

On the Dialectics of Strategic Alliances

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Using Van de Ven and Poole's (1995) extensive assessment of process theories as an intellectual scaffold, we review theoretical contributions to our understanding of alliance dynamics and process. It appears that of four generic theoretical engines, only three—life cycle, teleology, and evolution—are reasonably well covered in this literature. Process studies informed by a dialectical theory, however, appear to be markedly absent. We explore the characteristics and contributions of a dialectical lens in understanding interorganizational collaborations by invoking a longitudinal case study of a biotechnology-based alliance. The case illustrates the coevolutionary interchange of design and emergence, cooperation and competition, trust and vigilance, expansion and contraction, and control and autonomy. It also emphasizes the importance of treating alliances as heterogeneous phenomena, of alliance performance as subject to social construction, and of unintended consequences as a change agent. The emerging ontological, epistemological, and methodological implications of a dialectical perspective comprise a novel extension to the existing literature.

Key words: alliances; dialectics; dynamics

The impressive and eclectic literature on alliances parallels a proliferation in collaborative activity. The available figures are truly remarkable. Strategic alliances may well have become one of the most commonly adopted firm strategies (Gulati 1998), with in excess of 10,000 newly created partnerships each year (Schiffrin 2001). In biotechnology alone, the number and value of investments in alliances is reported to have increased five-fold during the last decade of the twentieth century, 50% of which were targeted at upstream, drug discovery-based projects (Sapienza and Stork 2001), though these can assume many different forms (Powell et al. 1996). Arthur D. Little and PricewaterhouseCoopers estimated alliances (broadly defined) to account for 25%–50%, respectively, of the pharmaceutical industry's total R&D budget, or an investment to the tune of \$11–\$22 billion in 2001 alone (*The Economist*, July 13, 2002, p. 51). Particularly notorious deals include Smith Kline Beecham's \$125 million investment in Human Genome Sciences 10 years ago and the Bayer-CuraGen drug discovery, development, and pharmacogenomic alliance, valued at an impressive \$1.3 billion in early 2001.¹

Unsurprisingly, academic publications followed suit. In fact, it is difficult to imagine any topic that has been the subject of greater research interest in the last decade (Gulati and Zajac 2000, Zajac 1998). The bulk of this research appears to have converged on alliance design, regulation, and performance, with relatively little systematic attention to their process dynamics and evolution (Arino and De la Torre 1998, Deeds and Hill 1998, Doz

1996, Koza and Lewin 1998, Parkhe 1993, Ring and Van de Ven 1994, Salk and Shenkar 2001, Shenkar and Yan 2002).

Ours is broadly an attempt to redress this imbalance. Specifically, we seek to contribute to the existing, albeit comparatively sparse, process literature. This literature can be usefully organized using an appraisal of process theories by Van de Ven and Poole (1995). We find that while three of their four generic approaches appear reasonably well represented in the alliances literature, a fourth territory remains relatively uncharted.

Overview of Research on Strategic Alliances

Van de Ven and Poole's (1995) typology of process theories provides a powerful conceptual scaffold for classifying extant research on strategic alliances. Based on an extensive cross-disciplinary review, the authors arrived at four generic but distinct developmental theories, each of which speaks well to dynamic processes in organizational life: life cycle, teleology, evolution, and dialectics. These ideal types represent different event sequences, driven by equally diverse intellectual motors (or generative mechanisms), to explain how and why changes occur.

In this section we briefly describe these four ideal types, and use Van de Ven and Poole's framework to systematically organize the existing literature on alliance process. Although we acknowledge that the four ideal types are heuristic devices and by no means mutually

exclusive (allowing even a single alliance to potentially exhibit traits of each), most alliance studies appear to fit remarkably well within one of four categories. From among these, three ideal types—life cycle, teleology, and evolution—are relatively well covered in the literature. A fourth, dialectics, remains underrepresented, and it is here that we seek to make a specific contribution.

Against the backdrop of this review, we provide a detailed account of a biotechnology collaboration. Though the names used are fictitious, the unfolding story is anything but. This case study is intended to serve as an empirical illustration to support a dialectical lens on alliance process, and not as a dataset from which to induce new theory. Rather we seek to present theoretical and empirical support for a relatively neglected, but promising, approach to studying the dynamics of strategic alliances.

Life-Cycle Approaches

The life-cycle metaphor conceptualizes change and development as a process of organic growth in which organizations proceed through a unitary sequence of stages. This sequence is irreversible, cumulative (in that characteristics from earlier stages are remembered in subsequent ones), linear, and predictable, tracking organizational development from inception to termination as if predestined by a genetic code. Change is imminent in that entities “grow up;” they develop from a formative period to one of maturity through a series of discernible but generic life-cycle phases, each of which contributes a piece to the final product (Van de Ven and Poole 1995, p. 515). Every successive stage constitutes a logical progression from a previous one and calls for identifiable managerial tasks or programmes suited to it.

Early attempts to sketch out the process dynamics of alliances have tended to generate similar approaches, narrating their life as a predictable, linear sequence of life-cycle stages. D’Aunno and Zuckerman (1987), for instance, proposed four developmental stages in interfirm collaborations: emergence, transition, maturity, and critical crossroads. Achrol et al. (1990) submitted four also: entrepreneurship, collectivity, formalization, and domain elaboration. Likewise, Forrest and Martin (1992) named four: courtship, negotiation, implementation, and operation. Murray and Mahon (1993) thought all alliances proceed through five stages: courtship, negotiation, start-up, maintenance, and ending. Kanter (1994), adopting a marriage metaphor, also found five: partner selection and courtship, engagement, setting up housekeeping, learning to collaborate, and internal change. Common to life-cycle models is the assumption that effective strategic alliances move smoothly from one phase to the next, as a function of rational planning and execution by those in charge. The attribution of the central role in the development of alliances to management certainly explains the popularity of this approach in consulting and managerial circles.

Teleological Approaches

In an attempt to overcome the limitations of life-cycle frameworks—primarily their linearity, determinism, and predictability—a number of scholars proceeded to develop more open-ended and iterative teleological process models. Teleological approaches to development and change implicitly assume an Aristotelian perspective on process as informed by “final causes.”² Aristotle did not go so far as to commit to “backward causation”—or the notion of end states as exerting a causal pull on antecedent events—but retained a deep belief in purpose as governing process (Lear 1999). He maintained that “the deepest cause for things must be sought not in the beginning of things but in their end—their *telos*, their purpose and final actuality, that to which they aspire” (Tarnas 1993, p. 61). Organizational entities, in the teleological perspective, are considered as purposeful and alert but able to learn and adapt to changing circumstances. Process is thus typically viewed as “a repetitive sequence of goal formulation, implementation, evaluation, and modification of goals based on what was learned or intended by the entity” (Van de Ven and Poole 1995, p. 516).

