Seeing the Obvious: Five Teamnet Principles

Stephanie Whitley is a strategic planner at TransOceania, a $6 billion international transportation company based in Asia. We had the chance to work with her team, the Transportation Scheduling Project. Their purpose was to develop a cross-functional network to plan the company's shipping schedules. A few weeks after our last visit to TransOceania, we received a letter from Stephanie with "some brief news on our progress":

Although our status is unclear at the moment, our Friday afternoon meetings with Johann and Robert [two key vice presidents] are continuing. We're installing an electronic mail system that will link us to 15 other people who will be involved in delivering the new schedule. Richard, David, John, and I have become quite a determined foursome, each focusing on our own specialty. Our mission is "to increase profits by redesigning the way the company plans its schedules."

Stephanie gives a precise description of what makes teamnets work. A successful teamnet has:

? A clear *purpose,* which Stephanie calls a "mission";

? Independent *members* who want to be involved, "quite a determined foursome," in Stephanie's words;

? Ongoing *interaction* ("Friday afternoon meetings") and good communications *links,* in this case, an electronic mail system;

? Two or more *leaders,* in this case, four; and

? Connections to different *levels* of the existing hierarchy, in her case, the vice presidents.

The "Five Thamnet Principles" are fundamental to every successful effort that involves people crossing boundaries:

*?**Unifying* purpose;

*?**Independent* members;

*?**Voluntary* links;

 ?   *Multiple* leaders; and

*?**Interactive* levels.

Each principle is found in every successful teamnet. A teamnet must have a reason to exist (purpose), a critical number of committed participants (members), a rich web of relationships (links), people who assume specific responsibilities (leaders), and connections at many levels in the environment.

Companies that understand how their teamnets operate have a distinct organizational advantage. In 1989, former Digital Equipment Corporation vice president Ulf Fagerquist, a nuclear physicist (who started the company's Swedish operation) with a special interest in strategic alliances, asked us to look at the teamnet features of five Digital projects. Digital was an especially interesting place for teamnets because in 1989, it was a $12 billion enterprise doing business in 97 countries. With its expertise and development activity scattered around the globe, for many years the company had the world's largest private telecommunications network at its disposal. For us, Digital has been a particularly fascinating, challenging environment in which to observe the Five Thamnet Principles in a wide variety of circumstances.

We began our studies of Digital's successful teamnets with its

1977 project (run by Fagerquist) that enabled Associated Press to network its stock quotations to newspapers all around the world every day. We ended with the most successful internal teamnet we had seen to date. "Calypso" took place in the mid-1980s at the company's peak and shows what 40 to 50 people can achieve when everything "clicks."

The One-Page Project: When Everything Clicks

It is late 1986 and Digital is riding high on its preeminence in the computer industry, second only to then-faltering IBM. Marketing strategists spot a "window of opportunity" opening in both the United States and Europe for a high-volume, high-ticket product. Time, however, is of the essence. Competitors crowd a shrinking market for mini-computers.

Can Digital plan, design, test, market, manufacture, deliver, and service a highly complex computer in a window with at most a two-year introduction horizon? Fifteen months later, Digital's 6200 computer pours out simultaneously from plants in New England, the Caribbean, and Europe. Code-named "Calypso," the computer generates the steepest revenue ramp in the company's history, eventually developing into a family of products. The window is wide open, the market loves the product, and the company reaps enormous profits.

How does this happen? Intuitively, the project's managers put into practice the five principles required for successful boundary crossing teamnets.

"In the beginning, there are just a handful of people from different large functional organizations," explains Pauline Nist, Calypso's overall project manager. "There are people from engineering, manufacturing, marketing, and service right from the start."

Like many boundary crossing teams, Calypso's members represent different levels within the organization. And the managers have a wide spectrum of staff sizes. Some people have large groups report-

ing to them. Others have none; they're on the project for their unique expertise.

Getting off the ground quickly, the small group begins with a brilliant vision. "It's compelling because it contains both the market insight and the creative technical approach," Nist says. "With our vision in hand, we take our show on the road to recruit people, looking for talent, enthusiasm, and commitment." Before long, several dozen people sign up.

Because Digital is such a large company, the "right" people for the project often are in the "wrong" place. "We don't have the time to move people and it's too expensive anyway. So, we decide to do this project in a distributed way," she says.

