomes does not violate equity.

Limitations and Further Research

The current work is a conceptual beginning that should be followed up with further conceptual development, new types of empirical studies, and possibly more adequate modeling.

- *Multivariate extensions*: We did not go further than describing quasi-Darwinian carpentry patterns for two constructs at a time. Such patterns should obviously be examined for three and more constructs simultaneously. We have not developed hypotheses about the relative strengths of bivariate carpentry effects as they combine to multivariate effects.
- *Observation of failure*: As we stated previously, future empirical studies should include failed relationships (Barnett and Burgelman 1996, p. 6ff). In cross-sectional studies, information could be extracted from boundary personnel about prior failed relationships. More complete answers about failure could be found with process and developmental studies (Dwyer, Schurr, and Oh 1987; Jap and Ganesan 2000; Ring and Van de Ven 1994), ideally executed with longitudinal methodology. Although longitudinal case studies (e.g., Narayandas and Rangan 2004) are feasible, tracking larger samples over time poses difficulties.
- *Modeling of survival*: If failure is observed along with survival, logistic regression could be used to estimate conditional survival probabilities. These would be a direct expression of the risk to a relationship given the conducts, dependences, and adversities.
- *Analysis of research results*: Greater awareness of selection effects might affect the way phenomena, such as end piling and heteroskedasticities, are viewed. For example, end piling may not always be a measurement problem but rather a selection effect of substantive interest. Similarly, heteroskedasticity may be worth reporting with a view toward selection effects.

We did not address the roles of performance and satisfaction. It would be natural to integrate dissatisfaction in the quasi-Darwinian framework as a risk factor for relationships.

Future efforts should examine the link between quasi-Darwinian adaptation (population fitness) and quasi-physiological adaptation (individual learning). Such a link would clarify the normative possibility that managers' insight into quasi-Darwinian mechanisms could become part of "knowledge stores" (Johnson, Sohi, and Grewal 2004; Winter 2000) that would enable parties to shelter their relationships on islands of relative safety while destructive currents wash away everything around them.

The quasi-Darwinian approach might generalize to phenomena other than marketing relationships. Examples are sales forces (McNeilly and Russ 1992), marketing campaigns, marketing organizations, and, in general, any activities and entities that can fail and thus be systematically selected by environmental pressures.

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