Particularly good examples of such process models include Ring and Van de Ven (1994) and Doz (1996), although to some extent this iterative property is already present in earlier contributions by Shortell and Zajac (1988) and Zajac and Olsen (1993). Ring and Van de Ven examined process in collaborations, assuming these can neither be fully specified nor controlled by partners prior to their execution. Their process model conceptualizes relationships as a recurring sequence of processes of negotiation, commitment, and execution. Each phase is governed by formal, legal, and informal social-psychological processes and focused on attaining efficient and equitable (or fair) outcomes. Alliances, in other words, are viewed as proceeding through a repetitive sequence of three identifiable stages—negotiation, commitment, and execution—mediated by a fourth, namely assessments of fairness and efficiency.

Doz (1996) proposed an alternative approach that similarly views evolution as a sequence of three interactive processes, but the study explicitly introduces a learning dimension. Based on a longitudinal, inductive study of technology-development alliances, Doz concluded that learning processes mediate interorganizational relationships towards a successful outcome or, in the absence of learning, towards dissolution (1996, p. 64). As with Ring and Van de Ven (1994), the evolution of an alliance relies on ongoing assessments of equity and efficiency, in which middle managers play a particularly critical role. In subsequent studies (e.g., Doz and Hamel 1998), Doz employed this learning framework but is more explicit in its expectation of progress, where learning processes help press relationships forward (as if in an upward spiral) toward more sophisticated states of being.

Unlike life-cycle approaches, teleology does not necessitate a uniform and predictable sequence of predictable stages. Like life-cycle theory, it retains a sense of purpose, if only to facilitate assessments of progress and reevaluations. A teleological view of alliances recognizes that unplanned events, unexpected results, and conflicting interpretations and interests can and do happen. Management can neither plan in advance nor control the sequence of events but is supposed to play a central role in enabling learning and adaptation. Effective alliances, therefore, are those where enlightened managers constantly monitor events, exercise their agency to adapt their design and governance, and drive them either to higher levels of efficiency or terminate them when rational calculations require it. Management, in other words, largely remains the agent of teleology.

Evolutionary Approaches

Different still is the evolutionary perspective, according to which organizations must continuously compete for survival given a scarce resource base and a series of blind (or chance) variations. In contrast to life-cycle and teleological approaches, the emphasis is now squarely on the environment as the principal motor of change, retaining only those entities that best fit its evolving nature. Among these evolutionary theories, as Van de Ven and Poole (1995) acknowledge, there exist several variations, the most important of which include Darwinian and Lamarckian evolution and S. J. Gould's punctuated equilibrium. Differences amongst these are limited to the rate of change and the inheritability of characteristics. Darwinian evolution, for instance, proceeds at a far slower pace than Gould's punctuated equilibrium, and retains fewer traits than the Lamarckian equivalent.

Within the alliance process literature one finds a number of studies that share these characteristics, though they may speak to different levels of analysis. For instance, Koza and Lewin's (1998) "coevolutionary approach" applies well to individual alliances, whereas the contributions of Gulati (1993, 1995a, b), Gulati and Gargiulo (1998), and Reuer et al. (2002) address process at the level of populations. Implicit in these treatments is the notion that alliance evolution (even of individual alliances) is driven predominantly by forces that operate at the population level. Evolution is, in other words, fairly deterministic with the environment as the principal change agent. Further, the assumption of natural selection would presuppose an evolution from relatively simple to fitter and more sophisticated phenomena, which renders evolution progressive also. McKelvey's (1997) suggestion that organizational evolution cannot be understood independently from a simultaneous evolution of the context in which organizations find themselves is relevant in this respect, and forms the basis for, for instance, Koza and Lewin's (1998) contribution.

Contrary to life-cycle and teleological models, evolutionary theories of alliances do not seek to produce managerial prescriptions. The general assumption appears to be that the diffusion of alliances across sectors, their competition for scarce resources, and the collective learning by organizations from their and others' experiences bring about ever more sophisticated, fitter alliances. While individual managers do not, and cannot, shape evolutionary processes at the population level, they are expected to align their alliances with the "prevailing blueprint" or should, at least, avoid swimming against the evolutionary current.

Dialectical Approaches

A fourth theoretical perspective is informed by the social philosophies of Marx and Hegel, predicting the collision of coexisting but contradictory social forces so as to produce a new social order. Within the context of organizations, dialectical forces compete for scarce resources and managerial attention, undermine organizational features, and thus help account for conflict and, more relevantly, the production of emerging organizational arrangements (Benson 1975, 1977). Recent interpretations of dialectical theory, familiar to many, have departed from a purely Hegelian variety, for instance, by relaxing the inevitability of new organizational forms as the product of collision (Zeitiz 1980).

The alliance process literature is relatively void of dialectical approaches except for a recent paper by Das and Teng (2000) where the authors draw on dialectics to provide an alternative explanation for the instability of strategic alliances. The authors suggest that we would gain a better understanding of alliance instability and failure by taking into account three pairs of internal tensions: cooperation versus competition, rigidity versus flexibility, and short-term versus long-term orientation. Central to Das and Teng's article is the argument that alliances experience instability when any one pole of three selected dialectical tensions prevails over its counterpart (i.e., too much competition and little cooperation among partner firms, too much structural rigidity and little flexibility in the daily operations of the alliance, too much long-term orientation and little attention to short-term performance). Under conditions of instability, alliances either experience significant change or are terminated. Conversely, alliances tend towards stability when the respective intensities of opposing dialectical forces are balanced, keeping each other in check.

While Das and Teng's contribution to the development of a dialectical perspective on strategic alliances is timely, constructive, and helpful, their effort does not appear to exhaust the potential of a dialectical perspective. Specifically, it risks suffering from four conceptual inadequacies. First, the authors remain too committed to the functionalist mindset that has permeated most of alliance research, as they themselves make clear:

We assume that one of the objectives in a strategic alliance is to secure the original arrangement and prevent the alliance from an unplanned dissolution. To that end, the partners should balance the contradictory forces that may work to unsettle the status quo. This is the logic we will weave into our discussion of each pair of contradictory forces (2000, p. 85).

Their emphasis on predicting conditions of stability, or instability, leads the authors to attribute a functional, or dysfunctional, role to dialectical tensions in the unfolding of strategic alliances. Yet, arguably, a dialectical perspective is incompatible with normative assumptions as to which states of social phenomena are better or more desirable than others.³ Whereas certain key actors might at times value stability, social science researchers have no valid, a priori reason to put a higher value on stability than change. In effect, Das and Teng risk putting dialectics in the service of the traditional managerial agenda when suggesting (in the excerpt quoted earlier) that “partners should balance the contradictory forces that may work to unsettle the status quo.”