Eventually, the 50 core people who become directly identified with the Calypso team sit in 14 separate locations, including several in New England, California, the Caribbean, and Ireland.

Many methods of communication—rich links—connect Calypso's teamnet members. They phone one another often. The members use telephone conference calls and video conferences and hold scheduled and unscheduled meetings. They use electronic mail and computer conferencing.' A common database is created that contains all information necessary for the machine's design.

"We compensate for everyone not being in the same place all the time by setting up lots of ways to communicate," Nist says. "If I could have changed one thing about the project, I would have put in the Puerto Rico satellite dish sooner."

Even so, the teamnet members travel frequently. "There are a lot of project miles on these people," says George Hoff, then Nist's boss, underscoring the point that face-to-face contact is essential, contrary to what many think.

"You don't build trust over the wire," Nist allows, reaffirming that it's critical for people to meet periodically. "Building trust takes flesh and blood, but it doesn't take a long time to make that happen." Virtually every teamnet member stresses this point: trust is the first and most major stumbling block; once it's achieved, things can begin to click. With the core internal teamnet in place, Calypso is ready to talk with other companies, and form the external part of its team.

"Then we hit pay dirt," she says. "When we visit potential vendors of a key component, we notice that one of them shares our vision and enthusiasm. We propose joint development, which significantly reduces time and costs for both companies."

While anticipating a possible *supplier* partnership, the Calypso team is surprised when it suddenly finds itself in a *customer* partnership. "The next big break is that Raytheon, one of our largest customers, proposes an alliance," says Hoff. "We make an agreement: they'll do parallel development of a product for their military market. The goal is to release both products at the same time." The partnership succeeds. Both companies' presidents speak at the 6200's announcement, vastly increasing the first-day market for Digital's product while also ensuring ongoing customer review of the design. Here, Digital demonstrates an extremely important point that causes many companies problems when they try to do this. Being clear on who is doing what is critical for avoiding unhealthy friction. Companies often have different, conflicting views of what they both own.

This is not the success of skunkworks—where a group locks itself in a room and doesn't come out until they complete their project— but of teamnets. No driven boss with traditional levers of power manages this global boundary crossing teamnet. Although Nist, the engineering manager, has the designation of overall project manager, only a portion of Calypso's engineers report to her. Nist reports to the engineering chain of command (Hoff reports to the vice president of engineering and she reports to Hoff); the project's production manager reports to a manufacturing vice president; still other team members report into their own functional organizations or what Digital calls "stovepipes." Naturally, Nist has no direct control over the team members from the outside companies.

At first glance, it sounds like a prescription for disaster. None of the traditional management school principles seems to apply to this situation. Far from a disaster, Calypso is a smashing success.

Why does it work? "Why," indeed, is the key.

Calypso understands its purpose early on: to develop a multiprocessor mid-range computer in 18 months using existing technology.

And it continually tests it on prospective partners. Shared vision, common purpose, clear goals, and well-articulated tasks provide an overall picture and detailed direction. Jointly, all the stakeholders accomplish the shared work on schedule and within budget.

A shared view of a project's purpose drives a boundary crossing teamnet to excellence, not an authoritarian leader. In Calypso's case, they are able to reduce the purpose to a single graphic that fits onto an 8'/2-by-1 1-inch sheet of paper. This "one-pager" summarizes the project so well that people carry it around, along with their calendars.

When everyone works toward a shared, common purpose, boundary crossing teamnets work. Calypso achieves this. Without it, this team would have failed miserably.

> *"When you manage to get the goals lined up," Nist says, "the opportunity is there for great success. In this project, a number of goals came together simultaneously. They meshed in a unified way as opposed to an antagonistic one. Once a project like this gets momentum, there's no stopping it."*

A Handful of Principles

Calypso is an example of the new type of organization already at work within and between companies. It illustrates the basic principles of teamnets: members of the Calypso team include people and organizations that cross conventional lines of authority, both within Digital and outside the company, and cooperate on the basis of common goals without giving up their independence.

Teamnets combine the concepts of distributed teams and organizational networks. They apply across a range of different-sized companies, from micro-enterprises to macro-economies. And team-nets take a variety of forms, ranging from the very familiar to 2 1st-century technology-wave organizations, just emerging.