Second, Das and Teng limit their analysis to three pairs of tensions, but provide no theoretical justification for the exclusion of other legitimate candidates. Their contention that these three pairs are uniquely present in alliances, as opposed to organizations, fails to acknowledge that the latter too are inevitably subject to multiple, contradictory, and largely unmanaged tensions (Bouchikhi 1998). We suggest that alliances, like organizations, are subject to other, no less important tensions between vigilance and trust, control and autonomy, design and emergence, innovation and replication, exploration and exploitation (March 1991), and expansion and contraction, among others. In fact, a dialectical perspective on alliances can greatly benefit from decades of social science research on organizations.

Third, in Das and Teng’s framework dialectical tensions bring together two organizations, each assumed to act as a consistent and rational actor in the pursuit of carefully defined strategic objectives. However, strategic alliances do not involve multiple abstract entities. If organizational sociology has taught us anything, surely it must be that organizations are socially complex organisms, comprising concrete individuals and groups whose mindsets, dynamics, and interests are likely to shape an alliance at least as much as explicit organizational goals and strategies.

Finally, Das and Teng admit that the set of propositions they advance in their paper do not constitute a process theory. Indeed, the framework is silent about how some dialectical tensions come to operate within an alliance, how some poles come to dominate their counterparts, how actors and managers may seek to reduce or exacerbate such tensions, how an alliance undergoes change or is terminated, and so forth. These questions can arguably only be addressed by patient observation

of actual strategic alliances over significant time frames. A summary of the four ideal types and their relevance to alliance research is found in Table 1.

Drawing on a longitudinal study of a biotechnology-based collaboration, we seek to extend process theory of alliances: (1) by treating dialectical tensions as a normal (neither functional nor dysfunctional) fact of alliance life, (2) by emphasizing the play of additional dialectical tensions, and (3) by drawing the ontological, epistemological, and methodological implications of a dialectical perspective on alliances.

Methods and Data

To illustrate our approach, we use a case study of an alliance between one of the world’s largest pharmaceuticals and a biotechnology start-up.⁴ The ensuing narrative is based on a three-year longitudinal and inductive study of the alliance, following Miles and Huberman’s methodological recommendations for qualitative research (1994). Plethora, a pseudonym, is typical of many pharmaceuticals in that it has many years of experience with alliances and has dedicated a substantial portion of its R&D budget to joint research. Rummidgen, also a pseudonym, has rapidly grown into a very successful and profitable biotech firm. The three-year period comprised an iteration of related processes, data collection, data analysis, and conceptualization, and is consistent with familiar approaches to theory building from small but fertile and comprehensive samples (Glaser and Strauss 1967, Pettigrew 1987, Tripsas and Gavetti 2000). The first 18 months of the relationship were reconstructed with the benefit of hindsight, whereas the final 18 months were followed in real time.

The case study process was designed to meet three tests of qualitative research (Yin 1994, King et al. 1994). First, the use of mixed methods and triangulation sought to provide construct validity. In addition to relying on a pilot study⁵ and extensive semi-structured interviews (in two stages), use was also made of archival and published data. Second, replicating the research from the pilot study and first-stage interviews across three further cases (only one of which is discussed here due to space limitations) helped provide a degree of external validity. Third, the effort to provide transparency of the actual process (including the interview protocol, coding sheet, social network questionnaires, names of interviewees, and original interview transcripts), sought to enable the study’s replicability and, by implication, should provide some measure of reliability. The interviews were guided by a protocol, yet one that was sufficiently flexible to allow them to retain a semi-structured character. They were digitally recorded and fully transcribed. These transcripts were e-mailed to interviewees so as to verify missing data or misunderstood comments, or to respond to additional questions. The majority of

Table 1 Ideal-Type Theories of Alliance Process (Adapted from Van de Ven and Poole 1995, p. 514)

Family	Life Cycle	Teleology	Evolution	Dialectic
Intellectual roots	Comte (1798–1857) Spencer (1820–1903) Piaget (1896–1980)	Aristotle Mead (1863–1931) Simon (1916–2000)	Lamarck (1744–1829) Darwin (1809–1882) Mendel (1822–1884) Gould and Eldridge (1977)	Hegel (1770–1831) Marx (1818–1883) Freud (1856–1939)
Key metaphor Logic	Organic growth Prefigured sequence	Purposeful cooperation Envisioned end state	Competitive survival Natural selection among competitors in a population	Opposition, conflict Contradictory forces
Event progression	Linear, irreversible and predictable	Recurrent, discontinuous sequence of goal setting, implementation and adaptation to reach desired end state	Recurrent, cumulative, and probabilistic sequence of variation, selection and retention events	Recurrent, discontinuous sequence of confrontation and conflict between contrary forces
Examples of alliance studies	D'Aunno and Zuckerman (1987) Achrol et al. (1990) Forrest and Martin (1992) Murray and Mahon (1993) Kanter (1994)	Shortell and Zajac (1988) Zajac and Olsen (1993) Ring and Van de Ven (1994) Doz (1996) Doz and Hamel (1998)	Koza and Lewin (1998) Gulati (1993, 1995a, b) Gulati and Gargiulo (1998) Reuer et al. (2002)	Das and Teng (2000)

participants made use of this opportunity, though relatively few additional insights were gained. These transcripts were subsequently coded using a coding sheet developed after Miles and Huberman (1994).

The first stage of this two-tier study involved 22 semi-structured interviews and included middle managers and senior executives from biotechnology firms and pharmaceuticals, as well as specialists from management consulting and government, and industry experts from the media. The results were used to refine the interview protocol and question sheet. The narrative draws mostly on the results of second stage interviews with those intimately involved in the Plethora and Rummidgen alliance. However, it also draws on information in the public domain, including prior studies of each company, public announcements (using Reuters and Datastream), press articles, and annual reports (though the biotech firm was privately held until the final year of its collaboration).

Given the sensitive nature of biotechnology research and the secretiveness of many pharmaceutical firms, access to nonpublic data is inevitably difficult. Even so, we were able to conduct 12 interviews over an 18-month period. We interviewed the two most senior people, who were ultimately accountable for the alliance, three times at regular six-month intervals. Each interview, lasting between one and three hours, was tape recorded, transcribed, and fed back to the interviewees for additional comments or explanations. Beyond the dissolution of the alliance, it took us a further year to analyze the data and to frame it in the context of existing studies of alliances.

The ensuing account is intended to be an empirical illustration of the dialectical forces to which alliances are likely to be subject. It was never our intention to use this as a dataset from which to inductively construe a new theory of alliances. The dataset is unlikely to be sufficiently robust for such a purpose, given the limited number of interviews on which it is based. Both parties to the alliance were interviewed, however, as were most of the key people inside it. Research alliances of this type typically involve a relatively small number of individuals beyond their negotiators (senior managers) and gatekeepers (senior researchers). It is somewhat unlikely that more interviews would have substantially altered, or produced a more orderly, account, abstracting it from the vested personal interests, idiosyncrasies, and conflicting forces that now feature in it.

An Empirical Illustration: Plethora and Rummidgen

Rummidge, England, April 1994

When Dr. Gregor Green, European Director of Research at Plethora, met Edward Carr, Professor of Chemistry at the University of Rummidge, Professor Carr suggested his company could provide Plethora (one of the world's largest pharmaceuticals) with the sophisticated combinatorial chemistry capabilities it was after. Combinatorial chemistry is a suite of technologies that allows for the rapid production of chemical compounds that can subsequently be put through screens. This meeting of minds, at a luncheon event staged periodically by a

regional innovation society, was spontaneous but timely. Based on Green's suggestion for a follow-up meeting, Professor Carr hurriedly faxed a series of papers on combinatorial chemistry to Derek Lodge who, at the time, knew little about this technology. As Managing Director of Rummidgen Biotechnology (Rummidgen), Lodge perused the papers as best as he could in preparation for a formal meeting with Plethora the following morning. The very next day the alliance was agreed to in principle.

Rummidgen was to become one of several collaborations pursued simultaneously by Plethora as part of a portfolio strategy code-named "PlethoraGen," given that most were intended to capture advances in human genomics, molecular biology, combinatorial chemistry, and cell biology.

Lead Optimization

Its various internal committees delayed signing of the formal alliance agreement as Plethora awaited final approval. Also, the pharmaceutical had hoped to publicly announce all alliances simultaneously. While anticipating the formalization of the collaboration, but absent of any formal agreement or transfer of funds, Rummidgen enlisted Dr. Jonathon Coe to head up a new division, Oxygen, created as a joint venture between Plethora and Rummidgen to facilitate the development of specific chemistry capabilities. Plethora had pledged to contribute \$5.5 million to that development although, unlike conventional JVs, the new subsidiary would remain wholly owned by Rummidgen. In addition, on securing this collaboration the biotech firm had negotiated another \$3.5 million from 3i, the venture capital firm.

In October 1994, Gregor Green and his colleagues Nigel Hornby and Richard Lewis, all senior managers at Plethora, interviewed Jonathon Coe (reflecting the active participation of both firms in the composition and design of the subsidiary division Oxygen). Formally offered the job in November, Coe was to start on the first of January 1995. By then, however, the alliance agreement had still not been signed and was to be delayed by another four weeks. During this waiting period, Rummidgen, under the leadership of Coe, began the construction of the planned laboratory, confident that Plethora would deliver on its promises. As Green, reflecting on this period, surmised:

I used to have long conversations with Derek and have dinner with him and tell him not to panic for everything was going to be okay. And he had to trust me on that and actually hired Jon Coe before the deal was signed. . . . Those early stages required quite a big risk on Derek's part and he put quite a lot of trust in me.

When, ultimately, a formal, initial two-year contract was signed in February 1995, Coe spent the ensuing

four months building up this research facility by recruiting 15 scientists and making substantial capital investments in sophisticated chemistry equipment. Plethora transferred some of its rudimentary combinatorial chemistry technologies to Oxygen, in addition to the promised subsidy. In June 1995, Coe delivered the first library of compounds to Plethora, well ahead of their expectations, affording Plethora chemists the opportunity to champion the collaboration within their own organization.

The initial strategic justification for the collaboration was that of *lead optimization*. The alliance had been set up as a "fee-for-service" agreement in which "hits" (i.e., compounds that show biological activity against a disease target) provided by Plethora were elucidated, refined, and their manufacturing scaled-up by Oxygen in making chemical libraries while also developing new chemistry technologies. Technology development, however relevant, was not yet considered to be the chief purpose of the partnership. As regards its governance, the joint effort was coordinated by a steering committee, meeting quarterly, and two "gatekeepers" (Jonathon Coe at Rummidgen and Nigel Hornby at Plethora) to manage its operations and interactions on a day-to-day basis.

From the start, Rummidgen devoted much time and effort to the joint program, so much so that Hornby suggested to Coe that he should "not work his scientists so hard." The pharmaceutical company seemed to have difficulty keeping up with processing the output of their biotech partner. Moreover, rumors of scientists at Rummidgen voluntarily working throughout the night and even on weekends reflected rather poorly on Plethora's commitment and levels of productivity, and it generated some early, though relatively minor, tension in the relationship.

The abrupt departure of Plethora's Richard Lewis, in mid-1995, resulted in the involvement of a senior chemist, Mark Amis. Lewis had been deeply involved in the negotiation, setting up, and steering of the alliance but left to join another pharmaceutical firm. Amis, his replacement, had hitherto been only marginally exposed to the joint project and had some reservations as to its added value.

We've often wondered whether they were spending all of their time on just Plethora work or were using our money to do other things. The way we set our collaboration up, it was very loose in terms of what they would deliver. . . . Basically they used us as seed money to grow their business (Mark Amis, Plethora).

His reluctance to continue Lewis's legacy of championing the alliance within Plethora made him increasingly unpopular with senior Rummidgen managers. The extent of this dislike is illustrated by a comment that is perhaps fiery but certainly not out of character with sentiments expressed by other interviewees:

I don't think Mark Amis is a very constructive guy. He is arrogant. There were times when I just wanted to smack him in the gut . . . I've never come across someone I have disliked so much in this industry. I really found it very difficult. Arrogant swine. Richard Lewis was very good, and I wonder how different it might have been had he stayed on (Chief Operating Officer, Rummidgen).

Rummidgen's managers were perturbed by Amis's reluctance to defend and justify the alliance within Plethora. The in-house chemistry department for which he was responsible was felt to be competing directly with the Rummidgen collaboration in terms of its focus on chemistry technologies. Indeed, Amis made it explicit that the joint project should have been carried out in-house in the first place.

From Lead Optimization to Discovery

In June 1996, Plethora's U.K.-based subsidiary redirected the collaboration from *lead optimization* to *lead discovery*. It now demanded the generation of novel chemical compounds that could be screened in-house by Plethora against specific disease targets. This required Rummidgen to be familiar with details of Plethora's research program and pipeline, including specific disease targets. Refocusing the collaboration towards discovery took three months. This change, although implemented gradually, surprised people at Rummidgen for any lack of consultation. Their responses were mixed:

Looking at the move from optimisation to discovery, we weren't happy. The trouble with these changes is that Plethora goes through a lot of thinking about these things. As a partner, what you get is overnight. You don't get any part of the discussions that have gone on. You get the solution. That was unobtrusive and uncomfortable (Derek Lodge, Rummidgen).

I smiled . . . It meant that we not only got skills in lead optimisation, but also in lead discovery. I knew the business well enough to know that we needed to have lead discovery under our belt . . . We had to prove it and do it because that was where our future outside of Plethora lay. So secretly I was quite glad (Jonathon Coe, Oxygen).