The Five Teamnet Principles mix learning from examples with the guidance of theory, a conceptual range from concrete to abstract. "Teams" make the here-and-now promise of practical ideas of value, while "networks" evoke vision, the ability to grasp wholes and weave pieces together.

People learn in different ways. Some prefer concepts, others examples. Our effort to mix these two styles may leave some readers a little impatient in places. Thy to tolerate the discomfort. Use this book as a "scratch-and-sniff" experience, a taste of what it feels like to create a teamnet, integrating divergent views and cultures into a coherent whole.

Although the boundary crossing organization chart is hard to fit into a typical bureaucratic box design, it does have a structure. Unfortunately, if you use a conventional hierarchical perspective, it is generally all but impossible to see. Thy looking for "The Boss" when there is more than one. When members must cross conventional boundaries to solve problems and accomplish goals, they are most likely to develop networks. Teamnets are not about "breaking" or "smashing" boundaries:

Teamnets are about crossing boundaries.

Boundary Crossing Teamnets

A teamnet is a group of people and groups that cross conventional boundaries for mutual benefit while retaining individual independence.

Inside organizations, these cross-boundary teams show up as specific forms like self-directed work groups; outside, they refer to concrete arrangements like corporate alliances. Teamnets are the *visible* people and groups who work together to get something done.

Networks represent the core logic that ties together the variety of boundary crossing organizations. The concept stands for the *invisible* infrastructure and processes that give life to teamnets of all sizes and styles. A general network concept is a powerful tool for increasing your boundary crossing capabilities and improving the effectiveness of your teamnets.

Networks are all about integrating global and local. It is imperative that the local parts of networks (teams) be able to adapt to local circumstances while providing global value. This can be achieved only by understanding general principles and how they can be applied to your unique situation. Our model, within which the Five Teamnet Principles play a major role, acts as an instrument for coping with the cacophony of confusion in the

Organizational Network

An organizational network has independent members with multiple leaders, a unifying purpose with lots of voluntary links, and interacting levels.

real world.

When all five principles work together adapting to local circumstances, boundary crossing teamnets can be very successful. Without these principles, organizational success is left to luck in the face of coping with rapid change. Sometimes, millions of dollars and years of unrecoverable time evaporate with unnecessary failures.

In organizational networks, people and groups are the members, *the independent nodes. Voluntary* links *across boundaries develop interdependence among members. Mutual benefits make unifying* purposes *tangible. Multiple* leaders *arise to serve different needs. And members interact across* levels.

You cannot put these five principles together and come up with a "perfect" network. At least we've never seen one; have you? In reality, pure organizational forms do not exist. Mostly, the new organizations have fuzzy boundaries, with networks springing up in and between hierarchies. Sometimes they clash and occasionally they reinvigorate these central control systems.

There will be no wholesale replacement of hierarchy with horizontal structures. But there is coexistence; often hierarchies and networks can even thrive together. Alarming as it may sound to some, hierarchy has a critical role to play in organizations of the future. Hierarchy, bureaucracy, and networks mix to manage large organizations and small for different needs and purposes.

Our groups and organizational structures are in a transitional time. As people always do, we have one foot in the past and one in the future. The unique aspect of this transition is that the gap between our feet is widening faster than ever before. The Teamnet Principles bridge the gap between the old and new, and offer platforms on which to build flexible organizations that work.

THE DYNAMIC BALANCE OF COMPETITION AND COOPERATION

Purpose, members, links, leaders, levels—these are the features to look for in boundary crossing teamnets. Use them as a powerful tool for seeing these vital but fuzzy phenomena. The five principles are

not a list. They are an interacting system, connecting members
and leaders through links and purpose, creating new levels of
organization.