Simultaneously, Plethora suggested that their biotech partner proceed with this discovery process, using a mixtures approach rather than one focused on developing and screening single compounds. For Oxygen this implied adopting a research philosophy that stood in stark contrast to their intellectual approach to, but also their commercial interest in, new chemistry technologies. Its scientists were convinced that the industry had wisely moved away from mixtures, considering them cheap, nasty, and ineffective. Rummidgen persisted, and by December 1996 it had persuaded Plethora to abandon mixtures in favor of a single-compounds approach.

Making mixtures was contrary to our business philosophy. Mixtures were cheap, nasty, and didn't work. The

whole industry was moving away from mixtures, and Plethora wanted to get back into this area. We had evolved past this stage, and to be told to go back into it is like being told to go back to kindergarten. So we politely resisted for a while, until it seemed inevitable that we had to do it . . . It was one of those things that if we had not done it, we would not have been able to argue passionately that mixtures are not the way forward (Jonathon Coe, Oxygen).

By 1997, the working relationship had become more akin to a collaborative effort. Plethora had been flexible in allowing certain targets to be renegotiated, particularly in the early months, and the relationship now had more of a "give-and-take" character to it. Given that drug discovery processes can be subject to a fair amount of serendipity, the pharmaceutical company had been understanding and patient when targets were not met, and tolerant in letting Rummidgen pursue spin-off projects that, to them, seemed promising.

After intense negotiations the collaboration was extended for one year in May 1997. As Derek Lodge commented on this development in a news release:

It is an important endorsement of our capabilities that Plethora has extended this major collaboration. We have now established the leading, international, service-based company in combinatorial chemistry with an impressive client list headed by Plethora.

As this statement indicates, Rummidgen had been surprisingly successful in growing their business. By the time the alliance was terminated, Rummidgen and Oxygen had grown from a handful of scientists to employing 78.

What we had not anticipated is the way in which their business has taken off. They have grown in size, in number of chemists, and they have enlarged their repertoire and toolbox, if you like, with new technologies, way beyond that which we anticipated (Gregor Green, Plethora).

Rummidgen now demanded a 20% increase in funding above and beyond the sum agreed with Plethora two years earlier. Given its success in negotiating lucrative deals with other pharmaceutical partners, its bargaining position had changed dramatically. And Plethora reluctantly conceded. Indeed, in hindsight Rummidgen's negotiating tactic (considered in bad taste even by Derek Lodge) may well have signalled a first turning point in the relationship. As Lodge acknowledged:

This was the child turning around and slapping the parent . . . They fed back to us, saying that they had never renegotiated terms *ever*. It did change the nature of our perceptions of each other and probably ensured that we didn't continue beyond the third year.

To the surprise of the biotech partner, shortly after the one-year extension agreement had been signed, one of

its key scientists, Robyn Penrose, resigned from Oxygen to take up a position with Plethora. Penrose, a bright and very ambitious young chemist, had taken the lead in some of the joint projects. The pharmaceutical firm appeared unapologetic, even though individuals at Rummidgen and Oxygen felt an unwritten rule, or “gentlemen’s agreement,” had been breached and the spirit of the contract violated. This event evoked especially unpleasant emotions by those intimately involved in the collaboration, including embarrassment, anxiety, and mounting distrust. As commented on by Rummidgen’s CEO Derek Lodge:

[People at] Plethora were shocked because they don’t see us as equals. If you have a slave, you don’t ask him whether he feels good today. You just tell him to go and do something. I told them we felt offended, that they had lied...and they were shocked...I would fire each one of them. If any asked me for a job, I would say: “never in a million years.”

The sheer awkwardness of this event became obvious when, during a scheduled meeting of the alliance steering group, senior Plethora managers found themselves unable to tell Rummidgen of Penrose’s looming resignation. The whole-day session proceeded without raising the issue once; although, as Lodge and Coe were soon to find out, their counterparts had been very much aware of the issue, and of the controversy it would inevitably generate. At the time, Plethora legitimized their action by stating that, for reasons of confidentiality they could not have raised the issue with Rummidgen prior to Penrose’s departure. Besides, had Plethora not offered Penrose a position, he would have likely gone elsewhere taking with him all of the prized, jointly developed, know-how. Employing him was merely seen to be the lesser of two evils.

I do not see how we could have done things differently. I don’t think they know to this day that Robyn had a job offer with another company. And we could never tell them that because of confidentiality... It’s a hard world (Mark Amis, Plethora).

Rummidgen, however, saw things rather differently.

They claim that due to ethics, they could not discuss Robyn Penrose’s situation. But in the real world people do. Gregor or Mark could have called us privately. To stand back and say that “ethics prevented us” sounds absurd. I think this was a rationalisation of their action. I don’t think they even realised how offensive we found their behaviour... This was when trust broke down... Jon [Coe] felt exposed here. He didn’t understand why someone couldn’t have cuddled him and said “You’re losing somebody,” before letting Robyn break the news (Derek Lodge, Rummidgen).

Plethora subsequently refrained from hiring any more scientists from their biotech partner, though Derek

Lodge repeatedly complained that its headhunters continued to approach key individuals, including his right-hand man Coe.

Shortly after this felt breach of trust, in June 1997, Rummidgen published an electronic catalogue of prostaglandin structures. This action was ratified by its explicit strategy to position itself as a world-class biotechnology partner. Although the formal alliance agreement prohibited the biotech from marketing and selling compounds produced on behalf of Plethora, it did allow for the manufacturing of similar structures. Despite Rummidgen’s continued claims to have tried to secure Plethora’s approval prior to making the library available to third parties, senior scientists at the pharmaceutical company’s U.S.-based headquarters were, it seems, surprised and dismayed by their publication.

They were furious. How dare we sell compounds similar to the ones we have made? We told them we were allowed to do it under the spirit of the contract, and we had sent them the structures in advance, and they had said “Yes, you can sell them, we don’t have a problem with it.”... This is a family row caused by an uncle that isn’t really known to either of us. And until the uncle dies or is replaced by another uncle, the prospects for a future collaboration appear bleak (Jonathon Coe, Oxygen).

During what was to be the final year of its collaboration with Plethora, Rummidgen went public, raising in excess of \$30 million. This, incidentally, may have contributed to what seems to have been a growing resentment between the collaborating companies, as senior Rummidgen scientists were to benefit from this. Derek Lodge (CEO), Gareth Keilor (COO), and Jonathon Coe held significant stock options in their company, making them “paper millionaires” overnight.

I think this created some jealousy... Part of the problem may have been them sitting there and thinking: “We are making these people rich,” in a way that they couldn’t become rich.”... They were looking at it: “He’s going to be a millionaire, and he is going to be a millionaire.”... I wonder if this was not a major element that damaged the relationship (Derek Lodge, Rummidgen).

From Lead Discovery to Technology Development and Transfer

As a direct, but unintended, consequence of this publication, a conflict on intellectual property rights ensued, driven by scientists at the U.S. parent. While Plethora’s London (England) office appeared more sanguine, it became obvious that Plethora (U.S.) was to become more directly involved with the alliance. The consequences were twofold. First, the lead discovery project was ceased at once, even if it had been very successful in identifying interesting compounds. Plethora became worried that it was providing too much sensitive information to their biotech partner, particularly concerning disease targets. Second, Plethora’s European subsidiary

accelerated its efforts to develop an in-house combinatorial chemistry group designed primarily to render the Rummidgen alliance increasingly obsolete. The strategic focus of the collaboration was now placed squarely on the development and transfer of chemistry technologies. The working relationship returned to being akin to a “fee-for-service” arrangement, marked by little or no further joint initiatives and Plethora appropriating technologies developed by Rummidgen.

During this third year of collaborating, Oxygen scientists worked closely with Plethora’s in-house group to develop a general body of knowledge in combinatorial chemistry. Although technology development and transfer had always been a part of the formal contract, such a singular focus had not been envisioned in the original negotiations, or at least not by Rummidgen. Moreover, Oxygen scientists remained sceptical about the capabilities of Plethora’s in-house group and their reasoning concerning the efficiency with which Plethora could replicate the efforts of their biotech partner. The relationship became increasingly unworkable.

Plethora stipulated performance targets, under which we could continue to work with them, which were not achievable. And we said: “Well, did your internal group achieve them?” They said: “That is not the point,” upon which I responded: “Is there anybody in the world who can achieve this? Then why are you asking us to do something that nobody else in the world can do and that you cannot do yourself? It is a totally unrealistic target.” They said: “Well, get back to us when you can do it.” (Derek Lodge, Rummidgen).

The alliance was terminated in June 1998. At the time, neither partner intended to pursue an extension to the existing agreement; although, as both agree, there clearly were tangible measures of success in lead optimization, lead discovery and technology development, and the potential of the collaboration not having been exhausted. As contributed by Rummidgen’s Chief Operating Officer:

You can have a wonderfully successful technical collaboration, but they [Plethora] have not thought about extending it when things went a little sour. And there must be people within Plethora saying: “Well, we’ve got all of this . . .” and then someone else might say: “Yes, but they stole from us, and we hate them,” and then that’s the end of it.

Case Discussion

The case narrative suggests that the unfolding of this particular alliance is far removed from the orderly sequence of managerial decisions suggested by life-cycle models. Nor is it consistent with the virtuous—albeit not entirely planned—cumulative learning and adaptation cycles implied by teleological models of alliance processes, or with the determinism of evolutionary approaches. Rather, the narrative highlights the

dialectical interplay of multiple and contrary forces from inception to termination. We will discuss what we see as the most active tensions in the alliance prior to outlining some general implications of a dialectical theory.

Design and Emergence

The alliance came about more impetuously than would be predicted in linear life-cycle models of strategic alliances (most notably Forrest and Martin 1992, Murray and Mahon 1993, and Kanter 1994), as the unexpected result of a luncheon meeting between a chemistry professor and the director of research at a large pharmaceutical corporation. The alliance was masterminded and agreed on within a span of two days, leaving little opportunity for courtship or informed selection. In a real sense there was no formal strategic planning on the part of the biotech partner. Any planning by Plethora appears to have been limited to a “real options” justification for multiple investments in biotechnology collaborations. Even if the alliance fit the scope of the pharmaceutical’s R&D strategy, this strategy was not tailor-made to suit Rummidgen. Any rational design began only after the alliance was agreed on in principle.

The informal discussions that gave rise to the alliance are illustrative of the extent to which alliance formation may result from people taking advantage of emerging opportunities, and these being negotiated in a rather spur-of-the-moment fashion. For example, the joint research project had been agreed on over lunch, and formalized within 36 hours. The CEO of Rummidgen had to act quickly so as to familiarize himself with the combinatorial chemistry capabilities that were to provide the technological platform for the partnership. The subsequent recruitment of a senior manager (Jonathon Coe) to head up a new laboratory to service the alliance (as well as several scientists) and ongoing renegotiations on targets and technologies all exemplify the emerging character of the relationship. At the same time, it was subject to more formalized planning by Plethora as exhibited, for instance, in the pharmaceutical firm’s pursuit of a real-options strategy and subsequent delays in making the public announcement of its portfolio of biotechnology partners. Plethora was firm also in insisting on a mixtures approach, yet also flexible when, three months into the study, Rummidgen convinced it of the superiority of using single compounds. Episodes of careful planning and strategizing, but also of opportunism and emergence, surface throughout the narrative.

Cooperation and Competition

The alliance went through periods of close cooperation but also intense competition. After an initial period of cooperation on lead optimization, Mark Amis’s arrival, and refusal to help champion the alliance, signaled the first major shift toward more competitive dynamics. It seems that Amis saw the alliance as competing

with the in-house group for which he was responsible.⁶ Rummidgen's insistence on more lucrative financial terms during extension negotiations, the "poaching" of Penrose by Plethora, and Rummidgen's publication of certain chemical structures similar to those developed in the joint program are further episodes where one partner pursued its interests at the expense of the other. However, the continuation of the alliance after each competitive episode was possible only because people on both sides were willing to pursue cooperation despite diverging interests. In fact, the balance seems to have eventually swung squarely and permanently towards competition only once the pharmaceutical company explicitly moved towards internalizing the research program and associated technologies, so as to gradually render their alliance partner obsolete.

Trust and Vigilance

Likewise, the narrative contains episodes of trust but also extreme vigilance. Rummidgen had little choice but to put their faith in Plethora's commitment to the relationship and commit irreversible resources to it because the pharmaceutical firm delayed the formal signing of the alliance. Some (e.g., Carr and Lodge) put their trust in the repeated assurances of one individual (while remaining vigilant of the organization), whereas others (e.g., Coe) appear to have placed their confidence in the pharmaceutical company's reputation. Trust and vigilance seem to have been aimed at multiple levels inside a single organization. Moreover, the two were dynamic. Vigilance yielded to trust as operational issues were successfully addressed and compromise helped deflate conflict, but trust (when violated) gave way to vigilance. The controversial recruitment of Penrose, and Plethora's subsequent handling of the affair, contributed to a severe breach in what hitherto was a relatively trusting relationship. The impact was felt on an interorganizational as well as interpersonal level. Rummidgen's subsequent publication of several molecular structures did little to restore this trust, and the legitimacy of their action remained contested. The variable balance between trust and vigilance and the multiple levels at which these exhibit themselves appear to create a rather complex dialectical interplay.

Expansion and Contraction

The scope of the alliance changed markedly on at least two occasions, from lead optimization to lead discovery and again from lead discovery to technology development. Each variation was preceded by a number of events, and usually an overriding cause, but served to either expand (towards lead discovery) or contract (towards technology development) the scope of the relationship. Moreover, people came and went. Such fluidity of participation seems to have exercised a fairly significant influence on the alliance, as anticipated by Cohen

et al. (1972). The exit of one of Plethora's principal negotiators and the arrival of Mark Amis are helpful illustrations of this. Forces of expansion and contraction appear at work in the alliance, albeit perhaps in different aspects of it.