Co-opetition Dynamic
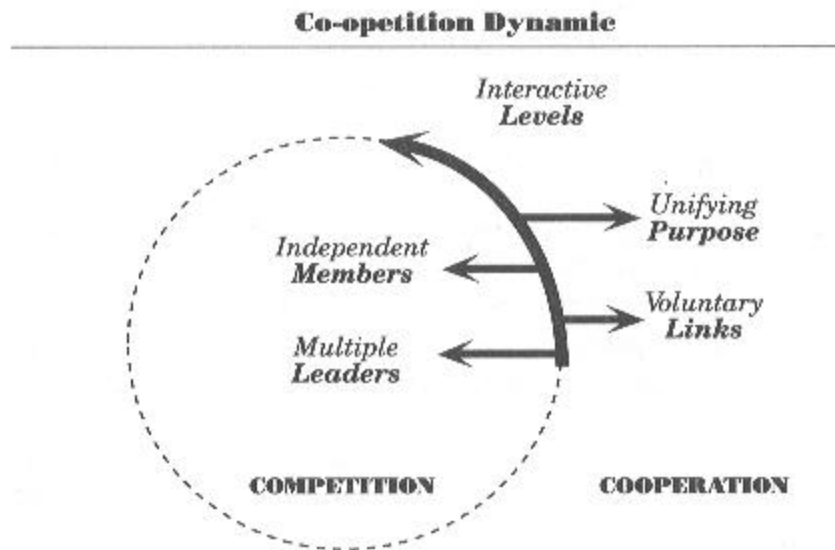
Networks exist in the creative tension between competitive and cooperative tendencies,
ever shifting between the self-assertion of individuals and the integration required for a group
whole.

Two of the principles support competition, the self-assertive tendency:

> *?*   *Independent **members**.*
> *?*   *Multiple **leaders**.*

Two of the principles reflect cooperation, the integrative tendency:

> *?*   *Unifying **purpose**.*

?   *Voluntary* **links.**

The fifth principle balances the opposing forces through:

?Interactive levels.

The combination of "cooperation" and "competition" is not an awkward contradiction. The root of the two words, the conjunction "co-opetition," literally means "to work and seek together." It is the feisty combination of cooperative power and competitive zeal that offers people and companies organizational advantages.

As one word, "co-opetition" fuses complementary forces, single-handedly gripping a complex system of concepts. The five principles allow you to take the first steps in fusing opposites. Treat each principle as a valuable tool in its own right. Look at each independently and calibrate it for optimal effectiveness in specific teamnet circumstances.

Despite the power of the Teamnet Principles, each one has certain myths associated with it.

1. CLARIFY THE UNIFYING PURPOSE

Calypso is a project that is a huge success, bringing the company its fastest revenue ramp of any product to date. A major success factor is the team's initial clear view of *"why* it is doing what it is doing." The group understands the context within which it is working. Then the team nurtures, grows, and develops its idea into a powerful motivating force that guides the project. Were they simply lucky? Many people believe that success with decentralized, distributed organizations happens randomly, unpredictably, without cause.

Myth 1: It is just plain dumb luck when networks work.

Quite the contrary. When boundary crossing is successful, there is *always* a reason. In successful business networks, the reason is

clear and benefits are tangible. People form teamnets around needs. A boundary-crossing group strikes a spark and develops an internal motivation when it meets real needs. Common goals become so explicit that you can test them against feasible solutions and real products or services.

Teamnet purposes run the gamut from high-flying unifying visions to carefully crafted mission statements to lists of specific goals and concrete objectives to the details of tasks and work. People even wear their mission statements on lapel buttons, broadcast them from billboards along the highway, hang them on banners in cafeterias, and publish them in annual reports.

Our definition of this key teamnet ingredient admits to its intangible nature:

Purpose

Purpose is the vital spirit of a network expressed as a unifying aim and set of values shared by participants.

Be explicit. This hard-learned idea renders hard-to-see purposes more visible, more able to be used as guides—and debated when necessary:

> *Boundary crossing teamnets must*
> *express their purposes explicitly.*

Purpose needs elaboration in a teamnet because it performs the coordination role traditionally played by centralized command and control.

While many networks spontaneously emerge to respond to a clear need, such as in crisis situations, most groups require some con-

scious motivation for formation. Without something that spurs the group to enthusiastically agree, many boundary crossing teamnets never get beyond the talking stage. They cannot articulate a clear-enough purpose that benefits a critical mass of participants. Even after successful formation, many networks later collapse when their unifying purpose splits into factions. Unless a shared purpose is renegotiated, the group begins a slide into disintegration.

> *The importance of clarifying purpose in*
> *boundary crossing teamnets is critical.*

Purpose—shared goals—is the vital core of teamnets. The term "vital" emphasizes the organic nature of teamnets. It contrasts with the mechanical metaphors that hierarchy and bureaucracy use.

Strength of purpose holds boundary crossing teamnets together. With links, purpose pulls together disparate elements acting as a centripetal force. Purpose replaces traditional glues—such as coercion in hierarchy and written instructions in bureaucracy—that are weak in fast-moving teamnets. In the face of rapid change, traditional control mechanisms falter. Purpose provides a context for action.

2. IDENTIFY INDEPENDENT MEMBERS

It's a misty May 1992 evening, just before dinner at the semiannual meeting of the Calvert Social Investment Fund Advisory Council.[2] We are out walking with a member of the Board of Trustees on the grounds of a Maryland conference center, the site of the dinner meeting.

"But don't you think Americans are too independent for networks?" Terry Mollner asks, when we tell him about this book. He is voicing the sentiment that people do all around the world when they first hear about the idea. Wherever you go, people say, "It won't

work here." In Italy, people said the medieval guild mentality would prevent people from working across business boundaries. In Denmark, people said that Viking fierceness would get in the way. In the United States, depending on which part of the country you're from, people point to Yankee independence, Lone Ranger cowboys, or southern pride to explain why Americans can't, or won't, cooperate.

Myth 2: If you join a network, you give up your independence.

The opposite is true. No independence, no network! "When you join, you discover your independence," writes Charles Savage, author of *Fifth Generation Management.[3]* Healthy boundary crossing team-nets depend upon the healthy independence of their members. When direct command-and-control hierarchical structures are inappropriate or simply won't work, networks emerge to coordinate the activities of independent business units or people inside and outside companies. In the case of Calypso, the collaborative project forms in a corporate culture that has long prided itself on its strong Yankee individualistic traditions.

Teamnets thrive in the dynamic balance between self-assertion and integration. They seesaw between the decentralizing forces of independence and the integrating forces of cooperative interdependence. So long as teamnet participants continue to have some measure of real independence, you have a boundary crossing teamnet. When independence ceases, you have a hierarchy or a merger.

> **Members**
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> Members are the people and groups that contribute specific capabilities to achieving the shared purpose.

Each member has something unique and different to bring to the group. With multiple leaders, independent members are the "pulling apart" centrifugal forces within teamnets. Members are also the most tangible aspect, the parts that are easier to grasp. It is easier to see members than it is to see purpose. Boundary crossing teamnets are known by their purposes and members, but without linking the parts together, a teamnet cannot exist.

3. CREATE VOLUNTARY LINKS

As Calypso demonstrates, boundary crossing teamnets tend to be spread out. Without the local water cooler or cafeteria as a daily meeting ground, these groups require very different work processes from those traditionally used by people located in the same place and same organization. "Working together apart" is how George Metes and Ray Grenier describe this.[4]

"Oh, I know what you're talking about," a telecommunications engineer says to us. "You people are writing about LANs [local area computer networks] and WANs [wide area computer networks]." In a sense, he is correct, but boundary crossing teamnets need a lot more than copper wire or fiber optics to be truly connected. Digital has a saying about this: "Just because the bits traveled around the world doesn't mean they were understood."

Myth 3a: Networks are just the channels of communication.

Some people, particularly those with a high-tech perspective, can only see
the links of a network. They see the wires and completely miss the
members. Other people are blind in another dimension:
they cannot see the links that reveal trust and other invisible ties.

> *Myth 3b: Relationships are impossible to grasp. They are
> intangible, unreal, fleeting, short-lived, and can end on the
> turn of a sentence.*

In a way, they're right, because it is very difficult to "see" the ineffable
"stuff" of the relationships that bind teamnets together. *But relationships
are real, and they do last. They are essential to the stuff of teamnets.*
   Teamnets need interdependent links, both physical connections and
voluntary relationships that people build over time. In order for a teamnet
to achieve its goals, there must be sufficient connections among the people.
"You do business with the people you know," says Jerry Nagel of the Red
River Trade Corridor based in northern Minnesota.[5] First, people have to
know and trust each other. Until there is trust, nothing happens. And they
have to be able to communicate easily and effectively.
   One way to see relationships is to follow these steps:

Step 1.

First, picture the physical communication links, the concrete connections
between people like telephones, faxes, electronic mail, and the face-to-face
exchanges.

Step 2.

Now, see people actively communicating through these channels, the
interactions between senders and receivers. They are so "quantifiable" that
communication researchers actually study them as

discrete observable phenomena. Researchers break them down into such fine points as "acts," which someone initiates, "interacts," which involve sender and receiver, and "double interacts," which is what happens when responses start to multiply.