Incidentally, this observation also takes the conclusions of Turpin (1993) and Inkpen and Beamish (1997) on "corporate amnesia" a step further. The absence of partner continuity (or, more specifically, the replacement of one participant with another) can hurt the perceived success and potential of the alliance. This is due not merely to the forgetting of the original intentions of the partnership, but to the inclusion of an individual with private interests. This can cripple the relationship in a more determined and deliberate fashion (de Rond 2003, p. 132).

Control and Autonomy

The alliance was marked by a succession of periods during which Rummidgen enjoyed substantial autonomy and freedom to shape the content and terms of the alliance, but also those marked by attempts at tight control by Plethora. While at the outset the cards were squarely in the hands of the pharmaceutical firm, within three years Rummidgen rapidly grew into a respected biotechnology company with a prestigious client portfolio, a successful IPO, and 78 scientists on its payroll. This had implications for its bargaining power vis-à-vis their pharmaceutical partner. For instance, when Rummidgen realized its increased bargaining power, having successfully negotiated several lucrative deals with other pharmaceuticals, it demanded a 20% increase in fees above those negotiated at the start of the alliance. Plethora reluctantly conceded because historically the pharmaceutical had never renegotiated payments to partner firms. In hindsight, this may well have marked a first step in the ensuing downturn.

At the level of operations, Plethora left their biotech partner scope for experimentation and the pursuit of promising leads. Rummidgen needed to be free to experiment and pursue unintended outcomes. It is relatively well accepted that serendipity can play a significant role in the discovery of new drugs, or novel applications of existing drugs or compounds. As fittingly affirmed by Werth: "Pasteur's oft-used remark about fortune encapsulates the view almost universally shared among scientists, especially in the drug industry, that they'd rather be lucky than good" (Werth 1994, p. 210). One finds a similar tension between Plethora's wielding of power and Rummidgen's want for autonomy immediately after the joint program was redirected towards lead discovery. The pharmaceutical firm's insistence on using mixtures was not appreciated by Rummidgen, nor was it intellectually respected. Giving in to Plethora allowed Rummidgen to "prove" the folly of continuing with a

mixtures approach, ultimately paving the way for a more autonomous pursuit of novel drug candidates.

Finally, Plethora assumed a firm grip on the reins in what was to be the third and final year of the relationship. As the primary financier of the alliance, they appeared intent on exploiting what remained of the joint program and on mining their partner for technological expertise, while also demanding increasingly difficult experiments, thus steering the alliance to its now inevitable conclusion.

On the Coevolution of Dialectical Tensions

While the above discussion has treated each pair of dialectical tensions separately, these pairs did not work independently of each other. At its inception, for instance, the alliance was clearly characterized by high levels of trust, emergence, cooperation, and autonomy for Rummidge, and openness to further expansion. At the time of its termination, the alliance had swung to a contrary configuration of high levels of mistrust, conscious strategizing on each side, competition, and control of Rummidge's work by Plethora. In the time between inception and termination, we find no evidence of a cumulative coevolution of dialectical tensions toward a final end state. For example, the arrival of Mark Amis drove the alliance towards competition, but a decent level of cooperation was ultimately regained. Plethora's recruitment of Robyn Penrose from Rummidge propelled the alliance towards a high level of vigilance and mistrust but allowed some trust to be regained on an individual level. Plethora's attempt to impose a mixture-based approach signified increased control, but Rummidge scientists reclaimed substantial autonomy. This suggests to us that alliances may be best thought of as a largely unintended succession of peaks and valleys with no predetermined progression towards a final state.

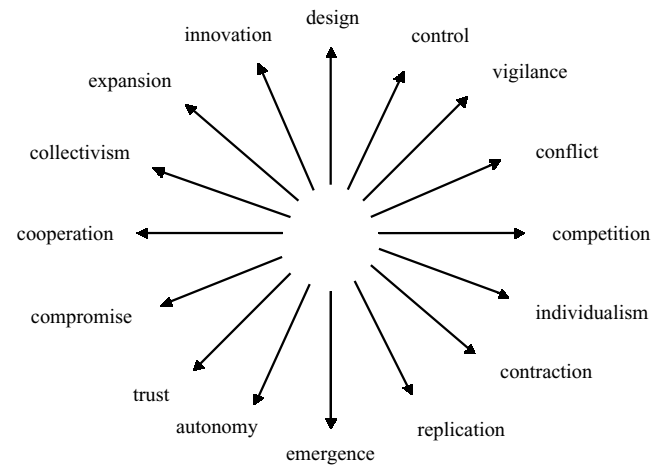
Toward a Dialectical Perspective

The above discussion of the dynamics of the Plethora-Rummidge alliance suggests that a deeper understanding of strategic alliance processes may necessitate the development of a different research paradigm built on an alternative set of ontological assumptions about the nature of alliances. These are, in turn, accompanied by a unique set of epistemological and methodological implications.

Ontological Foundations

Alliances as Heterogeneous Phenomena. One of the chief ontological premises of a dialectical lens is that of alliances as heterogeneous social phenomena that are continuously torn by multiple and contradictory forces (see Figure 1). This view of alliances is drawn from the

Figure 1 Potential Sources of Dialectical Tensions in Alliances (Adapted from Bouchikhi 1998)



broader view of social order as

produced in the process of social construction [and containing] contradictions, ruptures, inconsistencies, and incompatibilities in the fabric of social life. Radical breaks with the present order are possible because of contradictions (Benson 1977, p. 4).

Alliances involve individuals who bring to them a plurality of interests, values, loyalties, histories, prejudices, and preferences. This plurality subjects alliances to contrary but coexisting forces. The dialectical tensions that arise from the interplay of these forces are neither intrinsically functional nor dysfunctional (nor naturally geared towards stability or instability). They are not there to serve an explicit or unconscious purpose. They just are. Thus, we are cautious in assuming that dialectical forces will collide and inevitably⁷ produce a new order, in a Hegelian or Marxist sense. Conflicting forces, we think, merely coexist. Their continuous confrontation brings about change with no a priori guarantee that change is for the better (or otherwise) from the point of view of specific actors.

Performance as Social Construction. Likewise, performance cannot be considered as an objective attribute of an alliance. Even with contractually specified milestones, different actors can legitimately entertain diverse views on performance, and how it ought to be measured. Performance evaluations may serve self-interest inasmuch as they provide objective appraisals of progress. In this respect, our position differs from Das and Teng who equate stability with success and treat instability “as a proxy for poor alliance performance” (2000, p. 78). In our example, there were times when members of Rummidge were satisfied with the performance of the alliance, while members of Plethora were frustrated. And at other times, the reverse appeared true. When Plethora finally decided to terminate the collaboration, those in the Rummidge camp had been relatively happy

with their performance, as had several (but clearly not all) Plethora scientists. By any objective measure, the joint program appears to have been a success. However, as organizational scholars have repeatedly shown (Meyer 2003), performance is a contested variable of which different actors can hold different perceptions simultaneously. By extension, there is no conceivable reason for this not to be true for alliances also.