Step 3.

Finally, put all these interactions into motion over time and leap ahead to see relationships. They emerge in the repeated patterns of the exchanges. Relationships are like the patterned coherence that is natural in chaotic phenomena like human heartbeats and the weather. **6**

Relationships that develop over time seem to take on lives of their own. You can undoubtedly remember how some of your relationships with colleagues began, developed, and matured over time— say, from a first meeting, to follow-up contacts, to perhaps working on the same project and eventually saying good-bye in a job change.
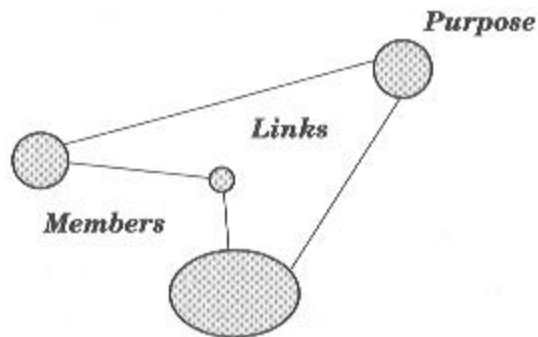
> ## Links
>
> Links connect teamnet members through voluntary relationships, repetitive interactions, and physical ties.

Both bureaucracies and networks bind their members through interdependent links. In a bureaucracy, the decision-making relationships are nonvoluntary, while in networks they tend to be voluntary and more freely motivated.[7] It is this voluntary quality of relationships within networks that enables so many administrative mechanisms to be replaced with market processes.

Links complete our smallest set of core network concepts. The most rudimentary teamnet requires at minimum three elements:

? Purpose,
? Members, and
? Links.

Minimum Network Structure

   If human networks could be cleanly and simply designed like a
communications network, these three elements would suffice for a basic
tool set.

*You can see the members (nodes)[8] and physical links. You have to
imagine purpose and relationships, which the shape of the numbers
and links together suggests.*

But the reality is that teamnets always have an irreducible "messy zone,"
which represents the freedom factor. The messy zone is where things get
worked out in real time between real people who demand independence
while calling for inclusion, cooperation, and a new vision. The messy zone
springs from the inevitable struggles where the essence of networks meets
the nub of hierarchy. Here, leadership is seized, granted, conferred, and
otherwise established, and here the organizational levels inside and outside
the teamnet meet and interact.[9]

4. RECOGNIZE THE POWER OF MULTIPLE LEADERS

As the Calypso project manager, Pauline Nist has influence without traditional authority, the ability to spend money but no control over paychecks, responsibility for overall project success but little power to fire people who do not perform. Many members of the team are independent decision makers, not dependent on the anointed leader for their survival. Each is an acknowledged leader in his or her own right.

No subject is more complex for the world's leading-edge organizations than leadership. No part of a teamnet experience is more fraught with uncertainty and clashes, minor and major, between the "old way" and "new way," than is establishing a successful leadership structure. While many successful networks have what appears to be a single identified leader, this conventional shape is just one way leadership structures form, even in rigid hierarchies.'[10]

Myth 4a: All leadership comes to a single point.

Interestingly, the notion that hierarchy and other decision-making structures come to a single point has provoked a common misconception about networks, particularly prevalent among our friends who remember the myriad networks of the counterculture of the 1960s and 1970s.

Myth 4b: Networks have no leaders.

Multiple leadership that works is perhaps the most surprising feature of successful boundary crossing teamnets. Over time, most vital networks have many leaders. In example after example, you

can soon read between the lines and figure out that most networks have more than one leader. The great network anthropologist Virginia Hine emphasized this point through use of the term "polycephalous," meaning "many-headed.""

> *Diversity and fluidity of leadership are hallmarks of boundary crossing teamnets. These groups sport a variety of leaders— like owners, brokers, experts, strategists, managers, networkers, and facilitators. Within any particular teamnet, multiple leadership arises from the multiple roles, skills, and knowledge required to address the complex problems taken on by the group.*

Be careful: There's a big difference between the network style of leadership and the hierarchical style. Unfortunately, many people believe that the old crack-the-whip, omnipotent command-and-control hierarchy is the only effective way to lead.

In networks, leaders appear at the nexus of purpose and commitment, where responsibility is taken and shared work gets done. It is critical that leaders making decisions in one role not feel that they need to make all the group's decisions. Good network leaders are also good followers. This avoids both the hierarchy trap and its antithesis: Democratic paralysis from the dis-organization of everyone involved in everything.

We describe teamnet leaders this way:

> **Leaders**
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> Leaders are members who make and keep commitments, know how to follow, and who may participate in the decision making of a network.

Note the subtlety that leaders *may* participate in decision making. Studies show that it is much more important for people to feel they have an *opportunity* to participate in decision making than it is to actually participate.

"Leaders are expert followers, mapping the needs, resources and agendas of network members, so as to create good matches among people and organizations," writes Elizabeth Lorentz[12] who with Seymour Sarason at Yale has studied resource exchange networks in depth.

With independent members, multiple leaders keep the pressure on for decentralization. They provide a good balance to the centralizing tendencies of unifying purpose and interdependent links.

How do teamnet leaders interact with traditional management? Intensively. One of the worst mistakes a teamnet can make is to ignore existing management. Teamnets also may have formal leaders, authority figures who occupy traditional roles.'[3] In complex teamnets, leaders play pivotal roles in managing relationships among the different levels of the hierarchy. This entangling messiness needs interpretation; it isn't neat like the hierarchical tree structure on which it is easy to hang people.

In teamnets there are:

Fewer bosses, more leaders.

5. STAY CONNECTED AT ALL LEVELS

Calypso has a core group, some of whose members report to managers who are one, two, or three layers up in the hierarchy. Calypso is also a team of teams, a number of layers deep in places. As part of a larger company, Calypso has partnerships with other companies, so the core internal group also includes external members.

> *Myth 5: Networks are flat.*

Like the flat-earth memory of the world before Copernicus, many people mentally picture a network as a flat, featureless, two-dimensional plane of horizontally connected members.

> *Perhaps the most common of all misconceptions is the idea that networks are only horizontal. This myth is so prevalent that people describe decentralized companies that deliberately have cut out layers of management as "a mile long and an inch high."*

Appealing as this image of "flatness" is, especially in our bureaucracy-burdened society, it unfortunately is just plain wrong. Boundary crossing teamnets are lumpy, clustered, and multileveled forms of organization. People wear many hats, and act at many levels. One teamnet we worked with included a vice president, two senior managers, and a sales unit manager, along with a dozen other people reporting to people at similar levels.
    This cross-level multiple-role feature of networks is one source of

its power. It is also a major source of people's difficulty in being able to clearly see networks among the general tangle of relationships.

Luckily, there is a powerful conceptual tool available for understanding levels, which Herbert Simon called the "architecture of complexity."[4] Like everything complex in nature, networks are organized in levels of successive inclusion. In the context of systems, which networks are, levels mean sets within sets, like cells in tissues in organs in organisms, or pennies in dimes in dollars.

> *A network has at least two levels: the level of the member parts and the level of the network whole. A teamnet has at least three levels: a network of teams composed of members.*

To use the levels principle to see networks of boundary crossing teams, you need a point of reference. One excellent point of reference is the corporate boundary, which is how we generally distinguish between "internal" and "external" networks. Departments, divisions, projects, and other typical internal boundaries also reflect levels. Anchor yourself to one of these points of reference, and you can roam the levels, going down into the depths of intrarelationships and out into the larger world of interrelationships.

Levels is the fundamental systems principle of "successive inclusion."[5] People live in levels. For example, people are parts of families, which in turn are members of communities that comprise regions that assemble into nations. People are also organisms made up of organs made up of tissues, cells, molecules, atoms, and so on. Everything in life is both part of larger things and can be broken down into smaller things.

> **Levels**
>
> Levels are the succession of parts and wholes that make up complex networks.

We do not include the principle of levels in the cooperative/competitive pairs. Rather, levels result from the dynamic itself:
members retaining independence but integrating through the principles of purpose and links generate a multilevel organizational structure.

The Five Principles—purpose, members, links, leaders, and levels—are found in every successful teamnet. In the next chapter, we illustrate these principles with some stories. Throughout the rest of the first section, the principles provide the threads of consistency. They cover a variety of descriptions and situations. In the second section of the book, you put these ideas to work: we use the Teamnet Principles in a disciplined approach to starting and managing teamnets.