Unintended Consequences of Action as a Change Engine. A close reading of the case narrative suggests that the changing balance between dialectical tensions is largely shaped by the unintended consequences of human agency (Giddens 1984). For example, the replacement of Lewis by Amis introduced a competitive element into the joint program, the consequences of which may not have been foreseen by Plethora. If they did, theirs would have been a particularly Machiavellian strategy. Likewise, the pharmaceutical company did not adequately predict the disappointment and resentment that followed from their recruitment of Penrose, and seemed ill-prepared for the consequences of this decision in eroding the trust basis of interpersonal relationships between key actors, including Derek Lodge and Jonathon Coe. Neither did Plethora anticipate the quality and speed by which their biotechnology partner carried out the research nor their success in growing and managing a respected and profitable business. Rummidgen's bargaining position had evolved significantly as a consequence, changing the power balance between the firms. Similarly, the biotech company seems not to have anticipated the outcome of publishing chemical structures similar to those elucidated in the joint program. Yet each change in the scope, purpose, and governance of the alliance was precipitated directly by one or more of these episodes. While the crucial role of unintended consequences in social and organizational change is well documented, it has remained strangely absent from the strategic alliances literature.

Epistemological Implications

A view of alliances as suspended between dialectical tensions calls for a pluralist epistemology, or a theory of variety (de Rond 2002). The emphasis would be on understanding what is—or on the “becoming” of alliances—rather than what ought to be. As the French philosopher Rene Descartes advised, “In the matters we propose to investigate, our inquiries should be directed, not to what others have thought, nor to what we ourselves conjecture, but to what we can clearly and distinctly see and with certainty deduce, for knowledge is not won in any other way” (as cited in Higgin 1999, p. 89). A dialectical epistemology would leave aside any monist expectations of order, homogeneity, teleology, constancy, life span, or success and approach alliances as

“facts” instead. Heterogeneity becomes a point of departure in, rather than a corollary to, research. A dialectical perspective seeks to understand the circumstances of alliance formation and process. It does not assume, a priori, that what happens within (and to) alliances is either particularly functional or dysfunctional. Nor is it driven by an interest in managerial prescription. A dialectical perspective seeks to generate a relatively fine-grained understanding of the formation and dynamics of strategic alliances. While the scientific pursuit should not be informed by a pragmatic agenda, it can nevertheless generate valuable insights for practice. Here again, a parallel with organization studies can illustrate the kind of relationship between research and practice that we envision in the strategic alliances arena. It is now widely acknowledged that modern management theory has benefited enormously from the contributions of scholars like Chris Argyris, Alfred Chandler, John Child, Michel Crozier, Robert Merton, Philip Selznick, and others who sought to understand organizational phenomena without being burdened by the compulsion to create a managerial agenda.

Methodological Implications

The methodological implications of a dialectical agenda are equally significant. Given the importance of micro-processes and need for detail, ethnography (e.g., Van Maanen 1988) appears best equipped to inform an empirical research program into the dynamics and evolution of strategic alliances. A dialectical perspective beckons the researcher to uncover the tensions at work and to explore how such tensions help shape an alliance trajectory. Her focus would be squarely on the actors involved—their interests, mindsets, strategies, loyalties, prejudices, and preferences. How do actors make sense of the alliance as it unfolds? What underlying social structures inform their conduct? How do they respond to the consequences of their interactions, whether intended or unintended? While ethnography is time consuming and access to sites difficult, particularly given the often-secretive nature of alliances, it may well be a price worth paying for researchers genuinely interested in describing and understanding what is (prior to speculating on) and prescribing what should be.

Conclusions and Limitations

A major objective of this paper was to respond to a lack of process studies of alliances, especially those in which colliding dialectical forces feature prominently. Whereas life-cycle, teleological, and evolutionary approaches have been relatively well covered in the literature, dialectical frameworks are uncommon. Framing alliance research in this way may itself comprise a contribution of sorts. We briefly described Das and Teng's (2000) contribution, and proposed extensions to

it. We suggested that a range of dialectical tensions in alliances could be expanded to include others. Moreover, we observed that these dialectical forces could exhibit themselves at multiple levels, affecting different aspects of a single alliance. Finally, we exercise caution in suggesting that the presence of such tensions inevitably produces instability and failure, as is implied in Das and Teng's (2000) approach.

We are certainly aware of the limitations of using single case studies in the theorizing process. First, our empirical illustration, by its very nature, may have accentuated disorder, ambiguity, and the effect of unintended consequences. Medicinal drug discovery, as is well known, is a process fraught with uncertainty and serendipity. Early pipeline projects are particularly sensitive to these properties, and hence the alliance risks exacerbating their effects. It may well be that alliances in more stable environments experience dialectical tensions to a lesser degree.

At least it would be interesting to find out. This paper thus calls for future research into the dynamics of alliances through longitudinal, in-depth, empirical examples. Second, case studies do not lend themselves easily to generalization. However, it was never our intention to provide proof of a general theory. Rather, we see the paper as an effort to extend, and add empirical substance to, a dialectical view of alliance process. Alliances, we think, are best thought of as complex social phenomena that evolve under the effects of multiple (and at times incompatible and uncontrollable) events to which individual actors can make significant contributions. And if so, surely this calls for a theoretical approach that recognizes this.

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Endnotes

¹Details are available at <http://www.cuttingedgeinfo.com>.

²Aristotle proposed four categories of causation: material, formal, efficient, and final. Only the fourth, final causes, is of relevance to Van de Ven and Poole's discussion of process.

³This is precisely what many scholars see as the original sin committed by Marx in viewing historical materialism as a dialectical movement towards a conflict-free communist society where dialectical tensions eventually vanish.

⁴An extended, more detailed version of this case study appears in de Rond (2003). Excerpts are reprinted here with the permission of Cambridge University Press.

⁵The pilot study findings are not reported here, but comprised a case study of an international interbank alliance, documenting nine years of cooperation.

⁶As an aside, Mark Amis was also a member of the steering group of another biotechnology-based alliance, documented in detail elsewhere (de Rond 2003). Whereas he failed to justify and defend the Rummidgen collaboration within Plethora, he

appeared helpful and instrumental in the development of the second (even in the continued absence of any tangible achievements of the joint program). It seems that this second alliance fed into his in-house group, whereas the Rummidgen partnership was felt to compete with it.

⁷Isaiah Berlin has produced a remarkable and famous critique of historical inevitability and argued that theories of inevitability can easily justify dictatorship in the name of a grand narrative of social evolution (2002).

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